

Kachel Albertson

The University Record

of the

University of Florida

BIENNIAL REPORT OF THE PRESIDENT
TO THE BOARD OF CONTROL

For Biennium Ending June 30, 1956



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BIENNIAL REPORT

TO THE
BOARD OF CONTROL

July 1, 1954 — June 30, 1956

Presented By

J. WAYNE REITZ

President, The University of Florida

Gainesville, Florida



FOR THE BIENNIUM
ENDING JUNE 30
1956

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To the Honorable

The Board of Control of the State of Florida

Gentlemen:

The biennial reports of the past presidents to the Boards of Control constitute a history in serial form of the development of the University of Florida. They are a constant source of reference to scholars, staff members, and others concerned with specific phases of the institution's growth. One cannot read these reports without experiencing a deep sense of pride in the vision, the courage, the dedication to educational and public service, and the sacrificial effort which have gone into the building of the University. The printed word has not always been adequate to interpret the spirit of the institution. The joys accompanying each successful effort to push back the barriers of ignorance, whether by research, the inculcation of knowledge, or by precept and example, as well as the tragic disappointments and frustrations of those who attempted to carry the University forward from year to year are not easily described.

In reading biennial reports since the transferral of the University to Gainesville in 1906, it is obvious that the positive factors far outweigh the negative, and the forces of progress, though lagging at times, have eventually overcome the retarding forces.

When the Board of Control and the Board of Education honored me by their invitation to accept the presidency of the University of Florida in the Spring of 1955, I knew the magnitude of responsibility involved, for I had had the privilege of serving as a teacher and administrator, respectively, under two distinguished men who had held that high office. One cannot be associated with an institution such as the University of Florida for two decades without having its interests and welfare imbedded deep in his thoughts and affections. Consequently, I accepted the challenging offer and entered upon my new duties April 1, 1955, with the determination that I would to the very best of my abilities endeavor to carry forward the work of the University in the fine tradition set by my predecessors.

The two year record covered by the biennial report for the period July 1, 1954 to June 30, 1956, like many preceding reports, shows high peaks of achievement as well as disappointments. Some discouragements are perhaps inevitable. They sap the vitality and effectiveness of the total University program. It is our sincere hope that contributing causes will be remedied in the new biennium.

For their patience, understanding and cooperation during the period of my orientation in the presidency, I wish to express thanks to a splendid faculty and

staff, to a fine student body, and to those dedicated public servants who serve so loyally and without compensation as members of our State Board of Control. My deepest appreciation is also extended to Governor LeRoy Collins and other members of the Board of Education for their untiring efforts in helping to solve some of the University's pressing problems. To members of the legislature and the people of Florida, we extend grateful thanks for our financial support even though it is below the needs of the institution for meeting the demands of a growing and dynamic state.

Lastly, I should like to express my deepest gratitude to John S. Allen, Vice President of the University and my able colleague, who bore the responsibilities of administration so effectively not only during the first nine months of the biennium under review, but for several months prior thereto.

BIENNIAL REPORT

The operations of the University are so vast that it is no longer possible to integrate the college, school, and departmental reports into an acceptable resume within the brief space allotted for the President's report. The individual reports will have to be examined separately for details of the biennial activities. They are all worth reading. A selection will be made of certain units or portions of departmental reports for the purpose of focusing attention upon some specific problem, which in many instances will be applicable to the whole institutional structure.

A proper perspective of the last two years must inevitably take into consideration some factors which not only cast their shadow over world events i.e., national and international affairs, but also over that closer area just beyond the confines of our academic community, namely the State of Florida, whose interests and people the University is designed to serve. Some of these factors likewise have a bearing or will have a bearing upon the new biennium which we are about to enter. I beg indulgence, therefore, to touch as briefly as I can upon some of them.

We are in a period of global unrest. Possibly at no time in history has the world witnessed a greater political, economic, social and moral upheaval, especially in "peace-time." Education at home and abroad cannot escape the impact of the dynamic changes that are taking place.

In the past, new educational concepts evolved to meet the demands of the times. For instance, church oriented and dominated colleges were formed in colonial days to provide an educated citizenship for Colonial America, all patterned after institutions in Western Europe. Later state supported universities evolved from many of the colonial colleges when the latter were no longer able to meet the demands of a new, dynamic society. The new institutions, however, retained much of the old, especially the liberal arts programs and other features of the colonial colleges.

The land grant colleges were formed at a time when the nation needed to democratize its educational opportunities for the benefit of an expanding population, increasingly dependent upon agriculture and industry for a livelihood. The land grant movement, begun with the passage of the Morrill Act in 1862, formed a new and revolutionary concept in higher education, according to Thwing, who wrote of it:

"The time was favorable to—enrichment and enlargement—it was a period of newness—mighty anticipations of mighty powers were filling the hearts and minds of men."

Edward D. Eddy, Jr., of the University of New Hampshire, recently pointed out in an address before the Land Grant College Association that "probably no other country in the world would have produced these land-grant colleges," and citing them as "Democracy's colleges," he calls attention to the fact that "they have become a pattern for higher education in many struggling republics attempting to find and assert themselves. What was once a great contribution to America is now becoming an even greater contribution to the world." Apropos of the land grant type of institution adjusting to change, he says:

"America demands of its public colleges the ability, even the desire, to adapt themselves continually to a changing time to keep just a little ahead of society."

All of us recall that just a little over a decade ago the so-called "Atomic Age" was born, bringing with it on the one hand the possibility of world annihilation and the destruction of mankind, or on the other, the possibility of a great new era in human progress. That same decade has witnessed a gigantic effort on the part of Russia to educate a nation of people hitherto predominantly illiterate. In our own country, meantime, educational advantages have been extended to millions of veterans under the G.I. Bill and the numbers taking University training have taxed the resources of all institutions of higher learning—public and privately supported—in the nation.

Hostilities developing after the war's end between former allies have become more threatening to our nation's security than those which precipitated the conflict in the beginning. The country has turned to its colleges and universities as never before to supply men of science and research on the one hand who could help it to meet the eventualities of any new armed conflict in an Atomic Age, and to provide agriculturists, engineers, lawyers, linguists, economists, physicians, political scientists, and humanists on the other hand who might help it by peaceful means, if possible, in solving some of the problems which are ripping the world asunder.

These factors have had a great bearing on the direction of American higher education within the past few years. They are certain to have an even greater bearing upon it in the years just ahead, and for this reason: America has been alerted by the penetrating and realistic observations of certain of her distinguished men of science as well as eminent educators that Soviet Russia has flung a gauntlet at us more significant than her vast military preparations and rapid gains in science, technology, and industrial development. The USSR Challenge is as simple as this—we must either live up to our finest educational ideals of providing in accordance with ability maximum opportunity for all, or we shall lose our position of leadership for the free world.

The Americans whose opinions I would like to share with you are not alarmists. Primarily they are men like William Benton, former Vice President of the University of Chicago, former U. S. Senator from Connecticut, and now Chairman of the Board of the Encyclopedia Britannica films, whose discourses on the subject of Russia's educational development, following a recent trip there, have aroused national interest. Dr. James R. Killian, Jr., President of the Massachusetts Institute of Technology, has also sounded a warning. Space will permit only minute references to some of the facts laid before educational America by Senator Benton.

1. "The U.S.S.R. has already surpassed the U. S. both in number and percentage of students enrolled in institutions above the secondary level—with 4,300,000 in 1955: 2,500,000 in the tecknikums (technical institutes)—and 1,825,000 in the universities and higher institutes. This total is 70 per cent higher than our comparable 1955 U.S. enrollment of 2,700,000.

2. Russian youngsters go to school six days a week, ten months a year. Study hours are long . . . each student takes six years of a foreign language.

3. The U.S. percentage of high school students taking courses basic to college work in science and engineering has been falling steadily for the past fifty years. In 1900, for example, 56 per cent

of our high school students took algebra, but in 1953 the figure was less than 25 per cent. In geometry the decline was from 27 per cent in 1900 to 11 per cent in 1953. In physics it was from 19 per cent in 1900 to 4 per cent in 1952. . . . The shortage of teachers in these fields has been growing more critical. Last year for 28,000 U.S. high schools we produced only 125 new certified teachers for physics.

4. The U.S.S.R. seems to think that after four or five years of physics in a ten-year school, another four years of physics in a pedagogical institute is enough to train a physics teacher for a high school!

5. A typical Soviet professor earns 6,000 rubles a month—about ten times the salary of an ordinary worker. An outstanding research man or engineer can earn as much as 40,000 rubles a month when consulting fees are included. This means a town apartment, a car and chauffeur, a dacha in the country, perhaps a villa in the Crimea with a vineyard.

6. The University of Moscow, which dominates the Soviet capitol with its gleaming new 33-story central tower, dedicated to the sciences, enrolls 23,000 students. The investment of three billion rubles for this new building, completed in 1953, is astonishing by our standards. This is equivalent to at least 150 million dollars. This building cost more than has been spent for the complete physical plant of all but a very few American universities. It contains 1900 laboratories. It was built to symbolize to all Russia what lies ahead in the fulfillment of Soviet educational ambitions for youth.

7. The Soviet Union is today producing almost three times as many new engineers as we are, yet its own industrial capacity is still only half the size of ours. What will happen to this growing crop of trained men? Premier Bulganin, at the 20th Soviet Congress in February, said that under the new five-year plan, 4,000,000 graduate technicians would pour out of Soviet institutions by 1950. Where will they go? Most assuredly a substantial block will be exported. They are new-type, front line troops. The countries of Asia, Africa, and Latin America are hungering for the knowledge and know-how which these men command.

8. The number of trained engineers in the U.S.S.R. increased from 41,000 in 1929 to 541,000 in 1954—an increase of 500,000 in twenty-five years, or 1,300 per cent. In the United States, our increase was from 215,000 to 500,000 in approximately the same period, about 25 per cent. The number of engineers graduating from Soviet higher institutes increased from 28,000 in 1950 to 63,000 in 1955. In the same period the number of engineering graduates in the United States plummeted from 52,000 down to 23,000. This trend of ours is now fortunately being reversed."

You may well be asking yourselves, "What do these statistics have to do with the biennial activities of the University of Florida?"

My answer is this: American higher education and the American government are taking these so seriously that no time is being lost in an effort to meet the challenge which they unmistakably imply. Our Florida program is inextricably

interwoven with the total educational program of the United States. The University of Florida has a dual heritage—it is both a land grant and state university, of which there are only twenty-nine in the nation. This heritage places upon it certain responsibilities which it cannot ignore, one of which is the training of scientific personnel and conducting wide-ranged research programs.

Long before the filing of the recent report by the Florida Council on Higher Education, our own statisticians predicted with considerable accuracy the growing numbers of students who would be knocking at our institutional doors within a decade or so. In fact, if I recall correctly, the phrase "tidal wave of students" was coined to describe the situation in this area. Today, it is a commonplace.

Florida is not the only state in the Union threatened with great numbers of students who must be educated. Every state is threatened with the same symptom. And beyond the United States, the universities in the Dominion of Canada are similarly threatened. We believe we are able to cope with the problem effectively at the state level.

Last year the President of the United States called a White House Conference on Education on the sub-collegiate level. In January of 1956, the President in his message to Congress indicated that he would appoint a committee to deal with the subject of higher education. In so doing, he is paving the way for a "nationally organized look at the problems of higher education." The Committee which will undertake this appraisal has been designated as "The Committee on Education Beyond the High School."

Almost simultaneously, another important committee will undertake a study. It is the National Committee for Development of Scientists and Engineers, established "to assist the Federal Government in identifying the problems concerning the production and development of scientists and engineers."

An important area in which major state universities, land grant colleges, and urban universities are in general agreement is that of tightening up on admission standards.

These institutions recognize the need to provide equal educational opportunity for all qualified youth; "an intelligent matching of educational opportunity to individual ability," is the way President Carl R. Woodward of the University of Rhode Island very aptly states it. Florida, along with other states, has embarked upon a program involving a more careful selection and admission of students for the Fall semester of 1956.

The University of Florida, because of its dual nature of combined land grant and state university, has certain obligations to the State and to the Federal government, not resting on any of its sister institutions in the state, either public or private. Its splendid research programs in agriculture and engineering which have produced results fundamental to the economic development of the state are unique features of a land grant institution. Through federal grants or research contracts, a favorable state and federal partnership has evolved over the years. Likewise the far flung activities of the Agricultural Extension Service covering county agent and home demonstration work represents a joint federal, state and local government cooperative effort. Great professional schools such as Architecture, Law, Medicine and Pharmacy place special obligations on the University of Florida.

The undergraduate program of the University has made such significant strides over the years that few institutions in the country can now boast of anything superior. The undergraduate teaching staff is regarded as excellent.

But, increased attention must also be directed to graduate and research work at the highest level. It is at this point that our national security program is chiefly concerned and involved.

In the past, research in agriculture helped transform the State's economy. It was the most stabilizing influence in its emergence as an urban state. Industrialization is now moving forward at a rapid pace and industrial research of a high order is demanded. With the exodus of five or six key scientists, Florida's agriculture could suffer a drastic setback. Uncontrolled infestations, for example, might easily result in losses running into hundreds of millions of dollars.

The international, national, and state needs for a greater number of excellently trained scientists; the demand for teachers, especially science teachers, to meet the renewed emphasis upon scientific subjects on this high school level; the demand for humanistically trained individuals capable of maintaining a proper balance between the sciences and the humanities, are at the heart of our considerations for the new biennium.

We have not been hesitant in evaluating our own weaknesses and strengths. Some of these will be briefly commented upon through the pages which follow.

THE LOWER DIVISION (University College)

One of the major policy changes of the biennium is that related to admissions which, at least during the forthcoming biennium, will primarily effect the University College. The freshman class to be admitted in September 1956 will be the first to enter the University under the recently adopted policy of the Board of Control which limits admission to those who are in the upper 60 percent of high school placement test scores or the application of such other criteria which will give reasonable assurance that a student can satisfactorily carry on University work. This is definitizing at a slightly higher level a general procedure followed for the past five years of advising and counseling students to consider other educational or vocational opportunities when their records did not show promise of adequate performance in the University. In turn, the whole system is based on experience gained over a period of twenty years in giving high school placement tests and using them in counseling and evaluation.

At first glance the admission policy may appear to be more restrictive than is actually the case. For example, by excluding the lower 40 percent of high school graduates on the basis of high school placement tests, it might appear to some that we would exclude 40 percent of those who would seek admission. Actually, experience has shown that only a small proportion of those in the lower 40 percent group seek admission to the University. An illustration of this can be gained from the freshman class which entered in September, 1955. While there were 2,592 entering freshmen, only 222 or approximately 8 percent were in the lower 40 percent group of Florida high school graduates. On the other hand, 1,175 or 47.2 percent were in the top fifth in the statewide testing program.

It may be of interest to know what happened to these 222 students during their first semester at the University. Of those who were in the lower 20 percent group, none made satisfactory records and 36.8 percent withdrew or were suspended during the first semester. In the case of the second lowest fifth, or those between the 20 percent and 40 percent zone, only 5.6 percent or approximately 11 made satisfactory grades, whereas the remaining 94.4 percent turned in unsatisfactory

performances, failed, or left school during the semester. It should also be pointed out, however, that some of the students in the upper group performed unsatisfactorily, but this was due to lack of application or other factors rather than on the basis of innate ability.

While some will differ with this point of view, it is the position of the University and the Board that it was neither in the best interest of the vast majority of the students in the lower 40 percent group nor of the State to encourage them to pursue a regular four-year university program. It should be emphasized, however, that the cardinal principle in the new admission policy is not one of exclusiveness but rather to establish a basis for admission which will permit all who have the ability to profit from university work to be admitted. In the application of these admission standards, judgment and careful evaluation must be exercised on borderline cases. We do not want to deny admission to any student who, on the basis of all evidence available, has promise of making a satisfactory record.

The staff of the Lower Division has continued its usual fine performance both with respect to teaching and creative productivity in spite of mounting enrollments. A goodly proportion of new staff members recruited hold doctorates from leading graduate schools.

The Department of Physical Sciences has been bolstered by the acquisition of facilities for observational work in astronomy. An 8 inch refracting telescope valued by the manufacturer, Gaertner Scientific Company, at \$20,000 was presented as a gift by Mr. Richard E. Schmidt of Chicago. The University is greatly indebted to him for this generous gift and to Dr. Guy Owen, formerly of the C-2 staff, for serving as intermediary in the negotiations. A small brick and concrete observatory has been erected to house this telescope and a 10 inch reflector previously presented by Mr. Fred Heath of Gainesville.

Top honors in the biennium centered on Dr. Archie F. Carr of the Biological Sciences staff who was cited by the National Academy of Sciences as the person making the greatest contribution in the field of Zoology last year in the nation.

AGRICULTURE

With the elevation of the Provost to the presidency, and the retirement of Dr. C. V. Noble as Dean of the College of Agriculture, and H. G. Clayton as Director of the Extension Service, the top administration of the research, teaching, and extension divisions underwent a reshuffling. Willard M. Fifield was promoted from the Directorship of the Agricultural Experiment Station to Provost; Joseph R. Beckenbach, formerly Associate Director, replaced Fifield as Director; Roger W. Bledsoe, Formerly Assistant Director, was made Associate Director. Marshall O. Watkins was promoted from Assistant Director to Director of the Agricultural Extension Service to replace H. G. Clayton, and Marvin A. Brooker was elevated from the assistant deanship of the College of Agriculture to the Deanship, succeeding Dr. C. V. Noble. All of these men are experienced administrators with years of familiarity with Florida agriculture.

A continuity of leadership for the State's important agricultural activities, is highly desirable, and has been assured with the above shift in appointments. Only men of the highest competency will be chosen for departmental leadership and to fill vacancies occurring in strategic scientific teaching, extension, and research areas. We hope in this way to assure the state that there will be no

diminution in the productive research and educational programs which have been established.

We have lost, by resignation, two key scientists during the past year whose leaving was a severe blow to us. They were tempted by much higher salaries. Temporary replacements have been named pending a thorough search for qualified successors. Outstanding men must be found if a permanent crippling of the programs is to be avoided.

The construction of the new Agriculture Building has heartened all engaged in agriculture. The building will be dedicated on December 1, 1956, in honor of the late Governor Dan McCarty, a graduate of the College of Agriculture. The added space will result in greater efficiency throughout all of the agricultural units. The completion and occupation of the new Agricultural Engineering Building in August 1955 has been a great boon to this important segment of the University.

The Department of Horticulture will be divided, effective July 1, 1956, into four departments, Food Technology and Nutrition, Fruit Crops, Ornamental Horticulture, and Vegetable Crops.

In July, 1955, Botany was separated from Plant Pathology and set up as a separate department.

During the biennium, 278 active research programs of work were pursued. Increased attention has been given "to developing basic research projects related to our major agricultural endeavors since these programs are vital to developing new products, new industries, and greater efficiency in many existing operations."

Progress in the developing and releasing of new varieties of legume crops, fruits, and flowering plants; in identifying plant diseases; in improving insecticides and means of control; and in marketing has been significant. There have been fruitful results in many phases of animal science research. The detailed reports will be found most interesting.

Much of the research of the Citrus Experiment Station has been directed towards work on the burrowing nematode which in 1953 was found to be the cause of spreading decline of citrus. Dr. A. F. Camp, who has long served as Vice Director of the Citrus Station, requested retirement to become effective early in the new biennium. He has served as a consultant to the Argentine and other governments in the problems of citrus decline and production problems. His retirement will remove from the scene one of the best known men in the nation in the field of citrus culture.

The Extension program has expanded or modified its activities during the biennium to meet the new and changing development of the State. A large increase in urban families served has been noted. The total number of rural and urban families served increased by 32 per cent or from 165,127 to 218,288 families.

ARCHITECTURE AND ALLIED ARTS

Possibly none of the professional schools has been subjected to so many disappointments and limitations, during the biennium as the College of Architecture and Allied Arts. Hopes ran high during the 1955 session of the legislature when it appeared that a new building would be authorized to house the activities of this rapidly expanding college. These were dashed when the session drew to a close and an appropriation for the building failed in passage. This meant that the work of the College would have to continue for another two or

three year period in five sprawling makeshift wooden buildings widely scattered over the campus so that students and faculty must be separated from each other and from working materials in the College library. Students and faculty are likewise separated from daily contact with teaching exhibitions and a unified program of instruction is seriously hampered.

The rapid increase in Florida's population, the change from a rural to an urban economy, and the industrial growth demand meticulous attention to Community Planning and Building Construction. Florida set a new record in construction in 1954 and another new record in 1955. The new high of \$1,047,215,000 for 1955 was 23 per cent above the record for 1954. Yet the only Florida source of supply of designers, architects, and builders for this expansion is the College of Architecture and Allied arts at the University of Florida.

During the past five years thirty staff members in Architecture, Building Construction, and Community Planning have been lost. Among 41 institutions included in a study of average salaries in schools of architecture during 1955-56, Florida stands in the lowest quarter in all but one instructional rank. The average salary of professors in architecture at Florida would need to be increased by \$4,800 to bring the average to the top of the range, and by \$1,900 to bring it to the middle of the range. Florida graduates with bachelor's degrees and little or no experience are receiving starting salaries higher than teachers with master's degrees and several years of experience. This is, indeed, as much of a compliment to the effectiveness of our teaching as it is a sad commentary on the low esteem in which the teacher is held.

W. T. Arnett, who has served the College of Architecture and Allied Arts as Dean for a decade, has requested relief from administrative responsibilities in order to resume his professional teaching. To him and his staff we owe a deep debt of gratitude for carrying on through the years under such trying circumstances.

The college will enter the new biennium under a new title "The College of Architecture and Fine Arts." Top priority has been given for a new building to house the important work of this college. We are hopeful that the new biennium will witness the realization of the dreams so badly shattered in 1955.

ARTS AND SCIENCES

One of the most encouraging aspects of the biennium under review was the authorization, following legislative approval, to proceed with plans for a Physics building, the need for which has been so urgently presented by the College of Arts and Sciences, the College of Engineering, and the Graduate School for several biennial legislative sessions.

"Physics is responsible for such recent developments as nuclear energy, the atomic bomb, and radar. Physics is fundamental to such areas as electricity, optics, electronics, and engineering in general. Further development in these areas is dependent upon research in physics. Physics is taken by engineering and pre-medical students, chemists, pharmacists, pre-dental students, and science teachers, among others, and the field is rapidly expanding."

I am happy to report that plans are nearing completion for the new Physics Building and it is anticipated that bids will be let for construction of the building in the early fall. The completion of this building in the new biennium will go a long way toward placing the University of Florida on a sounder footing as

a leader among educational institutions. A strengthening and implementation of the Physics faculty, especially for work on the graduate level, will be one of the most urgent demands of the new biennium.

Undergraduate and graduate enrollments in Arts and Sciences continue on the increase. In terms of areas covered and number of degrees granted, the doctoral program is the largest in the University. In spite of this, several important areas need up-building so that graduate programs may be offered in them.

Undergraduate enrollments for the first year of the biennium was 1159; and the second, 1434. Graduate enrollment stood at 926 for the first year of the biennium and 882 for the second. The Ph.D. degrees granted were 32 and 42 respectively for these periods.

COLLEGE OF BUSINESS ADMINISTRATION

The death of Walter J. Matherly on September 25, 1954, removed from our midst one of the most capable members of the Administrative Council and the Dean of one of our most progressive colleges. He had served the university twenty-eight years, and was the first dean of the college, which he organized in 1926. We were fortunate to secure as his successor Donald J. Hart who, in the relatively short period since his appointment on January 15, 1956, has shown a fine grasp of the college and its important activities.

Dr. Hart received his Bachelor's degree at Lake Forest College and his Master of Arts and Doctor of Philosophy degrees at the University of Wisconsin. In addition to practical experience in industry, Dr. Hart has served in the business operation of Iowa State College, as a professor of economics and business, and as Dean of the College of Business Administration of the University of Idaho, from which post he came to the University of Florida.

As in other major divisions of the University, keen competition exists for professional staff members. Faculty salaries are, in many instances, below the earnings of first year graduates with the bachelor's degree, whose services as auditors, accountants, statisticians, and the like are in constant demand by business organizations.

COLLEGE OF EDUCATION

Dean Joseph B. White points out in the biennial summary of the College of Education that, within a five-year period, the number of white teachers employed in Florida increased from 18,885 to 27,920, or slightly more than 50 per cent. The number of students entering upon teaching education as a career has not kept pace with the rapid growth of the school population.

Upon this College will rest much of the responsibility of training teachers to staff the state public school system for the avalanche of students predicted in the next decade. A maximum of expansion is essential. To provide this without sacrificing quality in the process will tax the ingenuity of those responsible for this important part of the University program.

During the past year a self-evaluation of the College's program has been under way. The staff in the college is making a continuous effort to improve its qualifications. This is reflected in the fact that in 1950 twenty-seven members of the staff had doctor's degrees and in 1956, fifty members or 76 per cent, had

doctor's degrees. Only sixteen regular staff members do not have a doctorate and nine of these have completed most of the requirements for the doctorate.

A careful analysis and evaluation of the undergraduate program for the preparation of teachers, involving course content and experiences, was undertaken, as well as an effort at reorganizing the program and rearranging the sequence, with excellent results. This new program makes it possible for students registered in other Colleges who wish to become secondary teachers, to participate in a core program of twenty-four semester hours. This new policy undoubtedly will lead to an harmonious settlement of differences and criticisms leveled at the College in the past and paves the way for a larger percentage of graduates from other colleges to enter the teaching profession if they should choose to do so.

Real problems have been encountered in building the new P. K. Yonge Laboratory School Building authorized by the 1955 Legislature. Bids, opened in the spring, were so far in excess of estimates and funds available that substantial alterations in plans had to be effected. It is hoped that the new bids to be opened in September may be met so that construction on this important building may proceed without further delay. The space will go far to relieve the almost hopeless space situation now existing with respect to the College of Education.

COLLEGE OF ENGINEERING ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

With world attention focused upon scientific achievement and scientific progress, it is but natural that the engineering programs of the University of Florida would reflect some of the aura of importance attached to this professional field.

Our programs, both in teaching and experimental research, are vigorous and thriving. The two programs are complimentary and each has aided the other in attaining successively high goals of achievement. A qualitative and energetic faculty in the teaching division was largely responsible for the referral to this institution of substantial war related research involving millions of dollars. These funds aided substantially in holding the faculty, and both the teaching and research units have profited thereby. State funds have been utilized to initiate projects which showed promise of having economic value. When sufficient evidence accumulated to indicate a project had possibilities if further developed, industry has been invited to share in the further cost of such research. In this way industry and the federal government have furnished a substantial part of the cost of our engineering research program. It is estimated that the outside funds in the operating budget of the Engineering and Industrial Experiment Station are approximately five times as great as those available from State appropriations.

In calling attention to the salary situation as it effects Engineering, Dean Weil points out that they are in closer competition with industry than some of the other professional fields. Like other deans, he regards his staff as overloaded and underpaid. He states, "the situation is particularly peculiar in this field due to the fact that in the case of 80 percent of our workers, their salary in its entirety is reimbursed. Research contractors have, almost without exception, indicated that they felt that our workers were underpaid and have indicated their willingness to pay higher salaries." He further argues that often contractors are disturbed because they feel there may develop work stoppage or

interruptions because of the threat of workers leaving for higher salaries elsewhere.

Dean Weil recommends, and I believe his arguments have much merit, that Florida should now grasp the opportunity which has been thrust in her direction because of the momentum of a new industrial boom, to "create a great scientific and technological center which will continue to attract more industries to our State." Furthermore, Florida has the opportunity of becoming the focal point of technological development not only from the standpoint of our own country but also from the standpoint of South America and the countries to the east of us in the decade ahead. Large sources of money would be required to bring this about initially, but it is the concensus of leading industrial planners that the results would more than justify the investment. As in all great enterprises, timing is of the essence. Whether the time is now at hand for Florida to strike out boldly and match some of the large-scale undertakings associated with other major educational institutions such as those of California, Illinois, Ohio, Iowa, Michigan, New York, and other states would be up to the Governor and the State Legislature to decide.

THE GRADUATE SCHOOL and OFFICE OF CONTRACT RESEARCH

In March, 1956, new standards of admission to the Graduate School, based upon the Graduate Record Examinations, were adopted. All but two of the colleges of the University adopted an admission standard of 500 average score on aptitude sections of the Graduate Record Examinations in addition to a B-average undergraduate record for upper division students. The College of Education and the College of Physical Education and Health asked for a lower admission standard based on an average GRE score of 400, and a 2.5 undergraduate grade-point average. This will enable approximately twice as large a percentage of college graduates to meet the graduate admission standards for studies in the latter two colleges as for other subject matter fields. The new policy will result in improved selection of graduate students in all divisions of the University although the concept of a single admission standard has not as yet proved practical.

Dean L. E. Grinter who has made a notable contribution to the development of our Graduate School and in stimulating research since joining our staff in 1952, points with concern to certain factors which will influence the future development of these most important phases of our educational program. Chief among these is the matter of adequate salaries to recruit and maintain a competent graduate faculty. At the risk of duplicating a good part of Dean Grinter's report, I shall quote at some length therefrom to substantiate this view.

He asserts that "the quality of graduate work cannot be further enhanced" by merely paying more attention to or improving upon administrative procedures, but "The next step in improvement of graduate study can only come from a basic strengthening of the graduate faculty. . . . The policy in staffing graduate schools has always been to select individuals both from the undergraduate faculty and from other institutions, government and industry who have the special aptitude."

He recommends, and I heartily concur, in the necessity of appointing a limited number of graduate professors of top salary rank during this coming biennium. He suggests that thirty such appointments would be "sufficient to

change the entire reputation of the University by establishing it as one of the small group of distinguished graduate schools among state universities. Such appointments should be made over a period of perhaps five years upon the basis of a national survey of the most qualified available personnel. Some of the present members of the faculty would qualify for such appointments and they would be given every consideration."

So much of this recommendation as may be feasible should be implemented within the new biennium.

The total face value of research contracts in force at the end of the fiscal year 1954-55 was \$2,682,849.91, and for the fiscal year 1955-56, \$3,568,419.21. There was some overlapping of contracts between the two years of the biennium as there will be within the new biennial period. A research backlog or unexpired value of contracts in force as of June 30, 1956 amounted to \$1,334,776.30.

An Analysis of Sources of Contracts and Research Grants will be of interest at this point.

ANALYSIS OF SOURCE OF CONTRACTS AND RESEARCH GRANTS

June 30, 1955

	Amount	Percentage
Supported by Department of Defense	\$1,896,261.04	70.681
Supported by other Federal, State or Local Government	522,414.80	19.472
Supported by Non-Profit Foundations or Societies	55,736.57	2.078
Supported by Industry or Industrial Associations	208,437.50	7.769
Total face value of contracts in force	\$2,682,849.91	100.
Face value of contracts divided by years in force	\$1,571,007.00	

June 30, 1956

Supported by Department of Defense	\$2,528,848.21	70.87
Supported by other Federal, State or Local Government	779,361.00	21.94
Supported by Non-Profit Foundations or Societies	63,360.00	1.73
Supported by Industry or Industrial Associations	196,850.00	5.54
Total face value of contracts in force	\$3,568,419.21	
Face value divided by years in force	1,607,160.21	
Research backlog or unexpired value of con- tracts in force as of June 30, 1956	1,334,776.30	

LAW

The establishment of a chapter of the Order of the Coif brought added recognition to the College of Law during the biennium. The inspection which preceded approval of petition for the new chapter covered "not only the formal program and statistical data which reveal the operation of the school, but many intangible items such as student and faculty morale and the overall spirit of the college."

Enrollment increased 21.5 per cent during the biennium and all indications point to similar increases for several years to come. An orientation program for law students introduced in the biennium has proved most helpful. Students are

introduced within a five day period to the traditions, ethics, and activities of the legal profession. Several of Florida's most distinguished barristers have participated in the programs.

It would be difficult to assess the place of the Law College in the life of this state. If Martindale's Law Directory were consulted, I suspect no state would show so large a percentage of its first-rate lawyers coming from a single institution as Florida. An increasingly large number of judges, legislators, members of the Congress, and cabinet officers are drawn from the ranks of Florida's Law College graduates.

Again the matter of faculty salaries is disheartening. We cannot say too emphatically that some amelioration of this situation must take place if the integrity of the Law School is to be maintained.

Later in this report, I shall touch upon the activities of our new Health Center, of which all of us are so justly proud. Without indulging in any unfavorable contrasts to the detriment of any unit, I think it but fair to say that the medical college, which will be opened to students this fall, will enjoy from the outset the resources of a Library far more adequate for its purposes than the Law College, whose library has been in use for a half century. We are proud of the adequacy of the Medical Library—to have less would not be in keeping with the destiny of the medical sciences on our campus; but, Law, too, deserves something better. It seems fitting to lift from Dean Henry Fenn's Biennial Report his statement concerning the Law Library.

“During the biennium 2,645 volumes were added to our library, bringing the total collection to 48,707 volumes. The library stands forty-sixth in size among the 129 law schools approved by the American Bar Association. There are few law schools with which we feel we should be upon a competitive basis that have as small a library as ours. Most of the mid-west state university law schools have libraries double the size of ours. Before steps can be taken to remedy this situation, it will be necessary to greatly increase our accessions budget and also provide additional space for library expansion during the next biennium.”

THE J. HILLIS MILLER HEALTH CENTER

The combined reports of the deans of the College of Medicine, the College of Nursing, the College of Pharmacy, and the Director of the Teaching Hospital and Clinics, constitute a new and interesting sequence addition to the biennial report of the University of Florida. From a standpoint of institutional history, this section of our biennial report may be regarded as the most important. It should bring pride to every citizen of the State of Florida. Florida was late to recognize its need for health service education, but when it finally faced up to the need, it did so boldly and magnificently. There is nothing mediocre in the whole Health Center picture and program. A generous legislature provided appropriations to take care of the first phase of the Health Center development according to the best estimates of consultants and experts. These were to erect (1) a medical sciences building and (2) a teaching hospital and clinic. When the amount appropriated for the Teaching Hospital was found to be inadequate, an additional appropriation was provided in an extra session by the Florida Legislature. The request for additional funds was included in the agenda of matters to be considered at the Extra Session by the generous consent of Governor Collins.

The late president of the University, Dr. J. Hillis Miller, very aptly pointed out in his arguments for a first class medical school that "The worst thing in the world is to establish a poor medical school, which can so easily happen if in its establishment we do not first assess the health need of the State and the need for adequate physical facilities in order that the school will meet the specific health problems of our people."

Furthermore, his concept of a new health center was one involving integration with and fullest use of all existing University facilities. We believe that the Health Center which will bear his name has met these specifications.

Medicine

The following excerpts from Dean George Harrell's report bear repetition: The Medical Sciences Building is now nearing completion. Teaching of the first two years of the medical curriculum will be largely conducted in this building. An adequate library for the initiation of teaching has already been collected, valuable accessions having been acquired as gifts from the professional libraries of a number of Florida's physicians. A young and enthusiastic faculty is being recruited. A nation-wide search was conducted for each department head, and an average of six candidates was interviewed for each post. The faculty for the teaching of courses in the basic medical sciences will be in residence early in the next biennium.

Teaching grants have permitted the early addition of other faculty members for educational planning and explanation of teaching techniques, as well as early initiation of research.

The first class of fifty students has been largely selected and instruction will begin in September, 1956.

The readers' attention is directed to Dean Harrell's complete report for details concerning the splendid faculty selected to date.

Dean Harrell, in addition to interviewing applicants and selecting a faculty for the Medical School, has continued to serve on numerous medical boards and has published ten scientific articles during the biennium. He and Dr. Russell Poor, Provost for the Health Center, have made numerous public appearances to explain the progress of the Medical program.

Nursing Education

We were fortunate in securing as the first Dean of the College of Nursing, Dorothy M. Smith, who came to us from the Hartford Hospital School of Nursing, Hartford, Connecticut. Dean Smith received her B.S. in Nursing Education from Columbia University, New York City, in 1941, the Master's in Education from Harvard University 1947, and has done graduate work at Duke and New York University.

She has had both teaching and administrative experience at hospitals in New England, and the Duke University School of Nursing.

Since joining our staff in February, 1956, she has developed a curriculum plan for the four academic years' program leading to a Bachelor of Science in Nursing degree which plan has been approved by the Florida State Board of Nurse Registration and Nursing Education. She has also interviewed prospective students and faculty members. The first students will be enrolled in September, 1956.

Pharmacy

For many years Pharmacy has operated as one of the University's strong independent colleges. This biennium witnessed its integration with the Health Center under the provostship of Dr. Russell S. Poor. Dr. Perry A. Foote, who has served the college so effectively as Dean since 1949, will continue in this capacity under the integrated program. This administrative adjustment has served to bring about a closer relationship between Pharmacy and its kindred professions of medicine and nursing.

The need for more adequate space to accommodate the rapid growth in this professional field has been recognized and a Pharmacy Building at a cost of \$1,250,000 will be urged in the next requests before the Legislature.

As in practically all units of the University, substantial salary increases are deemed of primary necessity if a first class operation of the College is to be maintained.

Teaching Hospital and Clinics

Plans for the Teaching Hospital and Clinics were developed during the year, following numerous conferences with consultants, architects, and engineers with the staff of the various units of the Health Center. The final plans called for building the substructure of the hospital under a separate contract from that of the superstructure. Completion date for the hospital has been set for October, 1958.

Certain portions of the building as originally planned were eliminated from the plans put out for bid in order to make sure the building would come within the hospital appropriation. Specifically the psychiatric floor, the fourth, fifth, and sixth floors of the connecting wing, and the 1st floor of the specialty out patient clinics and certain unfinished areas had to be restored to give maximum efficiency of operation. Realizing the desirability of reinstating these units as well as the economy factors involved, the Governor incorporated in his call for the special Legislative Session, a portion of the teaching hospital.*

Mr. Michael J. Wood, who assisted with the Commonwealth Study and who has been identified with the planning and programming of the Health Center from the beginning was chosen to be the Director of the Hospital and Clinics.

The next phase of planning will involve the selection of a competent staff and the purchase of equipment. It is expected that the entire unit will be in operation so that patients may be admitted and the first medical and nursing students can enter upon their clinical work by 1958.

THE COLLEGE OF PHYSICAL EDUCATION AND HEALTH

There is cause for rejoicing in the report of the Dean of the College of Physical Education and Health. The biennium witnessed no major health problems among students, but a definite improvement in their general physical fitness.

The programs sponsored by the College involve (1) a "Required Physical Education Program for Men and Women" which seeks to assure every member of the student body a maximum of physical fitness both during and after their college experience. The relatively small percentage who, because of health rea-

*An Act making an appropriation of \$800,000 from the General Revenue Fund for the Teaching Hospital, to supplement and to be used in conjunction with the 1955 appropriation; and an allocation of \$425,000 previously allotted for furniture and equipment, were authorized by an Act, which was signed by the Governor and became a law on July 31, 1956.

sons, could not participate in the full program were given specialized or corrective programs adapted to their individual needs. (2) An "Intramural Athletics and Recreation Program" designed to meet the special sports and recreational needs of both men and women students while attending the University. A large segment of the student body avails itself of the opportunities which this program provides to become proficient in one or more sports. (3) A "professional Curriculum Program" designed to provide teachers in physical education, health education, and driver education, and athletic coaches for the secondary schools and colleges. It also prepares community recreation leaders and offers pre-professional work in physical therapy.

The Student Health Service has been staffed by a competent corps of physicians, nurses, and technicians, who have been adequate to meet our student-body health needs. The Infirmary served 4002 in patients and 114,095 out patients during the biennium. In addition, 2,057 pre-employment physical examinations were administered to non-academic employees of the University, and 1,598 food handlers' certificates were awarded.

The old gymnasium assigned for use of women students was condemned early in the biennium and while in the process of restoration, classes have been held in the Florida Gymnasium and the recreation rooms of Broward Hall. Additional staff members are needed to handle the greatly increased enrollment of women students. Altogether, the health of a student body is a major factor in any educational program and it is gratifying to be able to report that our excellent student health program was maintained with maximum efficiency and without incident.

SCHOOL OF JOURNALISM AND COMMUNICATIONS

This school stands on the threshold of a great future. It symbolizes the vast educational possibilities that lie in the fields of radio and television. It augurs well that facilities were provided during the biennium equal to its needs. The new quarters, located in the stadium, total 30,000 square feet of space. The graduating class of June, 1956, was 80 per cent larger than any previous graduating class in the history of the School.

The transfer of the radio and television teaching program from the Department of Speech to the School became effective at the beginning of the biennium. A Radio-Television Production Center was also created in the school. The Radio Center went on the air with its first educational programs in the Spring of 1956.

It is hoped that the University may avail itself soon of the TV Educational channel set aside by the Federal Communications Commission for its use.

STUDENT PERSONNEL PROGRAM

Counselling

The student counselling service originating in and supervised by the Office of Student Personnel through the Dean of Student Personnel, the Dean of Men, the Dean of Women, the Fraternity Advisor, Foreign Student Advisor, Student Placement Officer, and Director of Clinical Services has been satisfactory.

The Dean of Student Personnel requested and has been granted a release from administrative duties during the forthcoming academic year to accept a visiting

professorship at Columbia University, after which he will return to the University as a member of the faculty of the College of Education.

With the adoption of a stricter policy of admission, it is believed that a more mature type of student will come to the University in the future, a class better fitted mentally and psychologically to undertake serious academic work. It is to be hoped that these more mature-minded students will be more self reliant and not so dependent upon frequent day-to-day counseling as some of the less mature ones who have burdened the counseling services in recent years. The next biennium will be a testing period which will be closely observed. Meantime, it is the concensus of several highly respected members of the Administrative Council, in which I concur, that problems of discipline should decline as greater emphasis is placed on academic work. Advisement for students seeking loans, financial help, employment, or those wishing to participate in extra curricular activities will continue as in the past.

Florida's traditionally strong student government was founded on the American precept that the best governed are the least governed. In the coming biennium we shall continue to emphasize this tradition. Under the skillful leadership of a corps of good counsellors now performing an excellent service, we have every expectation that our students will be able to govern themselves.

Housing

More adequate housing for our ever-growing student body remains on the list of our critical needs. The completion and dedication of Broward Hall in the latter part of the last biennium brought some relief for women students. During the Spring of 1956, room applications from freshmen women and men increased about 28 per cent over the same period of the preceding year; the number of applications from entering upperclassmen and women increased 43 per cent, while applications from married students increased 19 per cent.

Inasmuch as the University was unable to accommodate all applicants the previous year, this represents a very substantial group of Florida students who had no chance of securing housing at the State University of their choice.

A federal housing loan of \$3,000,000 will provide additional space for 1,000 students by 1958; however, temporary structures accommodating 400 will be razed, so that the net total gain in space will be only 600.

Some housing facilities for married students must be provided to take the place of rapidly deteriorating Army barracks, which have housed married GI students for more than a decade. This is especially true with the emphasis which we expect to place on our Graduate program.

The housing facilities of the University have been largely self-liquidating projects. From the standpoint of cost, they constitute a smaller burden upon the State than any of the University's facilities. No effort should be spared in the new biennium to secure additional facilities which will enable the University to accommodate a larger percentage of its students with adequate housing and to provide for an inevitably larger student body. In this objective we earnestly solicit the aid of our legislature.

The counseling system in the residence halls is regarded as excellent. Harold Riker, who received his doctorate from Columbia University in 1955, has resumed his work as Director of Housing after a two-year leave of absence.

A new Union building designed to meet the demands of a student body of 15,000 to 20,000 is urgently recommended. Undoubtedly, such a building would

be a great boon to student morale and it is essential that we give it earnest consideration within the earliest foreseeable future.

The University was host during the biennium to the largest number of foreign students in its history. In the Spring semester of 1956, 240 foreign students from forty-five countries were enrolled. The majority or about half continued to come from the Latin American countries. An increasingly large group is coming from Asiatic countries. Much of the growth of enrollment of foreign students has been at the Graduate level. "Agriculture, Arts and Sciences, Engineering, Architecture, and Education (in that order) are the most popular fields of study among foreign students."

DIVISION OF MUSIC

"Students and staff of the Division of Music have contributed generously to the enlargement and the enrichment of the music life of campus and State. A year-round service program has been maintained in cooperation with education and music organizations throughout Florida. . . . Accomplishment is evaluated not only in terms of numerical increases; there has been an equally rewarding extension in taste and literary lines. Florida's music is well on its way to maturity and the role it will play in our expanding educational structure and community planning (recreational and avocational) begins to take on an entirely new stature. The Division of Music helped lay the groundwork for this new era, and is ready to meet the full responsibilities it brings to our doorstep." This, in essence summarizes the spirit of the Division of Music for the biennium as embodied in Director A. A. Beecher's report.

The active participation of staff members in State and national music organizations and the position of leadership held by them is impressive.

Few units of the University have made a more significant contribution than our Music Division to the educational program in such a relatively short period of time. The need of the Division for a large auditorium and permanent quarters deserves early and favorable consideration.

THE MUSEUM

The Florida State Museum, which serves as both a University and State Museum, is a growing cultural and scientific asset. During the biennium it has fulfilled within serious limitations of space and finances, the major functions for which it was created, i.e. "(1) to assemble and maintain collections of cultural and natural objects; (2) to encourage productive research on this material by Museum staff and others; and (3) to disseminate knowledge through publications and displays." During the biennium, Museum displays were viewed by 275,000 persons. Valuable accessions during the biennium brought the collections in custody to over 600,000 specimens or lots of specimens.

Under a cooperative arrangement with the State Board of Parks and Historic Memorials, displays were developed and constructed for two small museums, one at the Olustee Battlefield near Lake City, and the other at Constitution Memorial Park near Port St. Joe.

The museum under the enthusiastic leadership of Dr. Arnold Grobman, has vast possibilities of usefulness to the University and the State. Lack of space is the principal obstacle to bringing the Museum into a position of major usefulness.

It is estimated that a building suitable for displaying the collection of Florida's interesting fauna and flora (regarded as among the most interesting in the northwestern hemisphere) would cost approximately \$1,250,000. We must begin to give serious thought to this potentially great cultural asset as soon as some of our more pressing needs have been met.

THE UNIVERSITY PRESS

The Press, after a decade in makeshift space, moved into its new quarters in Florida Field Stadium in October 1955. The new quarters give this important activity a background and place of operation in keeping with its importance in the total institutional program. It has published twenty-five volumes in the biennium and plans to issue fourteen books in each year of the coming biennium.

A majority of the Press publications were the works of University of Florida authors. While commenting on this aspect of the University's cultural program, it is appropriate also to call attention to the very large number of excellent books that have been authored by University scholars during the biennium, published by other Presses. A complete listing will not be made, but attention is directed to the following:

- Florida Under Five Flags* by Rembert W. Patrick (Revised)
Guide to the Reptiles, Amphibians and Fresh-Water Fishes of Florida by Archie Carr and Coleman J. Goin
Your Florida Garden, by John V. Watkins and Herbert S. Wolfe
The Land Called Chicora by Paul Quattlebaum
Russia's Japan Expedition of 1852 to 1855 by George Alexander Lensen
D. H. Lawrence: A Basic Study of His Ideas by Mary Freeman
The Yellow Ruff and the Scarlet Letter by Alfred S. Reid
The Pricing of Cigarette Tobaccos by Elmo L. Jackson
Fletcher Martin by Barbara Ebersole
Guide to Dance Periodicals, Vol. V and VI, compiled by S. Yancey Belknap
Aging and Retirement (Vol. 5) and *Aging: A Current Appraisal*, ed. Irving L. Webber
Medical Education in the University, Vol. 5, ed. Louis J. Maloof
Gringo Lawyer by Thomas W. Palmer
Man and Land in Peru by Thomas R. Ford
Peasant Society in the Columbian Andes by Orlando Fals-Borda

THE SCHOOL OF INTER AMERICAN STUDIES

Our Inter-American Program continues to develop in usefulness and as a characteristic unit of our institution. Our proximity to Latin America quite naturally has led to a greater emphasis and interest in that area than in other parts of the world.

During the past year, the University, in keeping with federal government policy, has lent the services of a number of its key personnel to other countries under ICA contracts or through special institutional contracts. Some have gone to Asia and Europe, but a majority have accepted Central or South American assignments. The University has been invited to initiate contracts with Asiatic countries to supply technicians and teachers who might introduce American research and teaching methods into backward areas; however, we have felt

that these areas could be covered more satisfactorily by the large land grant and state universities of the Pacific Coast, both in view of relative proximity and common bonds of interests. We have indicated a preference for Latin America for the same reasons.

The University of Florida has lost no opportunity in developing its Caribbean collections in the University Library for the expanding use of Latin American scholars and others interested in the Caribbean area.

Under an Inter-American Area Studies Program, a group major is offered on the undergraduate level in both the College of Arts and Sciences and College of Business Administration. At the graduate level, an area program is offered leading to the Master of Arts and Doctor of Philosophy degrees. During the biennium twenty-four students were enrolled in the graduate program; five completed work for the M.A.; several received the Ph.D.

The Annual Caribbean Conference, which brings together delegates from the United States, Latin America, and the British West Indies, continues to focus attention upon problems and cooperative means to meet them as well as cultural aspects of the various participating countries. Scholars, diplomats, government officials, and representatives of business and industry are patronizing these conferences in increasingly large numbers from year to year. We feel that the University of Florida is making a significant contribution in this way to a very important phase of international relations.

Expenses of the Caribbean Conferences have been shared for several years by the Alcoa Steamship Company to whom we are greatly indebted for their support. We are fortunate in having the United Fruit Company as a co-sponsor for the Conference to be held in the Fall of 1956. Mr. Walter B. Fraser of St. Augustine has continued to give the program encouragement and very generous support.

The School is at the center of all Latin American campus activities. We have already pointed to the large number of Latin American students attending the University. In recent years, a special counsellor for Latin American Students in Agriculture has rendered an excellent service in a much needed area. The Counsellor assisted in the matriculation, orientation and general guidance of thirty-five students in the first year and forty-nine students in the second year of the biennium. He also assisted in carrying out shorter training periods of eighteen additional Point IV trainees and accompanied visiting agricultural students, staff members, and technicians on agricultural tours of the State. The Rockefeller Foundation has assisted in this phase of our Latin American program for a three-year period by substantial grants.

UNIVERSITY LIBRARIES

The Library collections now number in excess of 700,000 volumes. The biennium has witnessed an increased use of these collections. It is assumed that this increased circulation means that more students are studying and greater use is made of one of the institution's chief resources.

This increased use of Library facilities has placed heavier loads on the Library staff and on the limited book funds.

The acquisition of the Raymond Robins Library and the furnishings of his home at Chinsegut Hill, through the gift and courtesy of Miss Lisa Von Borowsky,

constitutes the largest single gift by a private donor in the history of the University Libraries. The collection is rich in labor and religious content and is already being put to good use by specialists and scholars interested in labor and industrial relations.

The need for additional reading rooms is critical as well as larger appropriations for implementing our collections pursuant to the growing demands of the University both at the graduate and under-graduate levels.

CONCLUSION

Those whose interest in the biennial activities of the University has been sustained up to this point will no doubt conclude with the writer of this report that significant progress was achieved in spite of serious handicaps; moreover than an impartial evaluation of the needs of the institution for the new biennium is a difficult task indeed. If the reader has analyzed the departmental reports, he would with certainty agree that the needs presented are bona fide and, in most respects, urgently pressing.

If the cumulative requests and recommendations of department heads could be met, the University would be elevated to a new dimension in educational service to the State. To ignore the essential departmental demands, even for a two-year period, is a deterrent to progress. The problem then is to seek a solution for those demands which seem most pressing, while bearing in mind constantly the potential ability and willingness of the State to meet the cost of financing them.

Our primary need is and my first aim shall be to secure an upward adjustment in faculty salaries. This is essential if we are to retain our best staff members for another biennium. Competition is now keen. Indications are that it will be even worse, especially in Florida, where industry is moving in so rapidly. This will include also a very substantial increase for key administrative personnel to meet at least the minimum salaries paid for like positions at like institutions. Strong deans build strong colleges. They can attract strong department heads who, in turn, build up strong faculties. Weakness at the top levels is the poorest type of economy. In most instances we are unable to fill vacancies which develop in key positions without offering two or three thousand dollars more than was previously paid, and our searches for replacements have been nation-wide.

We are giving top priority on our Building List to a new College of Architecture and Fine Arts Building. The very reputation of the subject field represented in this College is at stake. Florida will suffer the diminishing prestige of one of its most valued colleges to its own great detriment.

Additional housing and classroom space is absolutely essential, even if the undergraduate enrollment remains constant. Hundreds of qualified Florida students sought admission in the biennial period drawing to a close who could not complete their matriculation simply because no room accommodations were available. In our building requests, we are asking for new construction to meet our minimum needs. Other building needs and their priorities are as follows:

SUMMARY OF PROPOSED BUILDINGS AND IMPROVEMENTS FOR THE 1957-59 BIENNIUM

UNIVERSITY—EDUCATION AND GENERAL

<i>Priority</i>	<i>Designation of Project</i>	<i>Total Estimated Cost</i>
1	Utilities Expansion	\$1,500,000 ¹
2	Facilities for Agriculture (College, Exp. Sta. Ext.)	
	a. Poultry Classroom and Office Building	88,000
	b. Completion of Meat Laboratory for Animal Husbandry	110,000
	c. Addition to Dairy Science Building	40,000
	d. Citrus Packing House and Classroom Building	35,000
	e. Storage and Headhouse for Forestry	12,000
3	Architecture	1,500,000
4	Auditorium and Gymnasium, P. K. Yonge Laboratory School	382,949
5	Classroom Building and Teaching Auditorium	1,000,000
6	Addition to Law Building	160,000
7	Remodel Present P. K. Yonge Bldg. for Col. of Education	112,000
8	Residence Halls for Single Students	6,675,000 ²
9	Facilities for Agriculture	
	a. Large Animal Building at Nutrition Laboratory	37,850
	b. Central Feed Storage Unit, Animal Husbandry	27,000
	c. Herdsman's House at Swine Unit	12,500
	d. Elevator for Horticulture Building (Rolfs Hall)	50,000
	e. Plant Science Unit No. 1	300,000
10	Florida Center of Nuclear Science and Industrial Develop.	11,950,000
	TOTAL	\$23,992,299

HEALTH CENTER

1	Pharmacy	1,250,000
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AGRICULTURAL EXTENSION SERVICE

1	Brooder and Rearing House	10,856
2	Laying House	10,750
3	Laying House	10,750
	TOTAL	\$ 32,356

AGRICULTURAL EXPERIMENT STATIONS

MAIN STATION

1	Agricultural Plant Science Unit No. 2	\$570,000
2	Cold Storage and Low Humidity Rooms with Covered Packing Platform—Horticulture Unit	18,000
3	Pole Barn—Hay and Feed Storage—Dairy Unit	15,000
4	Lath House—Horticulture Unit	2,100
5	Turf Equipment and Laboratory Hort Unit	7,000

¹Preliminary estimate subject to adjustment after making detailed engineering surveys.
²\$3,675,000 of this amount to be financed by revenue certificates.

<i>Priority</i>	<i>Designation of Project</i>	<i>Total Estimated Cost</i>
BRANCH STATION		
1	Addition to Laboratory and Office Building—Indian River Field Laboratory	48,000
2	Addition to Production Research Building—Citrus Experiment Station	65,000
3	Foreman's Cottage—Cortez Farm—Gulf Coast Experiment Station	10,000
4	Foreman's Cottage—South Florida Field Laboratory	12,500
5	Library and Conference Room—Everglades Experiment Station	30,000
6	Greenhouse Headhouse Unit—Gulf Coast Experiment Station	10,800
7	Addition to Steer Barn—Range Cattle Experiment Station	15,000
8	Two Labor Cottages—West Florida Experiment Station	15,000
9	Storage Building—West Florida Experiment Station	9,900
10	Machinery & Truck Storage—Everglades Experiment Station	13,000
11	Headhouse and Greenhouse—Everglades Experiment Station	4,900
12	Pesticide and Fertilizer Storage—Potato Investigations	3,400
13	Sprayer and Equipment Storage—Pecan Investigations Lab.	1,200
14	Addition to Implement Shed—Suwannee Valley Ex. Station	1,100
15.	Staff Residence—West Florida Experiment Station	15,000
16	Foreman's House—Central Florida Experiment Station	12,500
17	Staff Residence—Range Cattle Station	15,000
	TOTAL	\$894,400

The future pattern of higher education in Florida has not yet been firmly established, despite certain recommendations appearing in the recent Report on that subject. The National Committee on Education Beyond the High School, recently appointed by President Eisenhower, will undoubtedly make proposals which will have a bearing upon the educational future of Florida, as it will upon other states. There is a possibility that Federal finances may come into the picture to meet construction costs for initiating multiple college programs to care for students in our large urban areas. In the past, junior colleges and urban universities have developed according to community needs, privately or municipally financed, and they have been regarded with pride by the sponsoring communities.

A greater use of new techniques involving radio and television, especially for extension courses and adult education, no doubt will be proposed. A wider use of existing high school plants and facilities for night courses and technical training in urban areas is already being advocated in some quarters.

In any eventuality, whether the problem of handling the numbers who desire higher educational opportunity is solved by an expansion of existing facilities or the creation of new ones, the Graduate School programs of the University must be properly provided for. The institution cannot much longer command the respect which it has enjoyed up to the present time without making a supreme effort to develop an exceptional graduate faculty and provide the tools for it to work with. This means augmenting our staff with several distinguished scholars in strategic areas. It means strengthening departments that show weakness by selecting only the most talented personnel for every vacancy that has to be

filled. It means the upbuilding of our library collections, and the expansion of existing laboratory and research facilities.

As Dean L. E. Grinter has pointed out in his report "Our upper salary level is now \$10,000 below that of the strongest graduate institutions." For those not acquainted with the total American educational picture, this may seem unbelievable, but it is nevertheless true. Florida's vital interests demand that something be done to narrow the distance which now separates it from a more respectable place in the American educational picture at the graduate level.

Much of my biennial report has dealt with our scientific and research programs. I should like to balance the picture somewhat on the humanistic side by quoting from a recent address by Dr. Mortimer Graves, a distinguished American scholar.

"Our society supports the scientists, not through any love for the constant and relentless probing of the unknown which science is, but because it sees and cherishes the results of applied science. Up to the present, it has not seen and thus has had no chance to cherish the applied humanities.

"There are very definite things to be done. The whole dimension of Asia—or better, perhaps, of the non-West European world—must be added to higher education. . . . Higher education in the humanities is no longer—if it ever was—only a local responsibility; it is an element of our national security and welfare."

The major problems ahead of us are not problems of sheer science and knowledge but problems which are quite hopeless of solution without the specific competence and the general attitudes of humanistic scholarship."

Obviously a well balanced program for a University of today and the future must place proper emphasis on the humanistic and social studies. This the University of Florida has been doing and will continue to do.

These various factors which have been mentioned as comprising a balanced program together with constant emphasis on improving the quality of our educational performance is consistent with the changing policy on admission standards. We have every reason to expect better students, and students who will properly assume their obligations of leadership in a university community.

The University of Florida stands today in point of development, student enrollment, budgetary support, and national prestige at about the same place the University of Illinois, Michigan, Ohio, Wisconsin and a few others stood between one and two decades ago. Florida stands today economically, that is to say, in a relative position of personal and per capita income where states supporting such institutions stood between one and two decades ago. Today those state-supported institutions are among the great intellectual centers of the world. Florida, if it is to fulfill its destiny, must join this company and do so as soon as possible. The decision lies largely with the people of Florida as expressed through their legislative representatives. It is encouraging to observe recent statistics issued concerning Florida's standing in the nation with respect to rate of increase for total personal income and per capita income respectively during the past twenty-five years. It stands at the head of the list. Florida's total personal income shot up from \$752,000,000 in 1929 to \$5,923,000,000 last year, a phenomenal 687 per cent increase. Since 1939 the real income per capita in Florida has increased 76.5 per cent. These figures, coupled with the astronomical predictions relating to Florida's future growth, measured in terms of increased population and increased industrial activity, would seem to indicate that she will be financially able to support a first class educational program both at the high school and college

and graduate levels. Within a decade, with appropriate biennial financing, it would be possible to bring the University to a place of eminence in the American educational picture. In addition to the need for new classrooms, a technological center, a more equitable salary scale and more adequate student housing, a new music auditorium, and a new Union building for students, we need a faculty club where staff members may gather to exchange views and associate with others not in their department or specialized fields. These things will go far toward meeting the specifications of a real University center.

The University lost during the biennium, by virtue of retirement, fifteen of its most devoted staff members and, by death, seventeen others, whose passing was mourned by a host of former students, colleagues, and friends. The service rendered by these servants of the State is beyond measure. All whose lives have been touched and enriched by them would join in an accolade of thanks for their particular contribution to the cause of education.

The University and the State of Florida will ever be indebted to the following staff members who retired during the biennium:

Gulie H. Blackmon, Horticulturist and Head of Department
Harold G. Clayton, Director, Agricultural Extension Service
Madison Derrell Cody, Professor of Botany
Harwood B. Dolbeare, Professor of Economics
Beverly E. Lawton, County Agent
Lucie Kramer Miller, Lake County Home Demonstration Agent
Clarence V. Noble, Dean and Professor, College of Agriculture
James W. Norman, Professor and Dean Emeritus of Education
George Sheldon Price, PMS&T and Coordinator of Military Departments
Ila R. Pridgen, Law Librarian
George Edgar Ritchey, Agronomist in Charge, Suwannee Valley Station
Hallie B. Sherman, Professor of Biology
Blanche Estelle Skinner, Instructor, P. K. Yonge
Charles H. Steffani, County Agent
William B. Tisdale, Professor and Head of Botany

and to the following, who answered the final summons:

Warden C. Allee, Head Professor, Biology
Clyde K. Beale, Editor, Agricultural Experiment Station and Extension Service
Donald Lee Bensinger, Assistant in Research, Chemical Engineering, EIES
Leonard Paul Elliott, Professor of Physical Sciences
Norman Byron Flagg, Assistant Professor of Architecture
Stewart Walter Freyburger, Instructor in Pharmacognosy and Pharmacology
Leonard William Gaddum, Head Professor of Physical Sciences
Arnold Glen Hutchinson, Glades County Agent
James Miller Leake, Head Professor of History and Political Science
William L. Lowry, Associate Professor of Journalism
Walter J. Matherly, Dean of the College of Business Administration
Hugh Clyde Maxwell, Assistant Professor of Business Education
Ambrose E. Nesmith, County Agent
Lew Sarett, Visiting Professor of Speech
Johannes A. Sorensen, Bay County Agent
Kate V. Wofford, Professor and Head of Elementary Education
Julia Wold, Assistant Librarian and Assistant Professor of Library Science

REPORT OF THE BUSINESS MANAGER

To the President of the University:

Sir: I have the honor to present to you the following report on the conduct of the business management activities of the University for the 1954-56 biennial period. The pertinent financial schedules are attached hereto and indicate in detail the result of financial operations during this period.

I would like to take this opportunity to comment specifically upon the following points.

General

1. The development of a comprehensive punched card accounting system has been continued and during the period of this report all accounting records have been maintained on punched cards. This has greatly facilitated the preparation of the periodic operating statements necessary for effective management and has also enabled us to provide many analyses and studies for administrative attention.

2. The effect of the operation of the Health Center, particularly the Teaching Hospital, upon the organization and functions of the Business Office has been the subject of careful study and planning. In cooperation with the Provost for the Health Center organizational responsibilities and channels of authority have been developed to meet this need.

3. We believe it is appropriate to insert in this report the following comments from the audit report of the State Auditing Department for the fiscal year ending June 30, 1955:

"All expenditures were properly supported by vouchers and were kept within the provisions of the applicable laws. Those disbursements made from funds on deposit with the State Treasurer were pre-audited and approved by the State Comptroller prior to payment. The financial and accounting records of the University were well kept and adequately reflect the financial transactions during the year. Adequate budgetary controls were in operation throughout the year under review."

Fiscal Operations

1. Effective July 1, 1955 and pursuant to Chapter 29800, Acts of 1955, a Working Capital Fund was established for the purpose of providing central cost control for general services necessary to the operation of all University departments and the auxiliary enterprises. All items furnished from central stores inventory as well as services such as maintenance, repairs and transportation are being financed from this fund by billing the appropriate operating department on the basis of actual cost for materials and services furnished, including reasonable overhead and depreciation charges.

2. During this period a comprehensive cost study has been initiated in collaboration with the State Budget Director and State Auditing Department. The results of this study will be of inestimable value to management in determining as accurately as practicable the instructional costs of the several areas of instruction represented in the University

3. Plans were initiated to expand and refine the accounting systems and procedures of the Agricultural Experiment Stations in order to provide additional information relating to the cost of the various research projects carried on by these stations.

Physical Plant

During the period covered by this report, the Medical Science Building, authorized by a \$5,000,000 appropriation made by the 1953 session of the Legislature was substantially completed. The contract was let for the construction of the Teaching Hospital authorized by an appropriation of \$8,600,000 by the 1955 session of the Legislature and work on this project was initiated. Detailed plans were developed for the construction of the new P. K. Yonge Laboratory School Building and the Physics Classroom Building as authorized by the 1955 Legislature. Arrangements were concluded with the Housing and Home Finance Agency for a \$3,000,000 loan to provide approximately 1,000 additional dormitory spaces for both men and women. The architectural drawings for these buildings are in progress and construction is expected to begin in the fall of 1956. As authorized by the 1953 session of the Legislature plans were developed and revenue certificates sold to provide for the construction of six additional fraternity and sorority houses. Three of the group began construction on their houses during this period. In order to assist the University administration in overall campus development and planning a survey of land use was made by outside consultants and the results of this survey are being used as a guide.

The routine maintenance of buildings, equipment and grounds has been scheduled on a systematic basis and from an inspection of these facilities we are confident that all University buildings are in a good state of repair.

Details indicating the nature of buildings and improvements authorized during this period as well as the results of the financial operations of the University are indicated in the schedules following this summary.

Respectfully submitted,
W. Ellis Jones
Business Manager

SCHEDULE OF BUILDINGS AND IMPROVEMENTS AUTHORIZED DURING THE PERIOD JULY 1, 1954 TO JUNE 30, 1956

NAME OF PROJECT	Amount Authorized or Expended
Teaching Hospital	\$ 9,400,000
Extension of Campus Utilities	225,000
Physics Building	1,000,000
Laboratory School	1,235,000*
Small Dormitories—Univ. Campus	750,000
Dormitory Construction	3,000,000
Sigma Phi Epsilon Fraternity Property	32,480
Agronomy Field Laboratory	25,000
Office Building—Sub-Tropical	41,000
Production Research Building (Citrus Station)	80,000
Machine Storage—Meeting Building Range Cattle Station	11,000
Animal Feeding Shelter (Everglades Station)	10,000
Greenhouse and Headhouse (Sub-Tropical Station)	8,000

Superintendent's Cottage and Utilities (Horticulture Unit)	12,500
Special—Office and Laboratory (Imokalee Laboratory)	12,800
Special—Equipment Fertilizer Storage (Imokalee Laboratory)	5,000
Special—Laboratory and Office (Watermelon Laboratory)	55,500
Special—Greenhouse (Watermelon Laboratory)	2,500
Special—Storage Building (Watermelon Laboratory)	5,000
4-H Club at Cherry Lake	
Set of Permanent Docks	23,900
One Control Cottage	6,500
Four Campers Cabins	7,200
One Toilet and Shower Facilities Building	5,000
One Canteen	1,500
Dining Hall Equipment and Water Coolers	500
Concrete Benches	600
Painting and Repairs	1,000
4-H Club Camp in Highlands	25,000
TOTAL	\$15,981,980

*\$485,000 obtained from the sale of Revenue Certificates

SCHEDULE OF LAND ACQUIRED DURING PERIOD JULY 1, 1954 TO JUNE 30, 1956

	Date	Acreage	Cost
Agricultural Experiment Station—Range Land	1954-55	540.00	\$ 22,682.50
Agricultural Experiment Station—Farm Land	1954-55	218.00	57,500.00
Agricultural Experiment Station—Farm Land	1955-56	8.00	24,233.00
Sigma Phi Epsilon Fraternity	1954-55	.75	25,520.00
Scruggs Property	1955-56	10.00	10,000.00
Palmer Property	1955-56	3.29	9,861.90
Total			\$149,797.40

UNIVERSITY OF FLORIDA STATEMENT OF CURRENT INCOME BY SOURCES Years 1954-55 and 1955-56

SOURCE	1954-55		1955-56	
	Amount	Percentage	Amount	Percentage
State Appropriations	\$11,175,645.00	58.8%	\$13,188,684.00	61.2%
Federal Appropriations	900,565.52	4.7	1,053,000.37	4.9
Student Fees	1,415,546.77	7.5	1,538,216.07	7.1
Auxiliary Enterprises	3,758,966.11	19.8	3,609,569.66	16.8
Gifts and Grants From				
Private Sources	246,048.80	1.8	467,007.18	2.2
Agricultural Sales	274,777.24	1.4	394,428.72	1.8
Sales and Services	1,121,702.91	5.9	1,270,471.17	5.9
Endowment	2,032.84	0.0	1,240.00	0.0
Miscellaneous	12,961.00	0.1	11,918.59	0.1
Totals	\$19,008,246.19	100.0%	\$21,534,535.76	100.0%

UNIVERSITY OF FLORIDA
SUMMARY OF FUNDS
FOR THE PERIOD JULY 1, 1954 THROUGH JUNE 30, 1956

	Balance		Reverted	Balance		Reclassified As to Fund	Additions	Deductions	Balance	
	July 1, 1954	Additions		Deductions	June 30, 1955				As to Fund	June 30, 1955
CURRENT FUNDS.										
General:										
State Appropriations:										
Old Appropriations										
Forward	\$ 16,338.61		\$ 16,338.61		\$ 113,728.73		\$ 100,599.50		\$ 13,129.23	
Salaries	172,219.93	\$ 6,463,567.00	\$ 6,529,348.02	\$ 835.17	(835.17)	\$ 6,960,779.00	6,701,964.74		259,814.26	
Expense	213,436.15	1,014,880.00	1,172,949.46	4,015.10	(51,351.59)	890,014.00	726,655.32		163,358.68	
Current Operating Outlay	40,032.33	496,447.46	4,032.27	61,541.97	(61,541.97)	246,706.00	212,505.30		34,200.70	
University Incidentals	685,519.78	1,431,832.70	1,316,913.78	798,623.61		1,620,038.47	1,489,865.56		131,988.00	
Seminary Interest	2,541.25	1,857.91		4,099.16		1,855.62	1,891.66		4,063.12	
Other General Current Funds	16,765.26	13,636.46	9,079.07	21,322.65		15,568.53	14,622.05		22,269.13	
Total Current Funds, General	\$ 1,146,853.31	\$ 9,421,921.53	\$ 9,499,195.88	\$ 928,613.33		\$ 9,734,961.62	\$ 9,248,104.13		\$ 627,823.12	
Restricted:										
Health Center:										
State Appropriations										
Grants and Donations										
Engineering and Industrial Experiment Stations:										
State Appropriations	\$ 2.02	\$ 205,000.00	\$ 204,998.73	3.29	-0-	50,028.55	857,350.00		\$ 504,687.56	
Research Contract Fund	83,945.75	779,552.53	793,414.89			190,788.37	111,881.37		128,935.55	
Special Beach Erosion						226,080.00	226,077.38		2.62	
Agricultural Experiment Stations	601,893.30	3,509,389.82	3,760,054.71	83,695.57	267,532.84	882,194.59	895,526.30		56,751.68	
Agricultural Extension Service.	78,813.79	1,141,618.60	1,102,970.83	105,067.35	12,394.21	1,274,748.31	1,189,721.35		97,421.17	
Grants and Donations	127,741.94	328,498.91	307,617.68		148,623.17	280,618.70	248,553.61		130,659.71	
University Research Contract Fund	(31,015.99)	132,779.43	139,445.65	(37,682.21)		107,771.33	119,284.58		(49,195.46)	
American Legion Interest Fund	830.00	1,240.00		2,070.00		1,240.00	1,100.00		2,210.00	
Beaumont Fund	53,200.00	1,330.00		53,200.00		1,330.00	1,330.00		53,200.00	
General Extension Fund	80,062.97	200,468.97	236,306.99	44,224.95		207,399.73	192,304.09		59,320.59	
Total Current Funds, Restricted	\$ 995,473.78	\$ 6,299,878.26	\$ 6,546,139.48	\$ 188,766.21	\$ 560,446.35	\$ 8,204,735.56	\$ 7,198,979.68		\$ 1,566,202.23	
Total Current Funds	\$ 2,142,327.09	\$ 15,721,799.79	\$ 16,045,335.36	\$ 1,117,379.54	\$ 701,411.98	\$ 17,939,697.18	\$ 16,447,083.81		\$ 2,194,025.35	
WORKING CAPITAL FUND	\$ 311,359.87	\$ 390,952.28	\$ 447,656.69	\$ 254,655.16		\$ 793,940.30	\$ 796,065.51		\$ 252,529.95	

UNIVERSITY OF FLORIDA
SUMMARY OF FUNDS
FOR THE PERIOD JULY 1, 1954 THROUGH JUNE 30, 1956

	Balance July 1, 1954	Additions	Deductions	Reverted	Balance June 30, 1955	Reclassified As to Fund	Additions	Deductions	Balance June 30, 1956
AUXILIARY FUNDS:									
Bookstore	\$ 126,482.50	\$ 495,179.52	\$ 465,120.47		\$ 156,541.55		\$ 505,791.31	\$ 497,101.76	\$ 165,231.10
Printing Department	37,011.97	139,595.53	150,822.79		26,284.71		139,007.93	134,427.95	30,864.69
Food Service Division	79,700.53	1,065,707.42	1,034,178.83		111,229.12		1,060,723.43	1,111,805.31	60,147.24
Laundry	14,176.73	28,955.35	25,967.35		17,164.73		34,880.29	28,080.12	23,464.90
Student Health Service	94,329.81	222,675.15	216,694.93		100,310.03		251,313.87	240,769.99	110,853.91
Radio Station WRUF	112,021.86	102,585.82	203,003.48		11,604.20		106,136.18	106,851.22	10,889.16
Student Housing:									
Permanent Dormitory									
Rental Fund	241,686.67	496,217.01	466,903.00		271,000.68		426,429.44	611,619.00	85,811.12
Temporary Dormitories	94,288.35	78,969.63	59,733.94		113,624.04		83,103.71	61,928.26	134,699.49
Flavel Villages	134,785.34	347,909.17	238,026.40		244,668.11		419,499.25	205,914.68	458,252.68
Dormitory Operating Fund	12,045.36	184,332.60	181,083.22		15,294.74		242,051.65	230,744.66	26,601.73
1952 Student Hall Dormitory									
Operating Fund	26,900.25	126,868.34	121,435.98		32,332.61		125,103.47	118,651.50	38,784.58
Rental Property Operations	4,380.30	20,846.81	9,441.94		15,785.17		20,936.51	25,738.88	10,982.80
Florida Union	10,974.02	80,859.16	81,256.69		10,576.49		88,514.53	96,548.68	2,582.34
Forest Ranger School									
Cafeteria	729.38	16,587.52	17,547.05		(230.15)		22,082.32	17,904.76	3,947.41
Total Auxiliary Funds	\$ 989,513.07	\$ 3,407,289.03	\$ 3,270,716.07		\$ 1,126,086.03		\$ 3,625,073.89	\$ 3,488,086.77	\$ 1,163,073.15
LOAN FUNDS	\$ 132,754.75	\$ 7,880.71	\$ 453.02		\$ 140,182.44		\$ 13,471.31	\$ 209.54	\$ 153,444.21
ENDOWMENT FUNDS:									
A. I. DuPont Memorial	\$ 4,000.00	\$ 4,800.00	\$ 4,800.00		\$ 4,000.00		\$ 6,075.00	\$ 6,075.00	\$ 4,000.00
Silent Hoist and Crane Co.	5,359.87	161.62	25.00		5,496.49		163.11	200.00	5,459.60
Robert Gregg Industrial Development Fund	3,232.00	800.00	100.00		3,932.00		153.00		4,085.00
Total Endowment Funds	\$ 12,591.87	\$ 5,761.62	\$ 4,925.00		\$ 13,428.49		\$ 6,391.11	\$ 6,275.00	\$ 13,544.60
UNEXPENDED PLANT FUNDS:									
Funds for Plant Additions:									
State Building Appropriations:									
Medical Center	\$ 4,851,311.40		\$ 1,093,403.94		\$ 3,757,907.46			\$ 2,567,814.87	\$ 1,200,092.59
Old Appropriation Forward	94,129.46		93,678.92		450.54				
Fire Replacement Fund	1,526.77	\$ 245.49	420.49						1,351.77

UNIVERSITY OF FLORIDA
SUMMARY OF FUNDS
FOR THE PERIOD JULY 1, 1954 THROUGH JUNE 30, 1956

	Balance July 1, 1954	Additions	Deductions	Reverted	Balance June 30, 1955	Reclassified As to Fund	Additions	Deductions	Balance June 30, 1956
UNEXPENDED PLANT FUNDS (Continued)									
1954 Revenue Certificate									
Const. Fund	103,717.02	1,160,497.56	989,349.40		274,865.18		\$ 18,585.82	293,451.00	
Student Fee Building Fund	\$ 16,971.98	\$ 94,967.91	\$ 53,067.21		\$ 58,872.68		\$ 81,941.53	\$ 130,072.72	\$ 10,741.49
1952 Student Hall Const. Fund	156,983.39	1,487.10	158,470.49						
1948 Dorm. Repair & Replacement Fund	108,284.60	61,431.25	53,487.43		116,228.42		196,966.09	23,944.66	289,249.85
1952 Dorm Repair & Replacement Fund							2,000.00	1,185.25	814.75
1954 Dorm Repair & Replacement Fund							4,750.00		4,750.00
Incidental Fund—Allocated for Plant Additions	98,118.16			\$ 371.21	3,804.02			3,804.02	
Auxiliary Fund—Allocated for Plant Additions	166,734.24	100,000.00	147,086.49		119,647.75		122,549.54	242,197.29	
Official Residence and Reception Center	1,248.96								
Century Memorial Tower			1,248.96						
State Appropriations:		56,922.88	40,176.16		16,746.72		3,515.75	20,262.47	
Teaching Hospital—Medical Center									
Extension of Campus Utilities									
Physics-Mathematics-Psychology Bldg. Lab. School and Industrial Arts							1,806,200.00	831,956.90	974,243.10
Board of Control, State Medical School Planning							225,000.00	123,631.59	101,368.41
Total Funds for Plant		75,771.48	75,771.48				42,000.00	2,000.00	40,000.00
Additions	\$ 5,599,025.98	\$ 1,551,323.67	\$ 2,800,103.90	\$	821.75	\$ 4,349,424.00	\$ 2,545,008.73	\$ 4,262,285.77	\$ 2,632,146.96

UNIVERSITY OF FLORIDA
SUMMARY OF FUNDS
FOR THE PERIOD JULY 1, 1954 THROUGH JUNE 30, 1956

	Balance		Reclassified As to Fund	Balance		Balance
	July 1, 1954	June 30, 1955		June 30, 1955	June 30, 1956	
UNEXPENDED PLANT FUNDS (Continued)						
Funds for Debt Service:						
Dormitory Revenue Certificates, Interest and Sinking Funds:						
Series 1938	\$ 147,125.66	\$ 35,617.82	\$ 99,765.05	\$ 89,978.43	\$ 27,203.90	\$ 62,924.53
Series 1948	277,928.18	267,832.29	181,112.60	364,647.87	180,284.80	368,600.89
Series 1952	220,877.73	160,935.92	208,403.95	173,409.70	144,933.89	184,157.14
Series 1954		43,828.94	15,907.50	27,921.44	50,693.32	48,314.76
Series 1955				21,564.89	21,564.89	21,564.89
Series 1956					18,652.84	18,652.84
Stadium Revenue Certificates, Interest and Sinking Fund	31,827.87	337,587.80	330,254.90	39,160.77	44,686.86	28,521.30
Total Funds for Debt Service	\$ 677,759.44	\$ 845,802.77	\$ 829,444.00	\$ 694,118.21	\$ 400,496.45	\$ 759,541.38
Total Unexpended Plant Funds	\$ 6,276,785.42	\$ 2,397,126.44	\$ 3,629,547.90	\$ 821.75	\$ 5,043,542.21	\$ 3,391,688.34
AGENCY FUNDS:						
Student Bank	\$ 72,373.29	\$ 1,837,699.11	\$ 1,833,463.26	\$ 76,609.14	\$ 2,089,817.16	\$ 78,230.58
Breakage Deposits	12,796.29	14,461.00	9,249.43	18,007.86	12,848.45	22,629.90
Fulk Memorial	11.97			11.97		11.97
P. K. Yonge Internal	344.50	3,035.08	3,204.50	175.08	2,502.92	2,675.50
ROTC Deposits and Losses	4,442.14	57,774.58	58,161.15	4,055.57	54,779.35	3,118.56
Security Deposits	70,177.77	59,252.23	54,825.00	74,605.00	59,270.63	84,089.00
Student Activity Funds	154,263.86	328,476.26	272,309.85	210,430.27	366,179.21	214,248.64
Scholarship Funds	69,762.94	403,841.91	400,836.63	72,768.22	509,075.62	133,457.36
Ruze Loan Fund	2,783.50	79,183.53	78,360.83	3,606.20	101,142.73	52,022.60
Sorority and Fraternity						
Land Deposits	20,589.25	2,000.00	2,840.00	19,749.25	800.00	11,309.25
Contractors' Bid Deposits	4,591.71	39,392.20	36,143.75	7,840.16	30,983.23	7,866.71
Point IV Orientation	1,756.48		1,756.48			
Point IV Agriculture Program	1,026.78	4,775.40	5,278.55	1,123.63	5,989.37	3,434.41
National Teacher's Examination	948.34	2,748.00	2,288.00	1,403.34	1,656.50	670.84
Summer Frolics	548.02			548.02	422.00	970.02
Campus Chest Fund	660.95	516.95	698.31	479.59	1,947.30	1,941.50

UNIVERSITY OF FLORIDA

SUMMARY OF FUNDS

FOR THE PERIOD JULY 1, 1954 THROUGH JUNE 30, 1956

	Balance July 1, 1954	Additions	Deductions	Reverted	Balance June 30, 1955	Reclassified As to Fund	Additions	Deductions	Balance June 30, 1956
AGENCY FUNDS (Continued)									
1954 Taxes on Simpson Property	493.90		304.27		189.63			189.63	
Rehabilitation of CLO House	154.32				154.32				154.32
Dissertation Fee Deposits	4,950.00	3,350.00	3,800.00		4,500.00		4,050.00	5,300.00	3,250.00
English Language Institute	17.00	42.50	9.63		49.87		91.38	64.42	76.83
Fraternity and Sorority Furniture Accounts		16,439.00		11,058.25	5,380.75		27,834.49	32,534.41	680.83
Fraternity and Sorority Lot Purchase Acc'ts		3,040.00			3,040.00		4,000.00		7,040.00
Military Laundry Deposits		1,760.85			1,760.85		1,386.90	1,393.11	1,754.64
Non-Resident Tuition in Advance		38,850.00	2,275.00		36,575.00		175.00	36,575.00	175.00
Geography Travel Field Course		3,705.00	627.37		3,077.63		27.34	3,104.97	
Student Religious Association		1,424.20	1,161.10		263.10		2,562.38	1,640.25	1,185.23
Advance Student Fee Payments		1,573.00			1,573.00			1,573.00	
Student Government Insurance		30,484.92	30,484.92				39,534.13	39,534.13	
Public Relations Pharmacy Program		426.00			426.00		6,346.50	5,124.10	1,648.40
Withholding Tax Account		346.97	236.64		110.33		372.41	424.34	58.40
Florida Liquefied Petroleum Medical College Acceptance		316.00			316.00			316.00	
Deposit							\$ 2,450.00		\$ 2,450.00
Commutation Fund for Basic Cadets							32,263.45	28,578.70	3,684.75
Commutation Fund for Advance Cadets							8,479.20	6,857.85	1,621.35
Sale of Uniform Funds							233.85		233.85
Student University Choir Univ. of Fla. Press- Royalty Account							2,283.75	1,257.22	1,026.53
Other Agency Funds	\$ 3,261.22	\$ 12,242.21	\$ 11,237.35		\$ 4,266.08		2,333.49	1,173.54	1,159.95
Total Agency Funds	\$ 426,549.23	\$ 2,947,156.90	\$ 2,820,610.27		\$ 553,095.86		\$ 3,390,174.04	\$ 3,297,782.00	\$ 645,487.90
TOTAL ALL FUNDS	10,291,881.00	\$24,877,966.77	\$26,219,244.31	\$ 1,118,201.29	\$ 7,832,402.17		\$28,679,676.18	\$28,698,284.85	\$ 7,813,793.50

REPORT OF THE DEAN OF THE UNIVERSITY COLLEGE

To the President of the University:

We are pleased to present the University College report by departments.

American Institutions

In the opinion of its staff, the C-1 Department, which conducts the course in American Institutions, is making satisfactory advances in developing the course into a genuinely general-education course. While still insisting on basic factual material, more and more the emphasis is on teaching students how to deal with facts and information in a meaningful and conceptual way.

During the past year the C-1 study guide or Syllabus, which is prepared by the staff, has been doubled in size and a major part of the student's required reading is now in the Syllabus. We find that freshmen do more reading when the readings are actually put in their hands.

The evolution of the Syllabus exemplifies the increasing emphasis being placed on how to use factual materials to think independently and constructively in social, economic, and political matters, on how to use information to detect social and political trends and to analyze their causes, implications, and interconnections. Much more time is now allotted to such concepts and analyses as the basic cultural attitudes and values of Americans, the many-faceted nature of the American private-enterprise economy, the extraordinary dynamism of the American economy, a comparison of the American economy with significant foreign economies, the operation of the balance-of-power system in international relations and how balance of power is entwined with ideological conflicts, the implications of atomic energy for the American economy and for future international relations, the meaning of democracy, and the meaning of liberty.

In making replacements and adding new members to the C-1 Staff, marked progress has been made during the past year toward achieving our personnel goals, that is (1) to appoint members of the staff from a wide variety of the large graduate schools of the prestige universities; (2) to appoint members of the staff from a wider variety of the social science disciplines, particularly from cultural anthropology and institutional economics, to insure a better balance between history, political science, sociology, and economics; (3) to appoint those who have not only a thorough grasp of their individual specialties but also the intellectual ability to think in larger terms and to see how their specialties affect and are affected by other areas of knowledge; and (4) to appoint those who have had actual experience in teaching general education as well as in teaching their specialties.

W. G. Carlton

Physical Sciences

The Department of Physical Sciences (C-2) has made progress during the past biennium along the following lines: (1) improvement of quality of the teaching staff (2) the acquisition of facilities for observational work in astronomy (3) revision of syllabi and (4) interdepartmental cooperation.

(1) Five new members of the permanent staff have been obtained. Of these four have Ph.D. degrees which were received at California Institute of Technology, the University of Chicago, Indiana University, and Pennsylvania State,

and one is completing his doctoral dissertation here at Florida. Two are theoretical physicists with experience in general education at the University of Chicago, one is a physical chemist with training in general education at Harvard on a Ford Foundation Fellowship, and two are geographers. One of the men from the University of Chicago is recognized nationally as an authority on cosmology.

(2) Before leaving Chicago to become a member of the C-2 staff, Dr. Guy Omer was able to conclude negotiations with Mr. Richard E. Schmidt for the gift of an 8 inch refracting telescope. The lens for this telescope was ground by Alvin Clark who is generally regarded as the best lens maker this country has produced. The telescope is valued by the manufacturer, Gaertner Scientific Company, at \$20,000.

To house this telescope and a 10 inch reflector previously presented to the Department by Mrs. Fred Heath of Gainesville, a 16 by 32 foot brick-and-concrete observatory has been erected just south of the brow of the hill at the old WRUF site. The refracting telescope has been completely reconditioned in the shop of the Department of Physics, and it is expected that the observatory will be completed so that the telescope can be installed in the next few weeks.

The observatory will be used for observation sessions with C-2 and astronomy students, for research, and for the public. It will supplement the Spitz planetarium, which has been used for classroom instruction, and for demonstrations to twenty-eight groups from off the campus during the last two years.

(3) The C-21 text OUR PHYSICAL ENVIRONMENT by Gaddum and Knowles of the C-2 staff has been adopted for use by about sixty colleges and universities during the last two years.

H. L. Knowles

Reading, Speaking, and Writing Self-Evaluation

Effective teaching being a primary consideration in the University College, the C-3 staff has followed its continuous program of self-evaluation. During 1955-56 the course *Syllabus* underwent complete revision, based on new and improved textual materials. This revision, the nineteenth in twenty-one years, will be put into use with the opening of the University in September, 1956. Each semester studies have been made of the testing procedures, of the instructors' scores on speeches and written compositions, and of the parallel reading reports and timed-reading charts of all C-3 students. These studies, made to determine not only the quantity and quality of work done by C-3 students but also the effectiveness of the instructional staff, have served as a basis of staff meetings, where the meaning and results were discussed and where plans for improvement were formulated.

English for Foreign Students

At the beginning of the biennium Professor David P. Harris joined the C-3 staff to direct the C-3 sections reserved for foreign students.

Scholarly Activities

Though the major emphasis in C-3 the past biennium, as always, has been upon improving instruction, the staff has been active in scholarly pursuits. Three members of the staff have earned the doctorate during this period; six others have pursued advanced graduate study. Members of the staff have written or edited six books and three exercise manuals during this period; ten members have done editorial work on other books and publications; and twenty-four have published articles in regional or national periodicals. Professor George D. Spache has published privately *Good Books for Poor Readers* and *Resources in Teaching Reading*, and, in collaboration with Professor Paul C. Berg, *The Art of Efficient Reading* (Macmillan Company). There was also published a manual to accompany this latter book. Professors J. Hooper Wise, J. E. Congleton, and Alton C. Morris (of the College of Arts and Sciences), at the request of Harcourt, Brace and Company, have prepared revised editions of *College English: the First Year* and *The Meaning in Reading*. This is the fifth edition of the last named book. Both books have accompanying exercise manuals. Professor R. H. Bowers has edited Robert Johnson's *Essays* (1607).

Professional Activities

Members of the C-3 staff have also been active in the programs of professional and learned societies. Eight members of the staff have served as chairmen of committees or of programs, and one, Dr. Spache, has served as president of the National Association for Remedial Teaching and as a member of the Board of Directors of the International Reading Association. In all twenty-nine papers have been read before professional and learned groups. Such organizations include, in addition to those named above, Modern Language Association, South Atlantic Modern Language Association, Conference on Communication and College Composition, National Council of Teachers of English, Florida Council of Teachers of English, Southwest Reading Conference, and National Association of Foreign Student Advisers. In addition, other members of the C-3 staff have been active in the above and other organizations. In all, there have been eighty-four participations in activities and programs of a professional nature.

J. Hooper Wise

Applied Logic

The course in Applied Logic has reached the age of maturity. For the first 19 of the 21 years of its offering, the course was in process of basic growth and formulation. It differs from courses in traditional logic found in many collegiate institutions in two respects. In the first place, the selection of subject matter has been made solely with the view to its application and potentiality of application in the present and future lives of our students. In the second place, this course endeavors to bring to the student an understanding of the factors which impel him to think at all and of the factors within himself and concerning himself which direct and mold his thinking. In this latter respect the course in Applied Logic as offered in this University seems to be unique. It is this respect also which required the long period of basic study and formulation before it could be said that the course had reached the age of maturity. This study and experimentation resulted in the publication of a textbook by Little, Wilson, and Moore in April, 1955. The primary value of this book lies in the fact that it presents the course to the student in an organized, integrated, and readable

form, and at the same time provides him with an abundance of practice material.

The vitality of a staff is usually reflected in the activities of the individual members. Five of those who teach Applied Logic are counselors in the University College and as such are in positions of responsibility and service with respect to the individual student, over and above the responsibility of the classroom. This dual assignment of teaching and counseling is reciprocally valuable. The counseling brings about a better understanding of student problems and enables the staff member to be more effective in the classroom and the work in the teaching of logic often enables him to do a better job as a counselor. Several members of the staff have been invited by fraternity, sorority, religious and other groups to give talks and addresses. Dr. Moore and Dr. Wilson have, by invitation, conducted periods of instruction in sound thinking before groups of the Parent-Teacher Associations at the annual short course held at Florida State University and at high schools in Tampa and Gainesville. Dr. Wilson also conducted four hours of instruction in sound thinking for the Dade County Council of Parents and Teachers.

The need in the department is for continued study and research. It is gratifying that practically every staff member is engaged in meaningful research in the field of his priciple interest. Of greater concern from the standpoint of applied logic is the formulation and execution of studies designed to explain more effectively when and how a person thinks and what can be done to improve his thinking. The observation of psychologists that human beings think to justify prejudices or to sustain decisions already adopted seems to be correct for most persons in most circumstances and perhaps there is no more important topic for investigation than the explanation of man's behavior in the realm of thinking and of ways in which he may be induced to improve and to utilize his thinking potential. This and the improvement of practice material for our students constitutes a series of projects which two members of our staff plan to pursue as intensively as other duties will permit.

W. H. Wilson

Fundamental Mathematics

(The report from this area has been included in the General Mathematics Department report presented by the College of Arts and Sciences.)

The Humanities

We have been assembling a body of desirable materials concerned with the influence of the Humanities in contemporary life and using these materials experimentally in one Humanities syllabus. In January 1955 these essays were published for our use in book form by the Dryden Press, entitled *The Humanities in Contemporary Life*. Since its publication this text has made a real contribution to the effectiveness of our program. In addition to *The Humanities in Contemporary Life* we also use our text in philosophy, *Philosophies Men Live By*. It has been a source of real satisfaction to see this text, written for our program and published by the Dryden Press, being adopted in more than a hundred other colleges and universities throughout the country.

During the past two years two members of our staff have had leaves of absence to accept scholarship awards. Professor Graeffe spent a year as visiting professor at Okayama University in Japan under a Fulbright award; Professor

Funk spent a year in France under a Guggenheim Grant making a study of United States relations with the DeGaulle government during the second World War. Professor Nathan Starr, former chairman of the English Department at Rollins, served as a visiting member of our staff during Mr. Funk's absence. Shortly after returning to the University, Mr. Funk resigned from our staff to accept an appointment to the United States Information Service at Damascus at a considerable increase in salary.

In April of this year the chairman was asked to speak at the annual Humanities Festival at Peabody College for Teachers in Nashville. While at Peabody he spent some time in consultation with committees at work evaluating the general education program in that institution. He was also asked by the American Association of Colleges for Teacher Education to serve as a consultant in a Teacher Education and Religion Project which the Association now has underway. In May Professor Carson spent two days at Chipola Junior College in Marianna where he spoke to the faculty and visited a number of classes in seeking to help them strengthen their Humanities course.

As usual, both Professor Carson and Professor Freeman Hart have made rather extensive contributions to various community enterprises. Mr. Carson has been especially active among high school groups, speaking on the importance of the arts in every day life. He has likewise been asked to judge several art contests. Mr. Hart has not only been active in community enterprises but also in the work of the national fraternity to which he belongs and as a member of the Athletic Committee at the University.

Among our younger staff members both Mr. Tilley and Mr. Livingston have spent considerable time in completing work for their Ph.D. degrees. Mr. Livingston expects to receive his degree from the University of Minnesota during the present year and Mr. Tilley hopes to complete his work at the University of Chicago with another year.

Robert F. Davidson

Biological Sciences

There have been no major changes in C-6 or its administration during the past two years.

The faculty has grown, replacements have been few, and scholarly work has been outstanding. The national recognition given to Dr. A. F. Carr on the publication of his books deserves special mention. The staff in general has been very active in research while maintaining a satisfactory level of teaching interest and ability.

Some experimentation has been done on the selection and presentation of material. For three semesters a series of general lectures has been made part of the course for that portion having the smaller enrollment (C-62 the first semester, C-61 the second etc.) Various types of lectures and presentation of material has been attempted. The staff for the most part feels that this has been a successful program but time and space make it difficult to apply to the course as a whole. C-6 should be a four hour credit course instead of the three hours it is at present.

During the past two years a considerable amount of time has been spent in discussing the desirability and ways and means of adding some laboratory experience to the C-6 course. The problem has not as yet been satisfactorily

solved.

Another pressing problem associated with the administration of C-6 centers in the relationships between C-6 and other units of the University concerned with programs in the field of Biology. Four Colleges apart from the University College are principally involved: The College of Arts and Sciences, College of Agriculture, College of Medicine, and the College of Education.

At present most of our staff members teach upper division courses, supervise graduate students, hold research contracts, or conduct research work under arrangements with the Department of Biology. In turn most of the faculty of that Department teach sections of C-6 and take an active part in determining staff policy in C-6. For many years this symbiotic relationship has continued successfully with only a few instances of serious disagreement. (ex. Bly. 181).

This cooperative policy should be continued with the Department of Biology and extended to include other interested units in the University. Currently, less well developed cooperative staff agreements have been established with College of Education (Dr. MacCurdy), Department of Botany (Dr. Griffith), Department of Psychology (Mr. Corlis), the College of Medicine (Dr. Leavitt, and perhaps through joint appointment next year of Dr. George W. Hunter III), and the Florida State Museum (Dr. Grobman and Dr. Dickinson). The lecture program has also given us an opportunity to utilize the services of special lecturers from these other faculties.

Officers in Scholarly Organizations

- Berner, Lewis, Vice-President and Trustee of Highlands Biological Station, Highlands, N. C.—Committee for Meritorious Teaching Award, Association of Southeastern Biologists.
- Carr, A. F., Reappointed Research Associate of American Museum of Natural History in 1955 for three year period; Associate of Florida State Museum; Board of Governors of American Society of Ichthyologists and Herpetologists.
- Griffith, M. M., Program concerning community health for high schools under supervision of State Board of Health.
- Leavitt, B. B., Associate in Marine Biology on Research Staff of Woods Hole Oceanographic Institute, Woods Hole, Massachusetts.

Editors of State or National Journals

- Berner, Lewis, Editor of *The Florida Entomologist*.
- Carr, A. F., Editorial Board of *Everglades Natural History*; Editorial Referee of *Tulane Studies in Zoology*.
- Kilby, J. D., Associate Editor of *Quarterly Journal Florida Academy of Sciences*.

Research Grants

Special research grants secured in the biennium under review are listed and analyzed somewhat in Table 1.

Table 1.

Research Grant from Outside the University
1954-1956

Granting Agent	Recipient	Amount	Duration
National Science Foundation	B. B. Leavitt	\$ 1,300	1954-55
National Science Foundation	A. F. Carr	18,000	1955-57
National Science Foundation	J. D. Kilby	500	1956 Summer
Nat'l Institutes of Health	L. Berner	17,000	1953-56
Nat'l Institutes of Health	R. M. DeWitt	14,316	1955-58
Office of Naval Research	J. L. Yount	20,000	1952-56
Am. Philosophical Society	M. J. Westfall	750	1956 Summer
		\$71,866	
		C. F. Byers	

REPORT OF THE DEAN OF
COLLEGE OF ARTS AND SCIENCES

To the President of the University:

Sir:

I respectfully submit the following report of the activities of the College of Arts and Sciences for the biennium ending June 30, 1956.

Student Personnel

The following tables indicate the number of students formally enrolled as "majors" in the College during this period. Data are also presented showing the number of degrees recommended by the faculty of the College during the biennium. Attention is invited to the consistent increase in the number of Ph.D. degrees being earned by graduate students of this College. In terms of areas covered and number of degrees granted, our doctoral program is the largest in the University.

College of Arts and Sciences
Student Enrollment

		Undergraduate	Graduate
1954-55			
Summer Session	1954	183	247
Fall	1954	479	343
Spring	1955	497	336
TOTAL		1159	926
1955-56			
Summer Session	1955	219	239
Fall	1955	585	320
Spring	1956	630	323
TOTAL		1434	882

Degrees Recommended

		Undergraduate					Graduate		
		BS in		BS in					
		BA	BS	Cy	JM	Comm.	MA	MS	PHD
August	1954	18	9	3	3	0	15	5	11
January	1955	42	9	3	3	0	18	5	8
June	1955	87	27	2	24	1	21	6	13
TOTAL		147	45	8	33	1	54	16	32
August	1955	25	11	3	2	0	16	5	25
January	1956	28	13	4	12	9	7	5	7
June	1956	112	35	5	26	20	19	7	10
TOTAL		165	59	12	40	29	42	17	42
1954-55									
TOTAL UNDERGRADUATES (No Jm or Comm)							200		
TOTAL GRADUATES							102		
1955-56									
TOTAL UNDERGRADUATES (No Jm or Comm)							236		
TOTAL GRADUATES							101		

Faculty Personnel

During the first year of the biennium there was a slight decrease in the size of the instructional staff of the College. For the academic year 1954-55 there were 159 full-time faculty on our staff. During the second year of the biennium this number was increased to 168.

I regretfully report the death of Dr. Lew Sarett, Visiting Professor of Speech, Dr. W. Clyde Allee, Head Professor of Biology, Professor W. L. Lowry, Associate Professor of Journalism, and Dr. James Miller Leake, Head Professor of History (retired).

Dr. Sarett was appointed to the faculty of the College in September 1951 following his retirement from Northwestern University, and died August 17, 1954. Dr. Allee retired from the faculty of the University of Chicago in 1950. He accepted the responsibility of heading our Department of Biology in September 1950 and died March 18, 1955. Professor Lowry served in our Department of Journalism from his appointment in 1930 until his retirement on February 28, 1955. He died in May 1956. Dr. Leake retired as Head Professor of History and Political Science June 30, 1950. He had served as a member of our staff since 1919 and died June 25, 1956.

Dr. H. B. Sherman, Professor of Biology, was retired from active duty at his request on January 31, 1955. He served as a member of the Biology Department from 1925 as Assistant Professor, Associate Professor, and Professor. He served as Acting Head of the Department from January 1, 1947 to January 31, 1950.

Resignations from our staff:

- C. F. Cook, Assistant Professor of Physics
- D. B. Dusenbury, Associate Professor of Speech
- David Ellis, Associate Professor of Mathematics
- D. A. Furber, Instructor in French
- E. C. Hanna, Instructor in Journalism

H. D. Heath, Assistant Professor of Biology
 E. G. Kovach, Assistant Professor of Chemistry and Assistant Professor
 of Engineering and Industrial Experiment Station
 J. Kucera, Assistant Professor of Russian
 W. F. Larsen, Assistant Professor of Political Science and Director of
 Public Administration Clearing Service
 Cynthia Larry, Assistant Professor of Speech and English
 Paul Morrison, Assistant Professor of Philosophy
 M. W. Pearce, Instructor in Library Science and Assistant in Reference
 and Bibliography, University Library
 F. P. Ricker,
 S. S. Sadler,
 J. V. Slater, Assistant Professor of Biology
 A. Sosin, Assistant Professor of Physics
 M. L. Van Natta, Instructor in Chemistry
 E. C. Williamson, Instructor in History and Collector of Florida Manu-
 scripts
 J. W. Young, Assistant Professor of Mathematics

Leaves of absence were granted during the biennium as follows:

Ernest R. Bartley, Associate Professor of Political Science—Ford Founda-
 tion Fellowship
 Tom C. Battin, Assistant Professor of Communications—To set up TV
 Workshop for Teachers at the University of Houston
 Richard L. Day, Instructor in Geography—Professional Improvement
 Alfred Diamant, Assistant Professor of Political Science—Danforth
 Teacher Study Grant
 David L. Dowd, Associate Professor of History—Social Science Research
 Council Grant
 William C. Havard, Assistant Professor of Political Science—Southern
 Fellowships Fund Grant
 Edwin C. Kirkland, Professor of English—Officer of Cultural Affairs with
 the U. S. Information Service at Bombay, India
 Eugene G. Kovach, Assistant Professor of Chemistry—Military Duty with
 the U. S. Navy
 Cynthia Larry, Assistant Professor of Speech and English—Professional
 Improvement
 William Frederick Larsen, Assistant Professor of Political Science—
 National Municipal League Senior Staff Fellowship
 Rembert W. Patrick, Professor of History—To teach in Graduate School
 at Columbia University
 John Edward Van Meter, Instructor in Speech—Professional Improvement
 Richard B. Vowles, Assistant Professor of English

During the past two years the following changes occurred in the administra-
 tive structure of the College:

Dr. Donald E. Worcester, Professor of History, was designated Head Pro-
 fessor of History
 Dr. H. K. Wallace was appointed Head Professor of the Department of
 Biology.

Faculty Accomplishment

During the biennium the faculty of the College participated in an ever-increasing number of research and professional activities. The results of these activities are indicated in the following:

Books published	41
Journal articles	369
Reviews and other publications	138
Staff Members Filling Major Offices	79
Editorial Positions Held by Staff	22
Number of Meetings Attended	505
Number of Papers Presented	267

Graduate Program—College of Arts and Sciences

Each year has shown a slight increase in the number of graduate students admitted to the program. The Departments of the College are increasingly aware of the necessity of maintaining admission standards so that the quality and successful performance of graduate work has been most satisfactory. The number receiving advanced degrees has been stabilized at an average of about 34 per semester.

The Department of Geology has been given permission to give the Master's degree as soon as their staff has been increased by one new Ph.D. instructor. The Department of Geography has been approved for the giving of work leading to the Ph.D. degree.

Efforts have been made to increase the quality of graduate work as administered by our various Departments. The addition of qualified faculty, an increase in the salary scale, and the provision of adequate space and equipment are vital for maintaining and further developing our graduate program.

For the coming year, the use of the Graduate Record Examination with specified "cut-off" scores for admission will pose one of our most important administrative problems.

Student Advisement

The College has continued to maintain its thorough academic counselling program during the past academic year. Thirty members of its faculty served on the Advisement Panel and all students in the College had at least one appointment with an adviser during each term in residence. This program has now been in operation for 5 years. During each year about one-fifth of the Advisement Panel members are replaced for one reason or another. As of the present time, about fifty of the present faculty members of this College are serving or have served as members of the Advisement Panel. This amounts to a quarter of our entire faculty. Perhaps never before in the history of the College has so great a proportion of its faculty been so well-educated in the details of degree requirements and related student difficulties. The system would appear to be resulting in a steadily increasing dividend in effective, but informal faculty advisement in addition to the regular program of academic counselling.

Physical Needs and General Recommendations

The need for additional space continues to be the basic problem confronting the College. In each of my biennial reports since 1948 I have reported a desperate need for space. Currently the need is greater than it was eight years ago. With a steady increase in the number of students, and with the College constantly accepting additional academic responsibilities, I once again respectfully request that additional space be made available for our use.

The instructional programs of several departments of the College are seriously retarded because of inadequate teaching facilities. Additional class rooms are badly needed. Once again I request that consideration be given to the advantages to be derived from the construction of a University theatre.

Respectfully submitted,
Ralph E. Page
Dean

REP/dc

Attention is directed to the following publications by members of the staff of the College of Arts and Sciences during the biennium July 1, 1954-June 30, 1956.

Biology

- Allee, W. C. and J. C. Dickinson. Dominance and Subordination in the Smooth Dogfish *Mussetlus Canis* (Mitchill). *Physiol. Zool.* 27(4), Oct. 1954.
- E. M. Banks. Relations Between Flock Size and Agressive Behavior in Common Domestic Hens. *Anat. Rec.*, 120(3), Nov. 1954.
- Potter. Some effects of Experience with Breeds of *Gallus gallus* on behavior Hens Toward Strange Individuals.
- E. M. Banks. Effects of an Androgen on Dominance and Subordination in Six Common Breeds of *Gallus gallus*. *Physiol. Zool.* 27(2). April 1955.
- Bader, R. S. Variability and Evolutionary Rate in the Oreodonts. *Evolution*, Vol. LX(2), June 1955.
- Berner, Lewis. The Southeastern Species of *Baetisca* (Ephemeroptera Baetiscidae) *Quart. Jour. of Sci.* Vol. 18.
- . A new Species of *Paraleptophlebia* from the Southeast; *Proc. of Ent. Soc. of Washington.* 57(5), October 1955.
- . Mosquitoes of the Shire River System, Nyasaland. *Annals of the Ent. Soc. of America*, 48(4), July 1955.
- . The Genus *Neophemera* in North America (Ephemeroptera: Neophemeridae.) *Annals Ent. Soc. of Amer.* 49(1), January 1956.
- Briggs, John C. Behavior pattern in Migratory Fishes. *Science*, 1 p.
- Illustrated works on fishes. *Copeia*, No. 3, pp. 243-245. 8/55.
- A monograph of the clingfishes. *Stanford Ichthy. Bull.* 6(22) pp. 114, figs, 15 maps.
- and David K. Caldwell. The characteristics and distribution of the spotted cusk eel *Otophidium omostigmum* (Jordan and Gilbert). *Quart. Jour. Fla. Acad. Sci.* 18(4):285-291, 5 figs.

- Brodkorb, Pierce. A chachalaca from the Miocene of Florida. *Wilson Bull.* 66(3):180-183, 1 fig.
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REPORT OF THE PROVOST FOR AGRICULTURE

Sir: I submit for the biennium ending June 30, 1956 the reports of the College of Agriculture, the School of Forestry, the Agricultural Experiment Station, the Agricultural Extension Service, and the Conservation Reserve at Welaka.

This biennium was characterized administratively by a number of important key personnel changes in the agricultural divisions of the University of Florida. Dr. J. Wayne Reitz, Provost for Agriculture was elevated to the Presidency of the University on April 1, 1955. He was succeeded as Provost on June 1, 1955, by Willard M. Fifield, previously Director of the Agricultural Experiment Station. On October 1, 1955, Dean C. V. Noble of the College of Agriculture retired. Dr. J. R. Beckenbach, Associate Director, was appointed Director of the Agricultural Experiment Station effective July 1, 1955. On the same date Dr. Roger W. Bledsoe, Assistant Director, succeeded him as Associate Director. Dr. John W. Sites, formerly Horticulturist at the Citrus Station was appointed Assistant Director on October 1, 1955. Dr. Marvin A. Brooker, Professor of Agricultural Economics, was appointed Assistant Dean of the College on September 1, 1955, and acted as Dean the balance of the biennium. The Board of Control at its June 1956 meeting approved his appointment as Dean effective July 1, 1956. Director H. G. Clayton of the Agricultural Extension Service retired June 1, 1956. Dr. Marshall O. Watkins, Assistant Director, was appointed Director of the Agricultural Extension Service on June 1, 1956.

It is a tribute to the executive ability of the former incumbents of these key positions that prospective replacements from within the staff already had received sufficient broad training to enable the institution to continue its progress without serious interruption. The retirements of Dean Noble and Director Clayton, after long careers of productive and devoted service to the University and to Florida's agriculture, were well earned. Both have left an indelible imprint on the institution, and each contributed in full measure to its development for more effective service to the people of Florida.

Problems during the biennium of an administrative nature, in addition to those created by executive changes, were largely involved with the necessity of operating a large, diversified and complex organization on a budget extremely limited in relation to the demand for services. This restriction was reflected in loss of good personnel to higher paying positions elsewhere, delay in obtaining qualified candidates for vacant positions, curtailed travel in servicing the State's agriculture, and lack of adequately equipped laboratories. Facilities for public information services were insufficient to meet justifiable demands of press, radio and television media.

In spite of the above difficulties, there were some bright spots. One was the loyalty demonstrated on the part of the staff in its conscientious effort to exert its best in the face of obstacles. Another was the provision made by the Legislature for new buildings to relieve some of the over-crowded facilities. Dan McCarty Hall is essentially complete at the close of the biennium. It will house a major portion of the College teaching activities. Bacteriology has moved in in preparation for the summer school session, and the other departments, including the Agricultural Library, should move in in time for opening of the fall semester of 1956. While available funds will not permit its complete furnishing, sufficient facilities will be on hand, with renovating of some old equipment, to move forward with the instructional program on a more efficient basis than

in past years. By virtue of the move, certain remaining units in Rolfs and Newell Halls will gain some desperately needed space. Other new buildings and facilities acquired during the biennium are described in the divisional reports which follow. Some are shared by personnel of the other divisions.

The ensuing reports of each division reflect the many worthwhile accomplishments in the University's program of research, extension and teaching in agriculture, forestry and conservation.

Respectfully submitted,
Willard M. Fifield
Provost for Agriculture

REPORT OF THE DEAN OF THE COLLEGE OF AGRICULTURE

To the President of the University:

Sir: Following is a report of the Resident Instruction Division of the College of Agriculture for the biennium ending June 30, 1956.

The downward trend of undergraduate enrollment in the College of Agriculture which was noted in the preceding biennium was reversed during the biennium, 1954-56. During the spring semester of 1956, undergraduate enrollment was about 30 percent greater than during the spring semester of 1955. This is a reflection of the large increase in enrollment of freshman students during the past few years. It is anticipated that there will be further increases in undergraduate enrollment in the College of Agriculture, and that the trend in number of Bachelor of Science in Agriculture degrees conferred will also very shortly turn upward. A total of 274 Bachelors degrees were conferred during the biennium, as compared with 330 during the preceding biennium.

The enrollment of graduate students continued to increase during the biennium and has already resulted in a reversal of the former downward trend in number of advanced degrees conferred. Graduate degrees in agriculture awarded during the biennium with comparisons for the 1952-54 biennium were as follows:

	Biennium 1952-54	Biennium 1954-56
Doctor of Philosophy	9	12
Master of Science.....	18	12
Master of Science in Agriculture.....	35	37
Master of Agriculture.....	38	42
	<hr/>	<hr/>
Totals	100	103

During recent semesters, the number of graduate students in the College of Agriculture has exceeded the number of seniors in the graduating classes. This is an indication of the reputation of the College as a graduate institution, and its ability to attract graduate students from other parts of the country and from many foreign countries. Such a graduate program as is being developed adds interest and vitality to the entire program of the College, but does add complications in that large numbers of specialized courses are required, and average size of classes is consequently small. Requirements for library and laboratory facilities are also greater, thus placing greater burdens on available facilities of all types. It is believed, however, that creative programs of the type being developed represent a long-term investment in the future of the State,

and are justifiable from every point of view.

During the spring semester of 1956, 60 foreign students, on the undergraduate and graduate levels, were enrolled in the College of Agriculture. These came from all parts of the world, but the greatest numbers were from the Orient and from Latin America.

A summary of activities by departments for the biennium follows:

Agricultural Economics

Course enrollment of undergraduates, after declining several years, increased during the past two years. Graduate student enrollment has continued to increase. During the biennium three Ph.D. degrees were conferred. There were nine students registered for doctorate work the last semester of the biennium. The success of the graduate program is due largely to coordinating the thesis and dissertation work of graduate students with the research program of the Agricultural Experiment Station.

Graduates find employment at attractive salaries in both the academic and industrial fields. Recognition of the high quality of graduate program is evidenced by the fact that four graduate students received grants for graduate study in the department.

Three staff members resigned during the biennium. One of these positions was filled one semester by an interim appointment. The other two positions have not been filled because the budgeted salaries are not high enough to attract the type of instructor required for good teaching performance. This has placed a heavy burden on the remaining staff and unless it is quickly alleviated will lower the quality of work.

The scope of work is largely confined to Production Economics, Farm Finance and Marketing. It needs to be broadened to include courses and research in Improving the Incomes of Small Farms, Farm Labor, Part-Time Farming, Corporate Farming and Use of Land and Water Resources. Because of the interest of foreign students in the department, courses and research should be developed around problems, particularly in foreign trade, common to Florida and the Caribbean and Latin-American areas.

Agricultural Engineering

For the first time, adequate space has been provided for the teaching activities of the Department of Agricultural Engineering. A new building and new facilities were made available for use August 11, 1955. The department is now equipped to offer students in Agricultural Engineering laboratory courses that will add materially to their classroom instruction.

The manufacturers and distributors of agricultural machinery have been liberal in placing machines in the laboratories for use by students, thereby adding the value of demonstrations with the various machines under field conditions.

The facilities of the Agricultural Experiment Station contribute greatly to the teaching program.

More instruction is needed in the field of rural electrification, due to its increased importance in farm operations. This has been impossible due to inadequate teaching staff.

The curriculum and facilities for training professional agricultural engineers

have been inspected by a committee from the Engineering Council for Professional Development with the idea of accreditation. The results of this inspection have not been made public at this time.

The expense and inconvenience of transporting laboratory classes to and from the farm continue to be big problems under present arrangements.

The student enrollment has been up to expectations. During the biennium there were a great number of students from Latin America who were doing their major work in Agricultural Engineering.

The teaching staff of the department have not had opportunities to do much research as teaching loads have not permitted them to do so.

The demand for students trained in Agricultural Engineering continues to exceed the supply.

Four scholarships for students in Agricultural Engineering were established this year by a Foundation, the funds being provided by a farm machinery distributor.

Three members of the staff are now registered Professional Agricultural Engineers under the laws of Florida.

Agronomy

During the biennium, 21 Bachelor's and 11 Master's degrees were conferred with majors in Agronomy. Two candidates are now enrolled in the Ph.D. program and three additional ones have been accepted to begin in the fall semester of 1956-57.

Present staff in Agronomy includes two full-time and six part-time instructors, all with Ph.D. degrees.

Wholesome cooperative relationship is enjoyed through exchange working relationships with several areas of the University. Six part-time persons of the teaching staff are on the staff of the Agricultural Experiment Station, Agricultural Extension Service, or Statistical Laboratory. Three additional part-time instructors are still needed to strengthen the areas of Genetics, Plant Breeding and Turf Management.

For the first time the course, Turf and Turf Management, was offered during the spring semester of 1956. This met a long felt need and demand from students and members of the Florida Golf Association. A new graduate course in Theory of Experimental Design will be available during the 1956-57 academic year. Another course on the graduate level, Population and Statistical Genetics, is now being prepared. These courses should strengthen graduate programs in areas of statistics and genetics.

Seven members of the Agronomy staff have attended 22 state, regional or national meetings of their particular interest. One member is president of a national scientific society, one was chairman of a regional committee, and another was secretary-treasurer, vice-president and national delegate representing a national scientific society.

Seven papers were presented by four staff members before scientific groups.

Nine papers were published in national scientific journals by five staff members during the biennium.

One staff member was responsible for the University of Florida receiving a contract in the amount of \$32,000 from the Eglin Air Force Base for the control of brush by use of herbicides, and for the establishment of desirable species

on their proving ground. Grants in the amount of \$3,600 were received by the University of Florida from three commercial organizations for research in weed control by use of chemicals under the supervision of an Agronomy staff member.

Additional classrooms and offices long needed by Agronomy are now in sight in the nearly completed Dan McCarty Hall to which the Agronomy Department is scheduled to be transferred during the summer of 1956.

Two sections in the newly constructed greenhouse have been assigned to Agronomy and will be ready for occupancy this fall.

Animal Husbandry and Nutrition

Permission was obtained during the biennium to offer a Ph.D. degree in Meats and in Animal Breeding and Physiology in the Department. This means students can now receive Ph.D. training in all phases of Animal Husbandry—in nutrition, meats, animal breeding and physiology.

A new three-hour course, Al. 610—Hormones in Reproduction in Farm Animals, was approved and added to the curricula.

The Meats Judging Team was supported by the College and the first Meats Judging Team from the University of Florida competed in an intercollegiate contest at Chicago in the fall of 1955. The Livestock Judging Team was supported by the College and the students won many intercollegiate contests and placed high in others.

Two very successful Beef Cattle Breeders and Herdsmen Short Courses were held on the campus.

Dr. A. C. Warnick, Assistant Physiologist in the Agricultural Experiment Station, became part-time on the College staff on July 1, 1954. He has taught Animal Physiology courses and has filled this gap in the departmental teaching program.

With the addition of a small flock of sheep in the Agricultural Experiment Station, the course in Sheep Production (Al. 414) was given and the animals used for laboratory work.

The teaching program of the Department has been gradually improving as facilities have improved.

Botany

During the summer of 1955, at the time of the retirement of Dr. W. B. Tisdale as head of the Department, Plant Pathology was taken out of Botany and the two disciplines were set up as separate departments. Professor M. D. Cody acted temporarily as head of the Department of Botany until the arrival of Dr. N. J. Scully to head the Department, November 1, 1955.

The Department continued without adequate space, but secretarial help was provided and some improvement was made in housing facilities.

With the move to Dan McCarty Hall in the summer of 1956, space will be adequate for a much expanded program in Botany, but much remains to be desired in the matter of laboratory equipment. There is need also for additional instructional personnel, particularly in the fields of Cytology and Plant Physiology.

Professor M. D. Cody retired June 30, 1956 after 37 years of service to the University.

Bacteriology

The course offerings of the department were wholly revised effective June 1955 to consolidate an acceptable curriculum, eliminate unnecessary courses, and provide suitable service courses. The changes stabilized the offerings, temporarily altered in 1954-55.

Enrollment trends were upward, in contrast to the previous biennium. In 1955-56, there were 75 percent more enrolled in courses than in 1954-55, representing the highest enrollment in Bacteriology in six years. Since this reflects increased numbers entering the upper division who entered the University in 1953-54, it is expected that the marked upward trend will continue. Summer and graduate enrollments have been stable.

Teaching loads have been excessive during the second half of the biennium, due to severe restrictions in salary budget. One additional full-time faculty member was justified by loads but could not be employed; it is anticipated that this restriction may become more onerous during 1956-57.

Faculty research has expanded, despite the absence of financial support from the University. Projects on physiology of marine bacteria have progressed, and appreciable advisory and some physical support have been given to Veterinary Science researchers on problems of animal diseases. Several other service and Experiment Station projects have been gratuitously supported in small part.

A research contract totaling \$34,000 was undertaken during 1954-55 for the Chemical Corps Biological Warfare Laboratories, and a renewal is being negotiated for two additional years with an estimated budget of about \$85,000. It has and will provide an outlet for some faculty research and for graduate research, in addition to serving the national defense effort.

Special allotments of funds in 1953-54 and 1954-55 permitted the acquisition of some capital items and a small stock of expendable supplies which helped eradicate deficiencies of long standing. Difficulty was encountered during 1955-56 and will be augmented during 1956-57 due to very inadequate budgeted amounts for operating expense.

Mendel Herzberg, Ph.D., University of California, replaced Dr. George Langford, resigned, as Assistant Professor, September 1, 1954. Dr. D. B. Pratt was promoted to Associate Professor July 1, 1956.

Dairy Science

The dairy husbandry facilities have been improved and enlarged by the addition of 15 purebred Holstein heifers in February 1955. With the calves from these heifers there is now a total of 23 female Holsteins of excellent quality. The Jersey and Guernsey herds are improving in quality each year through management and selection. All bulls have been disposed of, and breeding is being done artificially with frozen semen. A cold storage box capable of maintaining a temperature of -120° F. has been secured for storing the semen.

The dairy has been equipped with a 500-gallon stainless steel refrigerated farm tank for milk and a 1000-gallon stainless steel insulated milk truck. Considerable woodland close to the research unit has been cleared and put into pasture.

The dairy manufacturing facilities have been maintained and improved by the addition of some minor laboratory facilities for teaching purposes. The

new dairy curriculum allowing a flexible training program is attracting more students. The enrollment, however, does not supply enough graduates to fill industry needs. To this end the Department of Dairy Science has placed special emphasis on instruction in the form of short courses and conferences to serve all areas within the industry. These courses are all well attended.

The entire facilities of the Department of Dairy Science are available for teaching and research.

Entomology

During the biennium, a special course was developed in the field of nematology. This course was offered for the first time during the fall semester of 1955-56. A cooperative faculty was organized for the purpose of developing this work. Staff members from the Florida Agricultural Experiment Station, the College of Agriculture, the Florida State Plant Board, and the College of Arts and Sciences participated in this essential effort.

The Department of Entomology had slight reductions in the over-all student enrollments in the Department during the biennium. This has strengthened the work on both the graduate and undergraduate levels by permitting a slight reduction in class sizes. A review of the faculty loads in the Department will show that the members of the staff of this Department have heavy student, as well as clock-hour, loads.

The members of the staff of the Department have continued active in classroom instruction and graduate research guidance programs. They have participated in state, regional, and national scientific meetings. They have participated at these meetings as presiding officers over special sessions, by the presentation of scientific papers, and by serving as invitational speakers.

Dr. Andrew J. Rogers resigned as a member of the staff of the Department during the biennium in order to accept a position with the Florida State Board of Health at a substantial increase in salary. The Department of Entomology is very fortunate in securing as a replacement Dr. Franklin S. Blanton, former chief entomologist of the office of the Surgeon General of the United States Army. Doctor Blanton is a recognized authority in the field of medical entomology and insect taxonomy. He will report September 4, 1956.

During the biennium, a cooperative graduate faculty was organized, which permits the use of entomologists of the Florida Agricultural Experiment Station in the graduate training program of the Department of Entomology.

A number of graduate assistantships and fellowships were established during the biennium. The following organizations established fellowships in the field of Entomology: The Florida State Plant Board, the Florida Farm Colony, the Central Florida Experiment Station, and the Citrus Experiment Station.

The Orlando laboratory of the Agricultural Research Administration established a graduate fellowship in the field of medical entomology. The first appointee to the fellowship is Mr. Lee Olinger, former interim instructor in the Department of Entomology. The initial investigational work will pertain to the control of *Hippelates* gnats in the Florida area.

A special short course was organized in the field of structural pest control and ornamental pest control at the request of the Florida Pest Control Association. The first short course was held in the fall of 1955 and this will be continued each year.

The Department of Entomology has need for the addition of two members to the staff. This would include a nematologist and subterranean entomologist, and an insect taxonomist and curator. A request for these two positions has been made now over a period of several years.

Placement of graduates has reached an all-time high and the demand is increasing daily. The Department has actively participated in follow-up placement in the field in an effort to guide graduates into positions where they can render the greatest service.

Pest Control.—The Pest Control Division is a service group for the entire University which is under the operational supervision of the head of the Department of Entomology. This group is charged with the responsibility of controlling all of the structural pests affecting the buildings and the occupants of the buildings on the University campus. It includes rodent control, household pest control, fumigation, termite control, mosquito control, and the control of insects affecting ornamental plants.

The present personnel arrangement for the Pest Control Division consists of an assistant supervisor, working under the direction of the head of the Department, and eight pest control operators who work one-third time. This means that this division is endeavoring to run a broad control program that is vital to the health and comfort of the entire University community with one supervisor and three employees.

Horticulture

The year 1954 proved to have been the bottom of the curve in undergraduate enrollment, which has increased slowly but steadily during the biennium. By the end of 1956 the upper division majors in Horticulture numbered 58, the same as in 1952. An average of 12 graduate students were in residence during the biennium. Three Ph.D. degrees were awarded from this number, two in the field of citrus production and one in vegetable production. Six Master of Science in Agriculture and five Master of Agriculture degrees were awarded in Horticulture during the biennium.

In addition to teaching duties the staff members have continued a varied program of off-campus services, such as teaching in extension schools and short courses for citrus growers, realtors, county agents, and garden clubs; lecturing to individual garden clubs and at flower show judging schools; and in writing the monthly News Letter for over 900 clubs and circles of the Florida Federation of Garden Clubs.

For many years the Federation has provided a graduate fellowship in Horticulture, named in honor of Provost Emeritus H. Harold Hume. During the past year the Federation has generously permitted two fellowships to be awarded, thus compensating somewhat for departmental inability to keep the fellowship filled during parts of the previous two years for lack of suitably qualified candidates.

Some additions were made during the biennium to the Wilmot Memorial Garden, largely from the collection brought together by the Horticulture Department of the Agricultural Experiment Station for study of synonymy.

A small but comprehensive collection of hollies was received from Dr. H. H. Hume and was planted together near the azalea and camellia areas as the Hume *Ilecectum*. Professor J. V. Watkins has continued to supervise these plantings

as part of his official teaching duties.

The only construction carried out during the biennium has been the gradual extension of the cyclone fence along the whole western and southern boundaries of the garden and grove area. Development of the Medical School has changed the former situation so that now protection is needed on the east boundary also, bordered by the spur railroad track.

The developmental program of the University has resulted in inevitable loss of land assigned to Horticulture and counted on for its further expansion, some having been taken over by the Medical School and some by the University Maintenance Department. This location, which seemed far from other University activities and safely adequate for expanding needs when the Horticulture Department was assigned to it only six years ago, is now hemmed in and closed to any expansion.

The Horticulture Department has for four years maintained one of the Regional Test Gardens of the All American Rose Selections. The fine display of rose blooms has attracted much favorable comment as well as helping to give important information on adaptability of new rose varieties to peninsular Florida. Mention should be made also of the very attractive display garden of annual and perennial flowers which Prof. Phillip Parvin has maintained for student demonstration and public delight.

On June 1, 1955, Dr. Walter Reuther was appointed to head a combined department which included all of the Horticulture staff in teaching, research, and extension. He resigned on January 31, 1956, and no one was appointed in his place, Dr. R. A. Dennison carrying on as Acting Head for the remainder of the year. On June 6, 1955, Prof. L. W. Ziegler received his Ph.D. degree. Professor J. V. Watkins was promoted to Professor July 1, 1955.

This is the last report which the Department of Horticulture will make, since this department will be divided as this biennium ends into four departments, Food Technology and Nutrition, Fruit Crops, Ornamental Horticulture, and Vegetable Crops.

Plant Pathology

In July 1955, Botany was separated from Plant Pathology and set up as a separate department in the College of Agriculture. This left Plant Pathology located on the fourth and fifth floors of Rolfs Hall, with staff housed also in Newell Hall and Building OF. The completion of Dan McCarty Hall will not improve these conditions, since Plant Pathology will not move to the new building, and receives little additional space. The separation left the department without stenographic help. These conditions make for inconvenience and unsatisfactory arrangements for the teaching staff.

The number of graduate students has increased to five, with the aid of several fellowships and the cooperation of the Plant Board.

Two new greenhouse units were assigned to the department in March 1956. When these units are equipped with heat and electricity they will greatly improve the research facilities of the staff and graduate students.

Several courses were revised especially to take care of the students interested in nematology and plant viruses.

No additions were made to the teaching staff, although badly needed to adequately meet the needs of the undergraduates and graduate students.

Many applications for graduate studies had to be turned down because of limited staff and facilities.

Dr. W. B. Tisdale retired July 31, 1955, after many years of faithful service to the University of Florida.

Poultry Husbandry

Additional equipment including a pH meter, microscope, incubator and supplies have been secured and installed at the Poultry Unit. These have been used in the teaching program for both undergraduate and graduate students. The student reading room, including limited library facilities, has been improved during the past two years.

The curriculum in Poultry Husbandry includes eleven undergraduate courses and six graduate courses for resident students. During 1954-55, 109 students were enrolled in undergraduate courses and two students were enrolled in graduate courses. During 1955-56, 84 students were enrolled in undergraduate courses while there were 10 students in graduate courses.

The Poultry Science Club, a student organization in this department, sponsored the Baby Chick, Poult and Egg Show during the spring of 1955 and another in 1956. The 1956 show was the largest ever held.

In 1955 the Club, in cooperation with the Poultry Industry of Florida, sent a judging team to participate in the Southern Collegiate Poultry Judging Contest at Jackson, Mississippi. The team with its coach visited commercial poultry operations in Georgia, Alabama, and Florida; also visited the Poultry Departments in Georgia, Alabama and Mississippi.

An associate professor and an assistant professor have been made available in the department. The new Assistant Professor of Poultry Husbandry will report July 1, 1956.

Soils

There were 448 students enrolled in Soils courses during the first year of the biennium and 478 during the second year, an increase of nearly seven percent. A substantial increase in enrollment in Soils courses is anticipated during the coming biennium when the department will move to the new building and will have added facilities for these courses.

Three Ph.D. and five Master's degree candidates are currently enrolled in Soils.

The department was awarded a Rockefeller Grant to conduct Soil Management investigations in Central America in support of the department's tropical soils program in Latin American studies.

Veterinary Science

The Department of Veterinary Science does not offer a major curriculum leading to a D.V.M. degree or a Bachelor's degree. However, it does offer a number of service courses in Veterinary Science. Students desiring to enter a School of Veterinary Medicine may fulfill all of their Pre-Veterinary requirements at the University of Florida.

Service courses offered by the Department include four courses on the undergraduate level and two graduate courses.

New laboratory facilities became available during the biennium and added greatly to the efficiency of the teaching program.

Office of Counselor for Latin American Students in Agriculture

During this biennium the enrollment of Latin American students from 15 countries increased from 35 the first year to 49 the second, including 15 Point IV trainees. It is gratifying to report that during this period 23 received the B.S. degree, 8 with honors or high honors, and 2 received the M.S. degree in Agriculture. The Counselor assisted in carrying out short training periods of 18 additional Point IV trainees and accompanied visiting agricultural students from Brazil, Colombia and Cuba on campus tours. Voluminous correspondence was carried on with prospective students, and also with administrative authorities of many Latin American agricultural institutions and organizations (those in Central America were visited this year through a Rockefeller Foundation grant). Records of counseling show an average of 80 self-initiated interviews monthly and double that number at the beginning and during the last weeks of each semester. The Counselor has represented the College of Agriculture on the Foreign Student Committee and the Inter-American Committee.

Early in the next biennium, most units of the teaching division will move into the new Agriculture Building, Dan McCarty Hall. This will add greatly to the efficiency of the teaching program and enable the College to increase its service to the State.

Respectfully submitted,
Marvin A. Brooker, Dean

REPORT OF DIRECTOR OF THE AGRICULTURAL EXPERIMENT STATION

To the President of the University:

Sir: A brief resume of the major accomplishments of the respective research units is herewith presented. The work program of the Experiment Station is conducted under a nationally recognized project system wherein problems under study are reduced to specific planned research projects. During the biennial period, eighty new research projects were initiated while fifty-one were closed out after satisfactory completion. A total of 278 active projects now cover currently pursued research programs of work.

In order that the research program of the Station may remain flexible and be able to cope with constantly occurring new problems which arise in Florida's ever expanding agricultural enterprises, it is necessary to close out and initiate new projects and to be able to place additional emphasis on new lines of work as the occasion may demand. It is this flexibility in the research program which has enabled our research workers to be able to give outstanding service to the growers and agricultural industries in the State.

Increasing attention has been given to developing basic research projects related to our major agricultural endeavors since these programs are vital to developing new products, new industries and greater efficiency in many of our existing operations.

IMPROVEMENTS AND ADDITIONS

Added physical equipment and facilities as well as other major improvements made during the biennium have enabled the units and personnel of the Agricultural Experiment Station to conduct a more effective research program. At the Main Station the new Animal Nutrition Laboratory was completed, providing excellent research facilities for the department. A baby pig experimental barn was constructed at the Swine Unit and an experimental sheep barn was also constructed to house new flocks of Hampshire and Rambouillet sheep recently purchased. A 520 acre farm was purchased for use of the departments of Horticulture, Soils, Entomology, Plant Pathology and Forestry. Two buildings have been erected on this unit; one for equipment, fertilizer and seed storage, the other a greenhouse with connected headhouse. At the Vegetable Products Laboratory a radio-chemistry and biochemistry laboratory have been installed and equipped as well as a controlled environment room for conducting biocidal and physiological research. The Veterinary Science Department now occupies the administrative and laboratory sections of the new veterinary research unit authorized by the 1953 Legislature. The Station's entire veterinary research program is now grouped as a unit for the first time. A group of 15 purebred Holstein heifers were secured as foundation stock for a purebred Holstein herd at the Dairy Unit. A small herd of dwarf carrier beef cows were purchased to test dwarf carrier potential of herd bulls so that dwarf-free herds at the Experiment Station may be assured.

Two hundred fifteen acres of new land was purchased on Route 27 north of Haines City for expansion of work at the Citrus Station. The land has been partially cleared, and a steel storage building and tenant house have been erected. A small tract of land, 2.8 acres, across the road from the present office building, was also secured on which the new production building is to be erected. A new type greenhouse, with removable roof, has been constructed for work involving symptoms of deficiencies or viruses where symptoms do not show up unless leaves are directly exposed to sunlight. Plant capacity in soil temperature tanks for research has been greatly increased in accordance with needs of the burrowing nematode research program.

An additional equipment and storage building was completed at the Gulf Coast Experiment Station. A 320 acre tract in Collier County was donated jointly by the Collier Development Corporation and Atlantic Land and Improvement Company as a site for the South Florida Field Laboratory, north of Immokalee. Collier County Commissioners and the State Road Department have started construction on an access road extending from State Highway 29.

A new steer feeding barn and machinery storage shed were erected at the North Florida Station at Quincy.

The beef cattle herd at Ona was increased with the purchase of five purebred Brahman heifers and 12 shorthorn cows. Total cattle numbers increased from 857, June 30, 1954 to 990, June 30, 1956. A grain, hay storage and drying building was completed in 1955 and the machinery storage building authorized by the 1955 Legislature is partially completed.

Additional buildings completed during the biennium include a fertilizer and seed storage at the Sub-Tropical Experiment Station at Homestead, office and laboratory building at the West Florida Station at Jay, soils laboratory building at the Potato Investigations Laboratory at Hastings and an equipment and stor-

age building at the Grape and Watermelon Investigations Laboratory at Leesburg.

Editorial and Mailing

The Agricultural Experiment Station inaugurated a quarterly journal, Sunshine State Agricultural Research Report, on January 1, 1956, to help carry the results of research to the people who can use them. This periodical supplements the bulletins, circulars, news stories, radio and television materials previously used.

Releases to farm journals and newspapers were continued as in the past.

Publications printed during the biennium included 33 new bulletins, of which 25 were popular and 8 technical in nature. They occupied 1,116 pages of printed materials and 244,500 copies were printed. One bulletin, 20 pages in length, was reprinted in a 20,000 quantity. The 17 new circulars printed were 286 pages in length, with 206,500 copies being run. The list of bulletins was revised and reprinted four times and the staff list was run three times. Four press bulletins were reprinted.

The Station inaugurated a regular television program, taking alternate weeks with Agricultural Extension Service on WFLA-TV in Tampa April 4, 1955. Radio broadcasts were continued over WRUF in Gainesville, taped materials were sent to six other stations, and typed copy was sent regularly to 52 other stations.

Library

The library serves: a) Research workers and staff of the Florida Agricultural Experiment Station system; b) Faculty and student body of the College of Agriculture; c) Agricultural Extension Service staff; d) USDA personnel in nine southeastern states; e) Many growers, cattlemen and others in the State.

Since it is a service unit, work done must be expressed statistically. During the biennium, circulation increased, totalling 198,760 checked-out books. No record is kept for material used in library except for reserves which totalled 23,641 pieces lent to 19,922 students. The library mailed 122,157 books to USDA personnel. Books numbering 641 were borrowed from other libraries while this library lent 109 to them. Because of a contract with USDA library, the library ordered and received free photoprints and microfilms for staff and faculty totalling 40,004 pages which would have cost \$4,648.24, with an additional 15,867 pages for USDA personnel. Eight issues of the *Bookletter*, quarterly publication, were sent to 6,605 persons.

Cards totalling 45,352 were prepared and added to the catalogs. A total of 18,612 cards were prepared for the University Central Catalog. Cataloging for Branch Stations reached an all-time high, with a total of 39,758 cards being prepared for their books and documents. A survey was made and standards set up for the library of the Everglades Station.

The Third Library Workshop was held at Gulf Coast Station in April, 1955 and Fourth Workshop, at North Florida Station in March, 1956.

Federal-State Frost Warning Service

The intensive weather forecasting service and temperature survey program for the benefit of agriculture was continued with the Florida Agricultural Experiment Stations and the United States Weather Bureau cooperating, covering

the whole of the Florida peninsula. Specialized frost and minimum temperature forecasts were issued from Lakeland during the winter seasons for the 10 Districts for groves and truck fields so that the temperature forecast could be adapted to individual farms. The forecasts for both seasons proved highly accurate. The 1954-55 season had 60 nights on which frost and/or freezing temperatures were recorded while the 1955-56 season experienced 65 such nights. Specialized shipper's forecasts, operational weather forecasts and localized rain forecasts were also furnished daily to interested shippers and growers. Specialized fire-weather forecasts were provided the forest services for the forest areas in the spring of 1956. Experiments in methods of frost protection, studies with regard to relation of weather and plants, and research in minimum temperature forecasting were conducted by the staff, some of which was in cooperation with other research groups. There has been an increase in the number of growers and others using the temperature and rainfall data, compiled by our service, as an aid in the selection of sites for expansion of farming operations.

In the administration of the forecasting and temperature survey work, the peninsula is subdivided into eight field districts with a meteorologist located in each district. A total of 400 temperature survey stations were in operation during the biennium, most of which were equipped with minimum recording thermometers and thermographs. Results of the temperature survey, research work, and studies were published in ten mimeographed volumes each season.

Agricultural Economics

During the Biennium research was conducted in the area of returns and costs from citrus groves, leading vegetable crops and dairying; ways of lowering cost of handling citrus fruits, potatoes and tomatoes; improved methods of estimating citrus and vegetable crops; demand for fresh and processed oranges; expanding the market for Florida ornamentals and cut flowers; legal aspects of land tenure including inheritance laws pertaining to farms; marketing of livestock and dairy products; improving incomes of farmers through enterprise adjustments; and retirement farming.

Results of these studies reveal:

Profitable bearing life of citrus trees is related to spacing. The most profitable groves had costs for fertilizer approximately one-half the total costs.

It is believed that objective methods of estimating the citrus crop by limb count of fruits will improve the citrus estimate.

The cost of harvesting, packing and processing citrus products has continued to increase. The 1954-55 season cost of picking and hauling oranges was 41 cents per 1-3/5 bushel box; packing and selling in wire-bound boxes, 89 cents; processing single strength orange juice, \$1.27 per 24/2 case; and concentrating cost was \$1.80 per 48/6 case. The cost of bulk shipment handling and terminal market packing was less than shipping point packing for oranges to be retailed in consumer bags. The most efficient combination of labor, equipment and building is a two-unit house with a combined capacity of 750 boxes per hour and handling around 750,000 boxes per season.

The demand for frozen orange concentrate at the retail level was found to have an elasticity coefficient of -1.55 when priced at 9.5 cents per case, -1.06 at 12 cents, -.59 at 15 cents and -.15 at 18.5 cents. Such basic findings are essential to the successful operation of many industry marketing programs.

Methods of estimating the bean crop through the use of aerial photographs and objective sample techniques were no better than conventional methods.

When Florida sweet corn in the Baltimore market in the 1954-55 season sold to consumers at the rate of \$3.87 per crate, the retailer received \$1.12, wholesalers \$0.24, transportation companies \$0.81, shipping point charges \$0.33, containers, packing and harvesting \$0.70, and the farmer received \$0.67.

Research on potato packinghouse efficiency reveals that 13 percent of Sebago and 39 percent of Bliss Triumph potatoes were injured in unloading and conveying to the washer, where inadequate, as compared to proper, equipment was used.

The average annual production of milk per cow in commercial dairies was 624 gallons in 1953. The cash cost, plus herd depreciation, was 52.4 cents per gallon. Other costs were estimated to be almost seven or eight cents per gallon.

None of the requisites of a purely competitive market were found in Central and South Florida's whole milk industry in 1952.

The cage layer enterprise is a comparatively new method of producing eggs in Florida. Notwithstanding a relatively low egg-feed ratio, approximately one-half of the cage layer enterprises operated at a profit in 1954.

The practice of buying livestock direct from producers is increasing. In 1955, 52 percent of the cattle, 43 per cent of the calves and 23 percent of the hogs were purchased direct from producers.

The returns from improving pastures encompass the two problems of "forage production" and "forage utilization." Exploratory budgets, based on specific alternative plans of ranch production and selected combinations of beef prices and fertilizer costs have been developed to show the effect of changes in costs and returns on the optimum combination of resources.

Comparative costs of harvesting tobacco with a harvester and hand method reveal a saving of \$20.00 per acre in favor of the harvester.

Consumer acceptance of pompon chrysanthemums when offered for sale in grocery stores revealed that many factors other than price influenced consumers' purchases.

Research indicates that retirees farm for both economic reasons and personal satisfaction. Net farm earnings were inversely related to retirement income and to age, but directly related to education and need for cash income.

During the Biennium eight Experiment Station bulletins, four Experiment Station circulars, twenty Agricultural Economics mimeo reports, and four Journal Series articles were published.

Agricultural Engineering

Research was conducted in the soil and water, crop processing and power and machinery divisions of Agricultural Engineering. Determining the response of flue-cured tobacco and pastures to the application of irrigation water was studied. A correlation between levels of irrigation, plant population and fertility, and time and method of fertilizer application was determined for flue-cured tobacco. A method for estimating the amount and time of application of irrigation water for tobacco was determined.

An irrigation study of pastures for dairy cattle furnished results indicating that irrigated pastures produced approximately 20 percent more feed earlier in the spring, and feed at a more uniform rate than non-irrigated pastures.

Another irrigation experiment located on "flatwoods" soil has furnished in-

formation on production and botanical composition of clover-grass pastures mixtures under different irrigation and fertilization treatments. Four to six tons of high quality forage was produced between February 1 and October 1, at a relatively uniform rate by using high irrigation and fertility levels. Comparable quantities of forage were produced when the amount of irrigation water was reduced but quality was considerably lower and the period of production was only from June 1 to October 1.

The effect of renovation on pangola grass-, bahia grass-, and bermuda grass-clover pastures showed that intense cultivation produced best results with pangola grass and bermuda grass while a moderate cultivation gave best results with bahia grass. Renovation increased the early spring growth of clover.

Studies in mechanical handling and harvesting of potatoes led to the development of equipment for separating extraneous material from potatoes as they are delivered to the packing house in bulk.

Agronomy

New foreign plant introductions received and tested have totaled 587, with none of apparent great promise being found, although a few are being tested further.

Varieties of flue-cured tobacco developed from interspecific crosses have multiple resistance to rootknot, root-rot, mosaic and wildfire. Some of these varieties have produced high yields of apparently very good quality tobacco.

Favorable results with properly managed irrigation of flue-cured tobacco have led to recommendations widely adopted by growers.

Soil fumigation (in the row) has been successful for control of rootknot on flue-cured tobacco and recommended practices have been widely adopted.

Average yields of tobacco per acre for the state have been raised to new highs with irrigation, soil fumigation and recommended fertilizer practices.

A new corn hybrid developed by the special breeding method, "recurrent selection for specific combining ability" will probably be nominated for release next spring. This hybrid is expected on the basis of many tests to outyield the standard hybrid Dixie 18 by at least 10 percent.

Chemical control of weeds in peanuts and in oats resulted in a saving of 15 man hours and three tractor hours per acre in peanut production and higher yields and improved grain quality in oats.

Plant nutrition studies have further emphasized that different crops have different fertilizer requirements. In one typical test on poor soil zinc increased yield of corn but not of lupines, molybdenum increased lupines but not corn, phosphorus increased corn but not lupines, and calcium had no effect on either crop.

Studies in agro-climatology have shown when drouth periods may be expected in various sections of the state and that drouth periods are more frequent and general even in normal years than had been supposed. These and related studies are beginning to clarify problems in irrigation technology, of how much water to apply and at what times depending on current rainfall, temperatures and other factors.

Animal Husbandry and Nutrition

Research grants from Lederle Laboratories, Merck & Company, The National Vitamin Foundation, Eli Lilly and Company, Chas. Pfizer and Company, Swift and Company, National Cottonseed Products Association, The Nutrition Foundation, U. S. Atomic Energy Commission, U. S. Public Health Service, Coronet Phosphate Company, American Chlorophyll Division of Strong, Cobb and Company, Inc., The National Mineral Feeds Association, The Soft Phosphate Institute, The Lovett-Steiden Table Supply Foundation and the Nitrogen Division of Allied Chemical and Dye Corporation were obtained. They amounted to \$59,510 this year and made it possible to expand our studies on nutrition, minerals, swine, beef cattle, meats and physiology of reproduction.

A long time feeding study to determine the effect of feeding 40 gm. of aureomycin per ton of feed to sows during five succeeding reproduction cycles resulted in no significant beneficial or detrimental effects. This shows that the antibiotic feeding over a long period of time was not harmful.

Waste beef tallow, sugar and lard have been useful ingredients for improving the palatability of creep rations for suckling pigs.

The feeding of aureomycin to weanling pigs has been demonstrated to lessen the need for pantothenic acid as measured by weight gains and tissue analyses.

A clear difference in the palatability of antibiotics has been demonstrated even in the minute quantities generally fed to swine. Erythromycin has proven particularly objectionable to the pig.

As little as 3 p.p.m. was an adequate level of manganese for the normal reproduction of sows through two generations of continuous feeding. This is much below present recommendations.

Cottonseed meal fed as the sole source of supplemental protein to wintering steers at time intervals of 24, 48 and 72 hours has resulted in no differences between 24 and 48 hour feedings with slightly reduced gains at the 72 hour interval. This means that cottonseed meal can be fed to cattle every other day with as good a result as daily feeding.

Age of puberty was shown to be 202 days for Angus heifers, 239 days for Herefords and 555 days for Brahman heifers. The average interval from parturition to first estrus was 50.8 days for Angus, 41.9 for Herefords and 69 days in Brahmans.

Spayed heifers gained more slowly than non-spayed heifers during a fattening trial. Feeding diethylstilbestrol to the spayed heifers gave little response.

Aureomycin at the level of 30 mg. per 100 lbs. body weight for five weeks followed by discontinuance of aureomycin and addition of 10 mg. daily of diethylstilbestrol to fattening heifer rations proved to be superior to other methods and levels of aureomycin feeding.

Aureomycin at the 30 mg. per 100 lbs. body weight level was superior to 10 mg. and 50 mg. levels in fattening rations for cull weanling calves.

Stabilized waste beef fat as 7.5% of a pelleted supplemental feed for wintering heifer calves permitted equal weight gains and caused no adverse effects as compared to pellets with citrus meal replacing the waste fat.

Kenaf seed meal fed as the sole source of supplemental protein in a steer fattening ration for a period of 98 days proved to be non-toxic, palatable and produced an average daily weight gain of 2.0 lbs.

Grade C sugar was shown to be equal to cracked yellow corn when fed at

the rate of 4 lbs. per head daily to wintering steer calves. Amounts over 5 lbs. per head daily caused scouring.

A summary of ten years data on the purebred Aberdeen Angus and Hereford herds shows the following:

Breed	Calf birth weight	Cow weight after calving	Calf weaning weight	Cow weight at weaning
Angus	64	1009	459	1051
Hereford	73	1043	457	1148

A summary of ten years data on the comparative grazing performance of Pensacola Bahia, Coastal Bermuda and Pangola grasses showed average total steer gains per acre of 249, 259 and 253 pounds respectively. This showed that over a period of years there is not much difference in the feeding value of these three grasses for steers.

Lactating range cows on improved clover-grass pastures have a 60% higher calf crop than comparable cows on straight grass pastures without clover at the Beef Research Unit.

Nonpregnant range cows wintered on improved grass pasture and fed 1½ lbs. daily of cottonseed meal had a 25% higher calf crop and calved 67 days earlier than nonsupplemented cows.

Two year old crossbred heifers grazing grass pasture fed 1½ lbs. daily of cottonseed meal during the winter had a 17% higher pregnancy rate and came into estrus 20 days earlier than similar heifers not fed a protein supplement.

Hereford and Red Poll heifers showed puberty (first estrus) at a younger age and lighter weights than Brangus or Brahman animals on improved pastures.

The physiological causes of low fertility in beef cows in order of importance was found to be: a) failure of ovulation and fertilization, b) embryonic death between 3 and 34 days past breeding, c) failure of coming in heat.

Feeding 10 mg. daily of Diethylstilbestrol to low fertility cows showed no advantage in embryo survival or improved fertility.

Gilts on a full-feed energy ration reached puberty 21 days earlier, weighed 36 pounds more and ovulated 2.3 more ova than comparable gilts fed limited energy (50% of full energy ration).

Fluorine levels sufficient to cause fluorosis occur in some parts of Florida.

The level of oxidation-reduction enzymes in the tissues of the body are dependent upon energy levels in the diet.

Bone changes have occurred in rabbits with molybdenum feeding that resemble manganese deficiency bone changes.

Manganese has partially prevented toxic effects of molybdenum in rats.

Oxidation-reduction enzymes such as succinic dehydrogenase, lactic acid dehydrogenase and cytochrome oxidase are influenced by the level of trace element feeding.

Aureomycin (Chlortetracycline) retards spoilage of hamburger when incorporated at the rate of 10 parts per million. It practically doubles the storage life of hamburger.

Bulls of the three major British breeds (Hereford, Angus and Shorthorn), mated to grade Brahman cows, have sired calves of similar merit. Individuality of the bull is more important than breed.

Inclusion of clover in improved pastures has resulted in higher reproductive

efficiency, better weaning weights, more rapid growth and better grade of calf than in all grass pastures.

Certain types of dwarfs which are different in appearance appear to be related genetically.

Dairy Science

Evaluation of the Station dairy herd based on production, official classification and breeding efficiency has been continued.

Calves fed rations containing aureomycin hydrochloride gained more rapidly through 120 days of age than animals on control diets.

Dairy heifers made satisfactory gains without supplemental feed on Pangola-clover and Coastal Bermuda-clover pastures that were well fertilized and grazed at a low growth stage.

Supplementation with potassium orotate and methionine significantly improved growth and efficiency of feed utilization in young calves and yearling heifers.

Pangola grass, hairy indigo, sweet yellow lupine, soybeans and alfalfa were ensiled as feed for dairy cattle in the chopped plain form, and with additives of dried citrus pulp, ground snapped corn, and sodium meta-bisulfite. Those with preservatives were satisfactory.

Alfalfa-clover-oat mixed pasture proved to be an excellent quality forage for dairy cattle, and provided more total digestible nutrients per acre and a longer grazing season than millet, alyce clover, oats, sweet yellow lupine, or oat-Kenland red clover mixed pasture.

Twenty inches annual irrigation increased the yield of total digestible nutrients 13.4 percent, maintained a uniform carrying capacity, lengthened the grazing season, and sustained high quality in Pangola-clover pasture during dry periods.

Substitution of "bulky concentrates" (brewers grain, citrus and beet pulps) for hay, silage and pasture resulted in decreases in fat percentages of milk. Feeding control ration corrected the abnormality rapidly.

Antibiotic preparations used in mastitis treatment were secreted into milk in sufficient concentration through the sixth milking to retard the lactic acid development essential for the manufacture of fermented dairy products. Methods of testing for the presence of antibiotics in dairy products have been improved.

Entomology Department

Several insecticides, with emphasis on the systemics, were tested on about 30 woody ornamentals and succulent foliage plants for phytotoxicity. Most materials were safe but a few injured some varieties of roses and certain foliage plants. Insecticides used on caladium and Easter lily bulbs to control bulb mites were not fully effective though some of the systemics looked promising.

State wide chinch bug tests demonstrated that this pest can be controlled in all areas if application methods are varied to suit local conditions.

Demeton applied at the low rate of two ounces active ingredient per acre effectively controlled clover mites on white Dutch clover.

DDT at two pounds actual per acre, applied with a hand sprayer at two or three day intervals, greatly reduced earworm infestation in sweet corn. This method is suitable for home gardeners but the corn generally will not meet commercial standards.

Investigations showed that nematodes seriously injure lawns in Florida and they may be a frequent cause of turf failures. Many species are involved but the more important are the sting nematode and a lance nematode. Certain of the newer nematocides applied as soil drenches give some measure of control of lawn nematodes. Nematodes collected from hundreds of samples of soil, roots and other materials demonstrated that many plants are injured by the very common lance nematodes and that other hitherto unknown nematodes are parasites of sweet gum, pines and other trees.

Pesticide residue studies, conducted cooperatively with other departments, provided information of great value to Florida's vegetable industry. This has made possible the establishment of "safe intervals" between application and harvest which help growers to conform with the requirements of the Miller Bill.

Tests with a number of insecticides on unhulled peanuts showed that 10 percent DDT dust at two ounces per 100 pounds protects seed peanuts from insect damage for a full year. It cannot be used on peanuts destined for human food or stock feed.

Tests with sweet clover showed a positive correlation between the sweetness of its nectar and lime in the soil. The sugar content was significantly increased as the amount of lime applied to the soil increased.

Home Economics

Investigations completed during the biennium dealt with dietary and hematologic studies of aged men and women, carpal development of white and Negro school children in relation to dietary practices and the effect of calcium, phosphorus and protein deficiencies in the young rat on defects in skeletal development of the mature animal.

The results of this work emphasize the effects of past and present diets on skeletal development and maintenance in both early and later life. Skeletal malformations were associated with calcium deficiency while rapid loss of bone material resulted from a phosphorus deficiency. Results on longevity suggest that effects of several minor deficiencies are less serious on the long-time economy than a single glaring one.

Investigations concerned with the demineralization process in bones and with deposition in soft tissues of aged men and women and of old rats indicate that there appears to be a relationship between bone loss of materials and the calcified areas in soft tissue.

Horticulture

Two new varieties of table legume crops were released: (1) the Florigreen pole bean, and (2) the Emerald English pea, an excellent home-garden type. Several high yielding southern pea breeding lines were developed.

Cantaloupe breeding lines which exhibit good vigor under adverse growing conditions have been developed.

Variety testing was carried on with several vegetable crops, i.e., lettuce, watermelons, cucumbers, sweet corn, sweet potatoes, onions, okra, spinach, southern peas, and tomatoes.

The optimum rate and time of application of fertilizers were investigated for sweet potatoes, watermelons, sweet corn, tomatoes, and strawberries. The avail-

able soil moisture was an important factor in determining the fertilizer practice for each of the crops. Tomato plants have a low calcium requirement until the formation of flower buds. Extremely high levels of magnesium will cause more severe symptoms of calcium deficiency.

Boron appeared to be necessary for the proper translocation of carbohydrates and possibly functions by its control over one of the enzyme systems.

Packaged radishes developed two types of discoloration during storage, one caused by an infection of downy mildew, and the other was apparently of bacterial origin. The bacterial infection was controlled by storing the radishes at temperatures below 50° F.

Quality studies of produce showed that the maturity at the time of harvest, the post harvest handling, and storage conditions were all extremely important. Furnishing better sweet corn for the consumers can best be attained by harvesting only at the optimum maturity, shortening the marketing period and providing more adequate refrigeration in the stores.

Southern peas harvested before the seeds have lost their green color were given the best quality rating. If the peas were held in storage for a short period, the percentage shellout by mechanical means was greater.

The use of artificial light of low intensity speeded up the ripening of tomato fruits harvested when they were mature-green.

Tomato fruits at the pink stage of maturity were more susceptible to bruising than less mature fruits. As the fruits ripened the acid-soluble pectins decrease which apparently was partially responsible for the loss of firmness.

The damage found in watermelons prior to transit in rail cars resulted largely from careless handling during harvesting, loading into field trucks, transporting from the fields to the reloading stations and reloading into rail cars.

Methods for extracting and concentrating celery juice were improved. The concentrate added to tomato juice gave a juice blend which was rated excellent.

Standard laboratory procedures were developed for five insecticides for the determination of residue materials on food products. Field sampling techniques for obtaining residue samples were studied and greater accuracy obtained.

Selections were made of peach breeding lines which are much superior to established varieties. The selections have more color and ripen approximately three weeks earlier. Selections were also made of several blueberry breeding lines which appear promising.

The use of double-walled cardboard boxes insulated with newspapers gave the greatest protection to foliage plants against cold damage while in transit to northern markets.

Hybridization of *Hibiscus* species native in Florida furnished six seedling selections which appeared promising as summer flowering plants.

Plant Pathology

"Ornamental Vines for Florida" which includes the description and distribution of many plants has been published.

A gift of 1334 seed plants, Garber and Chapman Collections and 283 fungus specimens were added to the herbarium.

The lupine virus has been identified as a strain of the yellow bean mosaic group. Two lesser important viruses have been isolated.

"Gray-wall" of tomato can be caused by a virus. However, the same symp-

toms have been produced by shading. A specific antiserum for tobacco mosaic virus has been prepared. Anti-serum of the yellow bean mosaic virus group has been prepared that may be used for identification purposes.

Five virus diseases of pepper in Florida are known to have native weed hosts which may carry these viruses. One virus may be common in one location while a different virus may be common in another area. Evidence indicates that "yellow-pod" virus of pepper may be seed-borne.

Selected antibiotics at 200 PPM, applied at seven to ten day intervals, effectively controlled bacterial leaf spot of *Philodendrum* when used as a protectant spray. Vapam (sodium N-Methyl dithiocarbamate dihydrate) applied as a pre-planting soil drench gave effective control of weeds, nematodes and certain soil-borne fungi.

Captan as compared with Bordeaux gave increase pecan yields but not superior control of pecan diseases. Small power-take-off sprayers have proved satisfactory in control of diseases in limited pecan plantings.

Mildew of oats was severe in 1956 and a resistant selection has been found. A mutant resistant to *Helminthosporium* blight has been selected.

Poultry Husbandry

The poultry flock of 500 Single Comb White Leghorns, 200 Single Comb Rhode Island Reds, 200 New Hampshires and 50 Light Sussex have been maintained to provide young stock and mature birds for experimental purposes.

Very close working arrangements have been maintained with the State Department of Agriculture, State Livestock Board, other departments of the University of Florida and state poultry associations to improve the efficiency of the poultry industry of the state.

Fish body oils at levels of $\frac{1}{2}$, 1, 2 and 4 percent were added to broiler rations replacing yellow corn meal. Feed efficiency and body weights were slightly better with the birds receiving fish body oils. However, at market age, a fishy odor and flavor prevailed in all lots receiving the fish body oils.

Chicks fed Xanthophyll at levels of 10, 25 and 50 grams per ton of feed were comparable to the control ration as far as weight, feed conversion and mortality were concerned. The degree of pigmentation in the shanks, beak, and fatty tissues increased to a deep orange-yellow pigmentation at the 50 gram level.

Citrus molasses distillers' dried solubles incorporated in chick rations exhibited a significant depressing effect on rate of growth.

A chick assay on activated citrus sludge indicated a content of 2 micrograms of B_{12} per gram of sludge.

High energy-high protein formulas produced broilers more efficiently than standard broiler rations. Additions of methionine and fat to broiler rations improved body weight and feed efficiency.

High efficiency feeds with layers resulted in improved feed utilization with little change in egg production.

A Florida-produced, 55 percent protein peanut oil meal, used in broiler rations to replace all or part of the soybean oil meal, with and without supplemental methionine, has not proven satisfactory.

Progesterone, when administered subcutaneously to 16-week-old pullets, inhibited sexual maturity.

Egg production during the first 5 months of lay showed little difference for

“cage” or “floor” birds.

Techniques to produce hatching eggs by artificial insemination with birds in individual cages resulted in satisfactory fertility. Fresh undiluted semen was superior to diluted semen or stored semen for a period of 72 hours at 55-60° F. Artificial insemination of turkeys in field trials showed improvement in hatchability of all eggs set.

Data from 546 trapnested S. C. White Leghorns indicated that it was not practical to use either “7 eggs in 14 days” or “a 50% rate of lay per month” as a method for removing birds from the laying flock. It was determined that feed prices, egg prices, percent production as well as physical characters should be used to determine the time to cull.

Soils

The results of soils investigations during the biennium were reported in two Experiment Station bulletins, one Experiment Station circular, 27 Journal Series papers in scientific journals, and 25 popular magazine articles.

Detailed soil surveys of Orange and Gadsden Counties were continued and a technical report of the survey of the upper St. Johns and Kissimmee Valleys was prepared for publication. A Soil Association Map of Sarasota County was published. The study of the minerology of Florida soils was continued and important discoveries of the nature of the clay and silt fractions made which will have a significant bearing on the use and management of these soils.

Rapid, accurate methods were developed for determining calcium, magnesium and potassium in soils by the flame photometer.

Results obtained in a fertilizer control research project made cooperatively with the State Department of Agriculture and members of the fertilizer industry showed that the present sampling methods used in fertilizer inspection were inadequate for certain type mixtures. It was shown that a significant negative bias in nitrogen, and a correspondingly significant positive bias in potash were obtained when certain pelletized, new type materials were used in the formulations and the mixtures were sampled by the conventional inspection methods. These results were valuable to the Technical Committee in establishing tolerances for the new fertilizer law.

Significant findings were made in studies of major and minor elements in soils which will have important practical applications. Outstanding results were obtained on seed production of lupines by use of a new fritted source of boron; the increased uptake of calcium by celery when supplied adequate boron throughout the growing season; increased yields of soybeans when inoculated with an effective strain of rhizobia; and increased yields of corn on certain soil types from deep placement of the fertilizer.

A need for sulfur on the somewhat poorly-drained acid sands and a deficiency of magnesium on the well-drained sands of the Central Florida uplands were established. An important finding was that potassium does not leach as readily as formerly thought from moderately limed soils after considerable rainfall, even though it is applied as a soluble salt in the fertilizer.

Results of soil microbiological investigations obtained during the biennium indicate practical measures for control of certain nematode populations by crop rotations. Favorable results were obtained with anhydrous ammonia as a nematocidal agent, as well as a source of nitrogen. Results of studies on the effects

of certain insecticides on microbiological action in soils show considerable variation in the tolerance of species of soil microbes to Lindane and DDT. The need for lime on acid soils to promote nitrification and stimulate microbiological action was emphasized again and again in all tests made.

Veterinary Science

Basic research on leptospirosis was initiated in cooperation with the United States Public Health Service. New projects were initiated involving fundamental research on actinobacillosis and vibriosis of cattle. *Vibrio fetus* strains of human origin were found to be serologically related to some of those of animal origin. A study of colonial characteristics of pathogenic vibrios revealed the presence of at least four variants in stock and freshly isolated cultures. A human strain of leptospira suspected of infecting cattle on the basis of serological tests, was found to be pathogenic for the bovine species under experimental conditions.

Premunization vaccination technique against anaplasmosis, administered to young calves, in a problem dairy has been continued. Clinical cases and/or death losses from anaplasmosis occurred among the non-vaccinated animals during the period, while no clinical cases, or unfavorable clinical sequelae of anaplasmosis resulted in the vaccinated group. Since this method of vaccination produces carriers, its use is not generally recommended.

Data has been assembled on the biology, distribution and seasonal occurrence of species of horse and deer flies in Florida. A method of expediting larval surveys and predicting subsequent tabanid outbreaks has been under study.

Under provisions of a joint contract between the Foreign Operations Administration, the Costa Rican Ministry of Agriculture and the University of Florida, initial steps were taken for cooperative mutual assistance in livestock and poultry disease and parasite research with the Costa Rican Agricultural Experiment Station.

(BRANCH STATIONS)

Citrus Experiment Station

(Lake Alfred)

Work on the burrowing nematode which had been found in 1953 to be the cause of spreading decline of citrus, has been the focus of greatly increased work. In the course of research started before the cause was identified, it was found that by removing the trees and treating the soil heavily with D-D, the nematode could be eliminated and the spread stopped. This information was formulated into a program which has been undertaken by the Florida State Plant Board and financed by the State to stop the spread of this decline. Much of our research has been aimed at helping out on this program and the solution of problems arising therefrom. In addition, the host list for this nematode was greatly expanded early in the biennium and subsequently the inspectors of the State Plant Board and the United States Department of Agriculture expanded it still further in connection with the organized control program. Preliminary studies have indicated that there are physiologic strains or races of this nematode, since it was found that bananas are frequently hosts to a form which will not go over to citrus although the form commonly found on citrus will attack

bananas; the two types are not distinguishable under the microscope. Intensive studies are underway to find a resistant or tolerant rootstock, as well as a chemical treatment for the trees in place.

Based on studies carried out by personnel of the State Plant Board a hot water treating tank was designed and built at the Station for the treatment of citrus nursery stock to free it from the burrowing nematode. This machine has been operating successfully on a large commercial scale under the direction of the State Plant Board, thus reducing considerably the hazard of spread through infested nursery stock.

Work has been intensified on the problems related to proper control of soil pH. This work has shown that a real problem related to the subsoil below cultivation depth, where lime applications applied in the cultivated zone does not penetrate. The role of residual anions such as chloride and sulfate resulting from selective absorption of bases such as calcium and potassium by the plant tends to depress soil pH. As a result of this work much more attention is being given by the industry to the proper handling of pH control.

The chlorotic condition of trees found near triple superphosphate manufacturing plants, was established as caused by fluorine; the symptoms having been produced at will by spraying trees with dilute hydrofluoric acid. Young foliage was much more sensitive than older foliage.

Properly timed copper sprays have been shown to control greasy melanose and oil emulsion has also been found to give a considerable degree of control whereas parathion apparently exerted no control. Studies indicate that the probable cause is a fungus but confirmation work remains to be done. The finding that control measures were feasible is particularly important in connection with grapefruit where a great deal of late summer defoliation with resulting reduction in production and quality of fruit has occurred.

Bulk handling of fruit for the packinghouses has been progressing steadily and the Station workers have furnished plans for several installations. The largest house to install bulk coloring rooms is the Haines City Citrus Growers Association, which has constructed bulk coloring rooms for 10,000 boxes of fruit following the specifications and designs of the Station workers. Special carts instead of field boxes are used for picking; the fruit is transferred to baffled semi-trailers. This practice is saving considerable money in labor and is streamlining the harvesting operation advantageously, as well as saving the purchase and repair of field boxes. This is a very considerable advance in the handling of fresh fruit.

A new self-polishing water wax incorporating Dovicide-Hexamine has been developed which gives excellent polish as well as good decay control.

A test for diacetyl has been shown to be a good indicator for the build-up of certain undesirable organisms in the juice evaporators and is being used by a number of concentrate plants as one of the guides for concentrator operation.

Expanded studies on the gelation and clarification problem as it relates to heat treatment of juice and the effects of pulp have enabled the concentrate plants to standardize their practices so as to largely avoid these problems.

Dyes made from glucosides of citrus and useful for wool dyeing and wood staining have been developed and patents on these will shortly be issued. Studies on the extraction of glucosides in the process of making cattle feed from cannery wastes have been successful and one small-scale commercial plant is in successful operation, in addition to a plant separating the glucosides from citrus molasses.

Central Florida Station

(Sanford)

Continued studies on the control of fungi, nematodes, and weeds in seedbeds have indicated that drenches containing a combination of herbicides, nematocides, and fungicides compared favorably with the methyl bromide treatment and cost only half as much. A mixture of allyl alcohol, emulsifiable DD or EDB, and formaldehyde has been the most satisfactory drench tested. This mixture has also shown promise in the field in one foot wide, "in the row" treatment.

Studies on pesticide residues have been intensified since enactment of the Miller Bill. Safe dosage with Systox on cabbage has been determined that will keep cabbage free of aphids for the greater part of the growing period and leave no harmful residue.

Corn earworm control through the use of repellents applied to the silks is under study, as well as testing of varieties that are resistant to earworm attack.

The cantaloupe breeding project has produced one new variety ready for release, and a second variety is expected to be released within a year. Tomato variety testing has shown two varieties suitable for this area, superior to those grown at present. This will make two new crops available not now commercially grown in this area.

Work on soybean culture on an extensive scale has been started in the Zellwood muck area.

Weed control studies have been expanded on both sand and muck lands.

EDTA, a chelating agent, applied to the soil corrected iron deficiency of vegetables, indicating an unavailability rather than a lack of iron in the soil.

Molybdenum deficiencies of hibiscus and sweet potatoes on acid soils was corrected by additions of molybdenum and/or lime to the soil.

A survey of the copper content of soils in old farming area is underway. Available copper in the soil was found to increase with an increase in soil acidity.

Everglades Station

(Belle Glade)

Streptomycin sprays have been found effective in controlling bacterial diseases of pepper, tomato and celery. Mixing neutral coppers with antibiotic sprays increased their disease control properties. Post-harvest treatment of leafy vegetables and radishes with Streptomycin was quite effective in controlling rots frequently encountered in transit. Effective field control programs have been worked out for a complex of diseases of celery and iceberg lettuce. Five fungicides have shown control of botrytis on tomatoes. Nabam plus metallic sulfate spray applications sharply increased the disease.

Potato virus Y and three strains of cucumber mosaic virus, nonpersistent aphid-borne types, were identified as the cause of virus diseases of pepper. Such factors as virus source species, recipient plant species, aphid species and plant host influence the transmission of cucumber mosaic virus. Field studies with potato virus Y showed that spraying insecticide on peppers is ineffective in controlling the virus, but placing sunflower barriers between virus source and peppers and spraying weed sources with parathion reduce the spread.

Biological and ecological studies on cowpea curculio, black cutworm, granulate

cutworm, salt marsh caterpillar, yellow sugar cane aphid, greenbug, bean leaf roller and celery tortricid moth have pointed out factors that may materially reduce the control problems with these insects. Insecticide spray trials have shown 1) dieldrin and toxaphene to be the most effective materials for control of cowpea curculio, 2) endrin most effective for cutworm and cabbage looper control, and, 3) parathion and EPN superior in control of serpentine leaf miner.

Outstanding pre- and post-transplanting weed control in celery has been accomplished with CDAA, CDEA, CDIC and solvent. Chemical weeding and thinning have been successfully accomplished on cabbage, lettuce and pepper planted as pelletized seed. Mixtures of 2, 4-D amine and dalapon have given effective and economical control of weeds and grasses in sugar cane. Effective control of weeds in drainage ditches was obtained with 1) 2,4-D amine for water hyacinth, 2) aromatic solvents, gasoline and chlorinated benzenes emulsified and applied under water for submersed water weeds, and 3) dalapon sprays for paragrass on ditch banks.

Bean varieties, Wade, Seminole, and USDA selection B2567-1, and potato varieties, Sebago and Red Pontiac, appeared most outstanding of the varieties tested on sandy soils.

Tomatoes grown in tomato-pasture rotation trials produced as well as those on virgin sandy soils.

Organic and inorganic sources of nitrogen fertilizers produced equal yields of pepper.

Analyses of survey samples of herbage from muck soil pastures have shown 1) Mo contents are most dependent upon species of forage and soil pH, 2) Co contents average 0.06ppm, 3) Cu contents were higher and Mo contents lower during late winter, spring and early summer, and, 4) surface applications of copper fertilizers were less effective than those incorporated into the soil in increasing Cu contents of forage.

Breeding and variety tests with fiber crops have produced 1) better yields and finer quality in ramie, 2) kenaf selections resistant to colletotrichum disease, and, 3) interspecific sansevieria hybrids that grow more rapidly and produce higher yields. Fiber processing research has resulted in improvements in field ribboning equipment and better cleaning, more accurate stapling and more effective degumming of ribbons.

Brahman crosses with both Devon and Angus breeds of beef cattle have shown superiority over their purebred parents in conformation, growth rate and condition. Supplementary feeding of calves while nursing and for a 3-month period following weaning may result in a 600-pound animal at 12 months which can be fattened to 900-1000 pounds for market at 16 to 18 months of age. Feeder steers fed a limited concentrate ration on good pasture obtained "commercial" slaughter grade in 120 days. Similar quality steers on full concentrate feed and pasture for an equal period obtained a grade of "high commercial" to "good". Grass silage stored in self-feeding bunker silos has proved successful as pasture supplement for wintering yearlings and breeding cows.

Gulf Coast Station

(Bradenton)

New vegetable varieties found adaptable are: Sweet corn—Cheddar Cross,

Aristogold Bantam Evergreen, Gold Standard and Seneca Supermarket; cucumber—Ashley and Palomar; and cantaloupe—Rio Gold.

Florigrreen, an early, high-yielding pole-bean resistant to rust and mosaics, was released in cooperation with the Main Station. Tomatoes are being bred with resistance to fruit cracking and to tobacco mosaic, both of great importance for pink harvest.

Soil rot of cucumbers can be significantly reduced by Captan, bacterial spot of tomatoes by copper and streptomycin.

Vapam and combinations of allyl alcohol with D-D or EDB have proved effective as herbicidal, fungicidal and nematocidal soil fumigants. As a pre-emergence herbicide Alanap-3 is effective with cantaloupe and cucumber, but injurious on crookneck squash. Chloro IPC is safe on grano type onions. Root-knot nematodes in gladiolus corms can be controlled by parathion. Weeds in gladiolus can be controlled by Crag 1 or Oktone, nematodes and soil fungi by Crag 974.

Hubam and White Dutch clover support stubby-root nematodes and should be avoided in pasture-vegetable rotations. Injury from root-knot nematodes is accentuated by the presence of soil-borne diseases.

Blossom-end rot of tomatoes and peppers can be controlled by maintaining a favorable ratio of calcium to other soluble salts in the soil, and by foliar spraying with calcium when calcium in the soil is inadequate.

With pole-beans, sweet corn and cucumber an all-nitrate source of nitrogen on sandy soils should be avoided at pH 6.0 or above, an all-ammonium source at pH 5.0 or below.

The systemic Dipterex shows promise for control of insects on pole-beans.

Better control of Fusarium, Curvularia and Stromatinia on gladiolus has resulted from hot-water treatment of cormels and chemical treatments of corms.

Gladiolus respond readily to nitrogen, but adequate levels of potassium and calcium are needed to reduce physiological disorders.

Chrysanthemums are particularly sensitive to excesses of boron and ammonium and to deficiency of iron.

North Florida Station

(Quincy)

Variety testing, plant breeding, crop rotation, disease and insect control, and fertilizer studies were continued on all the major agricultural crops in this area. Analytical work with soils was begun. Breeding and selection was continued with both beef and dairy animals.

Southland oats were severely damaged by a disease complex probably caused by *Helminthosporium* spp. Floriland, Seminole, and Sunland are highly resistant to crown rust and have yielded satisfactorily. Studies indicate that variability encountered in certification of Floriland and Sunland oats is due to genetic instability of *Avena byzantina* and many of its derivatives. Multiple variation in X₃ families of irradiated Floriland oats was observed.

Rye No. 8-21 has produced good yield of forage and grain and is excellent for resistance to leaf rust.

A variety of disease-resistant rye grass has been tested and is ready for release.

Tests show that Maygold variety of peaches is adapted to this area.

Adding diethylstilbestrol to steer fattening rations increased gains 12 percent and decreased feed costs 5 percent.

Citrus molasses had a per-ton value of 84 percent of that of ground snapped corn when used to replace up to one-half of the corn in the ration.

Solvent-extracted soybean oil meal, solvent cottonseed meal, or a mixture of the two, with or without aureomycin, gave satisfactory results as a protein supplement for weanling pigs on pasture.

A looper, *Trichoplusia ni* (Hbn.) caused considerable damage to shade tobacco in localized areas for the first time. To date, endrin has proved to be the best control for this insect. Several of the newly developed insecticides are being tested for the control of all insects that affect shade tobacco and other crops.

Peanuts grown continuously and in two- and three-year rotations yielded 273, 734, and 1,101 pounds per acre, respectively. Applying one ton per acre of calcic lime increased the respective yields to 628, 1,170 and 1,423 pounds per acre.

Lupine grown in a three-year rotation with 0-14-10 fertilizer at 150, 300, and 450 pounds per acre yielded 9,000, 18,000 and 20,000 pounds of green weight per acre, respectively.

Experiments were conducted by the "Mobile Units" as in previous years. This type of work is beneficial to farmers in the areas where it is conducted and is used as demonstrations by extension workers and soil conservation personnel.

Dixie Shade tobacco, grown on 2,000 acres or more in 1956, is conservatively estimated to give a gross return of \$200 more per acre than Rg. A new black-shank-resistant variety of still higher yield and quality is ready for release.

Maneb, a new blue mold fungicide for tobacco, gives better control than does zineb.

Range Cattle Station

(Ona)

Year-long grazing can be realized when good management is practiced with cattle and pastures. A cow can be carried on 1.2 acres of intensively improved pasture, one-third of which is over-planted with clover and irrigated; 1.25 acres of improved pasture and five acres of native range, or at least 13 acres of native range. Productivity of a cow is correlated with quantity and quality of feed available, being highest under the intensive pasture program and lowest when animals are kept on native range.

Florida-produced feeds, citrus pulp, ground snapped corn and citrus and molasses, can be used advantageously to fatten steers to U. S. Good and Choice grades. In three trials of 140 days each, steers fed either citrus pulp, ground snapped corn or cracked corn had an average daily gain of 2.38, 2.42 and 2.39 pounds respectively.

There was no significant difference in average gains in three 140-day trials with steer calves having varying amounts of Shorthorn and Brahman blood. Animals with $\frac{3}{4}$ Shorthorn- $\frac{1}{4}$ Brahman breeding had the highest slaughter and carcass grades while purebred Brahman made the most economical gains.

Pangola grass treated with 900 pounds of 9-6-6 fertilizer averaged 338

pounds of beef gain per acre annually. Pensacola and Argentine Bahia under the same treatment produced 215 and 216 pounds per acre, respectively.

Productivity of white clover is dependent upon adequate moisture. White clover and mixed grasses under sprinkler irrigation in four years gave average yearly cattle gains of 833 pounds per acre.

Effective weed control in pastures can be accomplished by physical renovation and use of herbicides.

Pangola hay and silage have equal value as roughage in a fattening ration and as supplemental feed for the breeding herd.

Several trials indicate that selected corn and sorghum varieties may be grown in Central Florida as forage and grain crops.

Sub-Tropical Station

(Homestead)

In cooperation with the Horticultural Research Branch, ARS, USDA, the tomato variety Homestead No. 2 was released to seedsmen.

CMU at 0.25 pound per acre rate applied to the soil surface after the last cultivation in established tomato fields, controlled weeds in emergence and pre-emergence stages for 4-6 weeks without harming tomato plants.

Spraying with 0.25 pound technical dieldrin per 100 gallons water proved highly effective on avocado for control of greenhouse thrips, which have caused increasing amounts of cull fruit. Residues were practically absent seven days after spraying.

Streptomycin gave control of bacterial spot in tomato fields resulting in 67 percent less fruit infection, 12 percent increase in fruit size, and 50 percent increase in marketable fruit. It proved compatible with recommended tomato fungicides and insecticides.

Better control of rust and significantly higher yields of polebeans were obtained with 4 to 7 percent maneb dusts than with sulfur dust.

Maneb and nabam-manganous sulfate sprays proved highly injurious to cantaloupe foliage. Nabam-zinc sulfate caused slight and zineb least injury.

Recommended fungicides were equally effective in preventing new infections and bringing established late blight under control on tomatoes.

An incubation method more economical in time, labor and equipment than previously used techniques and adopted generally for burrowing nematode investigations, was developed for collecting endo-parasitic nematodes from infested roots.

Healthy avocado seedlings with roots artificially infested with burrowing nematodes grew about one-third less than controls during the following year.

Temperatures slightly above freezing did not reduce viability of mango pollen in undehisced anthers, but pollen made no growth on media when incubated below 59° F.

When successive crops of tomatoes were grown on Rockdale sandy loam, potash deficiency reduced fruit quality more, and appeared before deficiencies of nitrogen and phosphorus.

Three new iron chelates were equal to NaFe EEDTA for chlorosis correction on hibiscus grown on marl soil.

A semi-sweet West Indian cherry selection proved superior to other clones

in yield and vigor. In 1955, 10 plants, seven years old, produced from May to October, 686 pounds of fruit ranging from 1200 to 2000 mg. ascorbic acid per 100 grams of juice.

Plant accessions totalled 1042 for the biennium including 791 ornamentals and 251 miscellaneous economic plants. At Plantation Field Laboratory, adaptation plantings totalled 172 trees and shrubs including 55 species of fruit plants.

Suwannee Valley Station

(Live Oak)

Work with flue-cured tobacco has consisted of testing of 15 varieties, conducting fertility experiments, seedbed treatments and plant population tests, and the effect of lime. The value of sod crops (pasture grasses) in a tobacco rotation and varying rates of the fertilizer are also under study.

Fertility and rotation studies with corn and peanuts, the major field crops of the area, are being investigated.

The testing of commercial and experimental corn hybrids has been increased. Fertility work with recommended pasture grasses and testing of new forage and pasture crops is being undertaken. The possibility of growing such new crops as Sesame, grain Sorghum, Castor beans and testing horticultural varieties of peaches, plums, blueberries, grapes and muscadines has been initiated.

Peanuts have shown considerable response to lime (dolomitic or high calcic) with corn, small grains and soybeans also responding to lime additions. Oats and soybeans showed growth increases from the addition of varying rates of magnesium. Magnesium deficiencies were noted in other crops growing on the station farm.

West Central Florida Station

(Brooksville)

The performance of herds of different breeding is being compared at the Brooksville Station. Produce of these herds will be used in future years in testing breeding systems for commercial operations. The groups represented include Angus, Brahman, Brangus, Hereford and Santa Gertrudis. Foundation herds have been established and are now in production. Because of recent establishment of some of the herds and variation in previous treatment, no general trends can be established from results to date.

West Florida Station

(Jay)

Crop response to the addition of phosphorus has decreased on soils where high applications have been made for six years.

High yields of corn grown under conditions of ample fertility, have been shown to be dependent upon the amount and distribution of moisture during and following tasseling. Yields in excess of 100 bushels per acre have been obtained under irrigation showing a 25 to 45 bushel increase when water is added at the critical period.

The minor elements status of several soils series have shown them to be high in manganese, copper, and iron, and ample in boron for most crops. The clay minerals in several soils have been shown to be made up primarily of hydrated iron and aluminum oxides.

The development of a winter permanent pasture program has not been successful every year because of inadequate soil moisture during the fall, consequently silage has become an important cattle feed. The relative value of several silage materials and several types of silos are being studied.

Extremely high yields of summer permanent pasture grasses have been obtained by the application of elemental nitrogen up to 800 pounds per acre, but grazing trials do not indicate that high applications of nitrogen are economical when compared to a grass-legume forage.

Pecan Investigations Laboratory

(Monticello)

Entomological research at this laboratory was carried in cooperation with Entomology Research Branch, Agricultural Research Service, USDA.

Special emphasis was placed on control tests against the pecan nut casebearer and the shuckworm, the major pests of pecans in Florida. Sprays containing either parathion, malathion or EPN applied during spring and EPN and DDT plus parathion applied during summer, all give good control of nut casebearer. Under conditions of moderate and severe infestations, two, three and five applications of EPN put on at two- and three-week intervals gave fair to good control of the pecan shuckworm and this was more effective than a combination spray of DDT plus parathion. Two or three applications of EPN were almost as effective as five applications. Parathion continued to give excellent control of all common pecan insect pests other than the shuckworm.

Potato Investigations Laboratory

(Hastings)

Leveling of Leon and Bladen soils and breaking the organic hardpan improved quality and increased potato yields from 525 to 567 bushels per acre.

Potato yields after one year of pangola grass were increased from 217 to 267 bushels per acre.

Potato yields ranged between 25 and 68 bushels per acre greater following a summer crop of Egyptian wheat than those following cattail millet, pop-sorghum, sesbania, regular hegari or Texas ribbon cane.

The most profitable yield per acre of U. S. 1A Irish potatoes, 565 bushels, was produced with 2,500 pounds of seed and 2,750 pounds of 6-8-8 fertilizer on irrigated, recently leveled old land.

Seed treated with captan and base of plants sprayed at blossom time with 2,4-D produced a slightly redder skin on Red Pontiac tubers.

Treatment of seed pieces with streptomycin and captan did not improve yield and quality of potatoes under conditions unfavorable for seed decay and blackleg.

Red Pontiac potato tubers proved highly resistant to internal necrosis.

A formula for computing aphid infestation indices was developed.

Aldrin and heptachlor, applied to soil at rates of two to three pounds per acre, generally gave good control of wireworms of potatoes in 1955, but these materials due to unknown factors, failed to give adequate control in most instances during 1956.

One application of the systemic aphicides, Demeton (2, 4, and 8 ozs. actual/A.), Isolan (2, 4, and 8 ozs. actual/A.), and A.C.12008 (24 ozs. actual/A.) controlled aphids on cabbage four to six weeks.

Strawberry Laboratory

(Plant City)

For the past two years inter-variety crosses have been made in an effort to secure vigorous, disease-resistant plants producing high yields of fruit satisfactory both for fresh market and processing. Several lines from these crosses have been saved and will be used in crossing back on Missionary variety for early fruit production.

Three-year tests of chemical weed killers show them to be unsafe for use in Florida, mainly because strawberry plants are never dormant. Much weed control can be accomplished by planting summer cover crops and cultivating to keep down weeds.

Sting Nematode, *Belonolaimus gracilis*, has been found to live on the roots of all crop plants ordinarily used as summer cover crops for strawberries in Central Florida. The population is highest following crab grass and sesbania and lower following crotalaria and velvet bean. Soil fumigation is still the surest means of controlling the nematode.

Tests were made of insecticidal residues remaining on strawberry fruit at various time intervals after application. Three of the insecticides tested could be applied to strawberry plants within one day of harvest without exceeding the official residue tolerance levels set for these insecticides.

Watermelon and Grape Investigations Laboratory

(Leesburg)

A fruit rot, new to Florida and caused by the gummy stem blight organism, was found on Charleston Gray watermelon; this rot caused severe losses in a few carlot shipments in 1955 and could become an important factor in future Florida watermelon production.

Maneb proved an effective fungicide for control of watermelon leaf diseases in 1954 and 1955 and may be added to the 1957 list of recommended fungicides for watermelons.

Watermelons grown from seed produced in Florida were proved to mature no later than those grown from seed produced in other states; this information is of considerable value to Florida producers of watermelon seed in view of claims by some seed producers that out-of-state seed produces earlier melons than Florida-grown seed.

Studies were made confirming that Pierce's disease is the major cause of grape decline in Florida. Transmission of Pierce's disease was accomplished by two insect species previously undescribed as vectors. Work was continued on the development of varieties resistant to Pierce's disease.

Diuron wettable powder (Karmex DW) was found an effective herbicide for use in plumosus fern nurseries. Numerous commercial ferneries are currently trying this material with a view of adopting its use as a standard practice for weed control.

SCHOOL OF FORESTRY BIENNIAL REPORT 1954-56

In the school year 1954-55, 15 students were awarded the Bachelor of Science in Forestry degree. In 1955-56, there will be nine students with the B. S. F. and one with the M. S. F. degree. In the fall of 1954 there were 25 students registered in the School of Forestry. In 1955, there were 31. Summer Camp attendance in 1955 was 16. In 1956, there are 28 in summer camp.

There have been no staff changes in the School of Forestry. Professor J. W. Miller, Jr., was on leave for the two-year period in order to serve as General Superintendent at the Escuela Agricola Panamericana, Tegucigalpa, Honduras. He will return to the campus on July 1. Robert L. Barnes began leave on December 1, 1955, to study for the Ph.D. at Duke University. He received a National Science Foundation Fellowship for this purpose, and plans to return to the campus July 1, 1957. In 1956, James W. Willingham completed the requirements for the Ph.D. at the University of Minnesota and will receive the degree in July. Stephen L. Beckwith was promoted to Associate Professor in 1954, Thomas G. Herndon to Assistant Professor. In 1955, James W. Willingham, Robert L. Barnes, and Don M. Post were promoted to Assistant Professor.

In the biennial period the School offered five short courses in cooperation with the General Extension Division: forest photogrammetry, forest site identification by soil characteristics, kiln drying of southern hardwoods, variable plot cruising, and continuous forest inventory. Attendance at these courses was 11, 30, 11, 78, and 33, respectively. The first two courses had been offered previously and were well attended.

As part of the research program, staff members published ten bulletins, articles, and notes. The breadth and quality of the research program has been significantly increased.

The Ranger School awarded certificates to 36 candidates in 1954-55, and probably will award 39 in the summer of 1956. A capacity registration of over 60 students is in prospect for the fall of 1956.

Mr. H. B. Attaway, Jr., was appointed as Superintendent in August, 1954, replacing Clarke Mathewson, who resigned in February of that year. A fourth staff member has been appointed for reason of the continually increasing teaching load.

Beginning in May, 1955, a period of capital improvement that is now nearing completion was undertaken in the School building. The improvements include siding and painting the outside of the building, providing four apartments for school staff, insulating the second floor ceiling over classrooms and dormitories, completing a small auditorium, and painting the interior of the building. The improvement in the building has been remarkable.

Respectfully submitted,
C. M. Kaufman, Director

UNIVERSITY OF FLORIDA CONSERVATION RESERVE

To the President of the University:

Sir: The University of Florida Conservation Reserve, at Welaka, serves primarily as a research and training area for graduate students in the Department of Biology and for undergraduate and graduate students in the School of Forestry. During the biennium 106 students made use of the facilities. In addition 52 staff members of the University and visiting scientists from other institutions have taken advantage of the biological resources available. There were 2,522 members of various scientific and lay organizations interested in biology, forestry and wildlife conservation who visited the Reserve during the biennium.

Some 144,540 board feet of pine lumber and logs were harvested up to April 1956. During the first week in April, a disastrous fire broke out in a heavily wooded area of the Reserve, and 500 acres of timberland burned, including a sizeable portion of the area which had been protected for 23 years. The spring drought had made the area tinder dry, and winds up to 40 miles an hour the day of the fire spread the flames rapidly. With the help of volunteers from neighboring tracts and communities, the fire was brought under control without further damage on the Reserve and without escaping to adjoining property. Soon after the fire, arrangements were made by contract to salvage the burned trees, which constituted about 100,000 board feet of pine saw logs and 245 cords of pulpwood. This prompt action prevented further loss from insects and diseases.

Respectfully submitted,
Willard M. Fifield
Administrative Officer

REPORT OF THE DIRECTOR OF THE AGRICULTURAL EXTENSION SERVICE

To the President of the University:

Sir: I submit herewith the report of the Agricultural Extension Service of the College of Agriculture for the biennium ending June 30, 1956.

Considerable progress was made by the Florida Agricultural Extension Service during the biennium in terms of both volume of work performed and numbers of people reached.

For example, the total number of farm visits made by agents in 1955 was 91,363, or an increase of 7,834 over 1954. The number of telephone calls increased from 252,395 in 1954 to 266,241 in 1955. Office calls increased during the year by almost 7,000, and the agents distributed over 21,000 additional bulletins in 1955.

An increase in activities carried on by local leaders was shown. The number of training meetings for local leaders in adult work increased from 815 in 1954 to 1,359 in 1955. Correspondingly, the attendance at these meetings increased from 14,378 to 40,905. Training meetings for 4-H leaders increased from 539 to 1,160 and attendance at these meetings increased from 9,004 to 22,255.

The total 4-H Club membership increased from 33,089 to 35,212. Percentage completions increased from 70 percent to 71 percent. Over 500 additional club members attended 4-H camps in 1955, bringing the total number of boys and

girls spending a week at camp to almost 5,000. Four-H Club members carried and completed over 4,000 additional projects in 1955.

The farm and home unit approach was carried out on a pilot basis in nine counties, with 190 families having been worked with to date.

The total number of rural non-farm families worked with during 1955 increased from 32,645 in 1954 to 40,823. The number of urban families increased from 91,534 to 138,149 and the number of farm families decreased from 40,948 to 39,316. These figures show a net increase of all families worked with during the year from 165,127 to 218,288 or an increase of 32 percent.

Some additions have been made in the county staffs in an attempt to meet the increasing demands on county workers. The present county staff numbers are as follows:

- 66 County Agents
- 3 Associate Agents
- 54 Assistant County Agents
- 52 Home Demonstration Agents
- 22 Assistant Home Demonstration Agents
- 10 Negro County Agents
- 12 Negro Home Demonstration Agents

The state staff includes:

- 1 Director
- 1 Assistant Director
- 1 Assistant to the Director
- 1 State Home Demonstration Agent
- 1 Assistant to the State Home Demonstration Agent
- 3 District Agents for Men's Work
- 3 District Agents for Women's Work
- 2 District Agents for Negro Work
- 4 Extension Editors (part time)
- 5 4-H Club Agents (3 for Boys' Club Work;
2 for Girls' Club Work)
- 31 Specialists for Men's Work
- 7 Specialists for Women's Work
- 3 Department Heads (part time)

The local Boards of County Commissioners participate financially in the County Extension programs, providing a part of the salaries of agents and their travel expenses within the counties. In most cases Boards also provide office space, some clerical assistance, and certain supplies and equipment.

State and county financial contributions to Extension work have increased since the last biennium. Comparisons by source of funds for the 1954-55 year and the 1955-56 year are shown below:

	<i>Source of Funds</i>	
	1954-55	1955-56
Federal	\$458,394.32	\$534,086.50
State	667,755.00	726,649.00
County	519,464.00	593,908.00
Incidental (State)	16,307.22	18,903.49

With each succeeding biennium, the Agricultural Extension Service is becoming better staffed and better equipped to meet its ever expanding educational responsibilities to both rural and urban residents. There remains much to be done if the results of research in Agriculture and Home Economics are to receive their fullest application.

Editorial and Mailing

Scope of the work continued to expand, particularly in the field of radio and television service. The Agricultural Extension Service, in cooperation with the Experiment Station, inaugurated a weekly television show over a Tampa station on April 8, 1955, each taking alternate weeks. County and home demonstration agents considerably expanded their service to television audiences during the biennium also as more stations got on the air. The agents reported doing 490 TV shows and making 6,118 radio talks.

The Editorial Office continued to stage the daily Florida Farm Hour over WRUF and to send radio farm flash copy five days a week to 52 Florida stations. We also furnished a fortnightly review of Florida agriculture bi-weekly to 36 stations and a weekly farm review to the Associated Press for release to Florida stations. We supplied taped talks to six radio stations requesting them. The Editor appeared twice on the National Farm and Home Hour.

Publications.—The circular series, with brief, concise and timely information which can be assimilated quickly by busy farm people and which has proven highly popular in recent years, continued to be expanded. The number of new bulletins printed declined slightly.

We printed four new bulletins totalling 112 pages and 77,000 copies and one revised bulletin, 68 pages, printed in 15,000 quantity. Our new circulars numbered 28, covering 192 pages, and totaled 362,000 copies, while one revised circular was 8 pages in length and 20,000 copies in volume.

Publications are distributed primarily on request and through county and home demonstration agents.

News and Journal Articles.—The special stories to county agents, with blanks where they could insert their own names and use the copy as local, continued to be sent at the rate of two or three a week. Many of the agents use them in their newspapers. The weekly clipsheet also continued to serve the Florida weekly and farm papers and was sent also to agents and others working with groups of farm people.

News stories were released frequently to the Associated Press wire service and others were sent direct to daily papers. Farm paper editors were assisted in obtaining copy and pictures.

Miscellaneous.—The Editor continued to serve as distribution control officer for USDA publications going to Florida agents and staff members. A slide and filmstrip library continues to increase slowly. The office maintains cameras, motion picture and slide projectors, public address systems and other equipment needed by agents and staff.

Boys' 4-H Club Work

Activities and Projects.—Club activities and projects showed considerable growth and improvement during the biennium with enrollment now at an all-time

high. In 1955, 14,411 boys were enrolled in Florida's 4-H Clubs as compared with 12,628 boys for 1953. Project completions have increased to 2.1 per member enrolled. There were 9,232 more participations by boys and girls in 4-H activities such as judging, giving demonstrations, group recreation, health, and farm and home safety in 1955 than in 1954. In field crops, poultry, and vegetable gardening projects a very impressive gain was noted. In 1954, 3,961 acres of field crops were harvested as projects, compared with 6,224 acres in 1955. Livestock, dairy, and poultry units owned by 4-H members in 1955 exceeded 184,000.

Four-H Camps.—During the biennium 7,892 4-H Club members utilized the five 4-H camps in Florida. With the combined efforts of Extension workers and friends of 4-H, the newest camp located in Highlands County and serving south Florida has been completed for the 1956 camping season. In addition to 4-H use, three of the camps are used for adult and older youth educational programs with more than 6,400 attending during the biennium. Annually a Wildlife Camp has been held at one of the state camps to stress the importance of wildlife and its conservation.

Short Courses.—Each year the Annual Boys' 4-H Short Course is held on the University of Florida campus to provide outstanding 4-H boys with one week of training and inspiration at their Land Grant College.

In 1955, the 36th Annual Short Course was attended by 385 boys from 58 counties. In addition to courses offered the boys, four state-wide special 4-H contests were held. They were the State Dairy Judging Contest, the State Tractor Operator's Contest, the State Public Speaking Contest, and the State Reading Lamp Building Contest. The State Boys' 4-H Council convenes during the Short Course. Five Bankers' scholarships are awarded each year based on competitive examinations given at the Short Course.

Awards Program.—There were 26 state and national awards programs available to Florida 4-H members who scored highest in their project and club work. The awards included free trips to the National 4-H Club Camp and Congress, gold watches, cash, trophies, county medals and scholarships. For the first time in 1955, Florida sent a full quota of 25 delegates to National 4-H Club Congress in Chicago.

Each year of the biennium an outstanding 4-H Club boy from each county has received a certificate at the Florida State Fair on 4-H Club Day. A Dairy Efficiency Contest has been held to select the best dairy club boy in each of the state's ten 4-H districts.

State-Wide Schools.—In both years of the biennium the State 4-H Club staff promoted a series of five area livestock judging schools. Two special 4-H Tractor Care clinics were held in 1954 and 1955 to provide training for older 4-H Club members, adult 4-H Club leaders, and Extension agents.

Promotional Techniques.—County 4-H officers' and leaders' training schools and county councils have been promoted. Each year 4-H boys and girls throughout the state have attended the Florida State Fair and served as hosts and hostesses to the State 4-H Exhibit. The use of 4-H exhibits, banquets, achievement days, rally days, county fairs, shows and contests has received increased emphasis.

Each month the State 4-H Staff prepares a newsletter to keep county workers abreast of programs and activities.

Negro 4-H Club Work.—The results of the Negro Boys' 4-H Club Program have been included in this report. The State 4-H Staff worked with Negro groups in staging shows, judging contests, and building exhibits for county and state fairs. They assisted Negro District Agents in planning Short Courses and Extension conferences. Negro Award Programs have been expanded and increased participation shown during this biennium. Awards were offered and winners were selected in field crops, health, garden, meat animal, poultry, achievement, and farm and home safety.

Eight Negro 4-H members have attended the Regional 4-H Camp each year of the biennium.

Animal Husbandry

Beef Cattle.—Florida ranks fifteenth in total numbers of beef cattle. As of January 1, 1956 beef cattle on Florida farms and ranches totaled 1,421,000 head. This represents a 9.0 percent increase over the previous year.

During the biennium county agents assisted 10,486 cattlemen with employing proper selection and breeding practices and 12,910 cattlemen were assisted in employing proper feeding practices. County agents assisted 10,031 cattlemen with initiating practices to aid in the control of external parasites and 9,774 cattlemen were assisted with starting practices to aid in proper disease and internal parasite control.

Swine.—Swine producers of this state are making rapid progress in the improvement of production efficiency in their herds.

During the biennium, county agents assisted 8,108 swine producers in initiating practices on their farms to control diseases and internal parasites. Also, 7,162 farmers were helped by county agents in starting practices to control external parasites. The agents also assisted 6,949 farmers in employing proper selection and breeding practices in their swine herds and helped 8,756 farmers employ proper feeding practices.

4-H Club Livestock Activities.—The total number of boys and girls enrolled in livestock projects during the biennium was 4,980. Of this number 2,909 carried their projects to completion. A total of 7,607 animals were involved in these completed projects.

The state champion 4-H livestock judging teams for 1954 and 1955 competed in the National 4-H Livestock Judging Contest held in Chicago each November.

During the biennium a beef cattle breeding project was initiated and a district show was organized so as to enable the participants to exhibit their animals. Also close liaison was maintained with all agents and all assistance possible was rendered in making the major steer and swine shows successful.

Dairy Husbandry

The Extension dairy program for the biennium has undergone a large expansion in the dairy herd improvement work and in artificial breeding of dairy cattle. Stressing production of a larger percentage of the feed supplies for dairy herds has shown results. These and other improved dairy management practices have contributed to an increase in milk production per cow from 4,370 pounds in 1953 to 4,900 in 1955.

Dairy Herd Improvement.—The DHIA work has been expanded from 8,157

cows on test in April 1954 to 11,590 in April 1956. Eight DHIA organizations were in operation. Test supervisors—employed by the associations—tested herds, kept records, and advised dairymen on improved practices based on information provided by the DHIA records of their herds. The values and results of this Extension project is illustrated by the following State DHIA per cow records for the past three years.

State DHIA Averages Per Cow

Year	Number of Cows	Pounds Milk	Percent Test	Pounds Butter- Fat	Total Feed Cost	Value of	Feed
						Product Above Feed Cost	Cost Per 100 Lbs. Milk
1954-55	8,274	6,611	4.5	299	\$182	\$288	\$2.75
1953-54	6,905	6,624	4.5	301	\$199	\$283	\$3.00
1952-53	7,143	6,415	4.5	288	\$210	\$251	\$3.27

The DHIA averages per cow for the last three years show an increase in number of cows in herds completing yearly records, an increase in production and a decrease in cost of producing each 100 pounds milk for the state as a whole. The feed cost of producing 100 pounds milk decreased from \$3.27 in 1952-53 to \$3.00 in 1953-54 and to \$2.75 in 1954-55. This meant 27 cent and 25 cent decreases, respectively, for the past two years or a 52 cent decrease in two years. This is a reduction of 4½ cents in the cost of producing a gallon of milk as a result of better breeding, feeding and management carried out by the DHIA herds of the state.

Official Cow Testing.—The Extension Dairyman, as State Superintendent of Official Cow Testing, supervised the official production testing by which records are set up in the production programs of the purebred dairy cattle breed association. Herds of the Jersey, Guernsey, Holstein, Ayrshire and Brown Swiss breeds are represented in this program in Florida at this time.

Breeding Program.—The artificial breeding program makes the service of bulls in the top two percent in the nation available to Florida dairymen and family cow owners in the areas with artificial breeding units. This program was started on an organized basis by the Agricultural Extension Service in 1948. It has grown yearly. There were 29,774 Florida dairy cows bred artificially in 1954 and 32,719 during 1955.

Cows raised as a result of artificial breeding—on which there are DHIA records—averaged 7,282 pounds milk, 4.8 percent test, and 348 pounds butterfat per year. This is above the average of all DHIA cows and 49 percent above the estimated average of all cows kept for milk.

Pasture and Feed Production.—A special study showed that on the average a Florida dairyman produced only about 25 percent of his total feed supply on his farm. These supplies included pasture forage and other feed crops. In contrast DHIA members produced 34 percent of their herds' needs. The study of 19 dairy farm records showed feed nutrients produced as pasture at a cost of 1.47 cents per pound. Records from these herds served as demonstrations in an effort to expand the production of pasture, silage, and other feed crops. The Florida Dairy Association cooperated by providing recognition for all who scored 75 percent or above in our Florida Dairy Pasture Contest during the

last three years.

Four-H Dairy Club Work.—The 4-H dairy club work with 1,631 members, has included four production projects, a series of nine 4-H district dairy shows, and a state 4-H dairy show each year.

Artificially-sired baby calves from south Florida dairy herds were placed with 4-H members in six north central Florida counties.

Instruction and competition were provided in dairy cattle judging on a county, district, and state basis. The Florida team won the 1954 4-H International Dairy Cattle Judging Contest in Chicago in October 1954 and represented the United States in the Caribbean Contest in Jamaica in February 1955. Florida won this contest also.

Summary of Results in Specific Projects

	1954	1955
Cows on DHIA test.....	10,023	11,483
Cows on official breed test.....	1,645	1,843
Bulls proved in DHIA.....	54	38
Cows bred through artificial breeding.....	29,774	32,719
Pasture, feed, and management analysis studies made.....	28	19
Number 4-H members with dairy projects.....	1,533	1,631

Poultry Husbandry

The gross farm income for chickens, eggs, broilers and turkeys totaled \$33,624,000 in 1954 and \$31,741,000 in 1955. Total production for these two years was 501 and 505 million eggs with average egg production increasing from 202 to 204 eggs per bird. Broiler production decreased from 11,736,000 in 1954 to 9,389,000 in 1955. The number of turkeys produced decreased from 192,000 in 1954 to 164,000 in 1955. During this two year period 30,810,000 and 27,613,000 chicks were hatched respectively by the 85 and 69 hatcheries cooperating in the National Poultry Improvement Plan. Lower prices received for poultry products were largely responsible for the lower gross farm income.

Major emphasis was placed on the efficient production and marketing of poultry products, the development of a poultry program for the farm family and extending 4-H poultry activities.

Improvement was noted in the quality of chicks produced in the state as reflected in higher egg production and a greater rate of growth in broilers.

Over 350 egg coolers are in use on commercial poultry farms.

Florida National Egg-Laying Test.—The result from the 28th Test illustrated the value of this program to the poultry industry of the state by furnishing information on breeding stock and feeding and management practices. In the 28th test 5.1 pounds of feed were required to produce one dozen eggs while in the 29th test, 4.9 pounds were used. Two hundred thirty-four eggs were obtained per 100-pound bag of feed in the 28th test and 239 eggs per bag of feed in the 29th test. Mortality decreased from 11.0 percent to 8.0 percent in these tests.

The Florida Random Test.—The test has been expanded to include 20 Florida cooperators who entered 50 randomized pullet chicks for testing pur-

poses. Results including growth, mortality, egg production, feed consumption, prices and returns show considerable variation in the performance of different entries. Average production per pullet was 196.70 eggs ranging from 160.0 eggs to 232.6 eggs.

Poultry Institutes.—The 13th and 14th Annual Poultry Institutes were held at Camp McQuarrie during August in 1954 and 1955. Programs covering all phases of the poultry industry were discussed by leaders of the industry. Poultrymen from all sections of the state were in attendance which totaled over 350 persons for each Institute.

Associations and State Agencies.—The officers and members of the Florida Poultry and Egg Council, State Poultry Producers Association, Breeder and Hatchery Association, and Turkey Association have worked very closely with the poultry extension workers in developing a sound educational program. Meetings, schools, and clinics were held in connection with county poultry groups at which subject matter was presented.

Two Nutrition Conferences were held in Gainesville at which poultry programs were presented. Seventy-five to 100 feed dealers and producers attended these conferences.

Poultry for 4-H Members.—Three thousand boys and girls were enrolled in poultry projects in 1954 and this was increased to over 3700 in 1955. Twenty-five counties were represented in a special poultry demonstration program. The county, district and state poultry and egg shows and judging contests have expanded. The State 4-H Show included over 1200 birds and 150 dozens of eggs during each year.

This past year the high state poultry judging team competed in the National Contest in Chicago and this team placed second. One member of this team was high individual in the entire contest.

Farm Forestry

There are a little more than 9,000,000 acres of forest land on Florida farms. Most of this forest land is only partially productive.

Cooperation.—In carrying on the Extension program for better farm forestry, close cooperation was maintained with public and private agencies, such as U. S. Forest Service, State Forest Service, Agricultural Stabilization and Conservation Program, Agricultural Experiment Stations, Forest Experiment Stations, Fish and Wildlife Service, Soil Conservation Service, Vocational Agricultural Teachers and many wood using industries.

Fire Protection.—During the biennium county agents assisted 6,532 farmers in 57 counties in protecting their forests from fire. Such protection included both plowed fire lines and wide, improved pasture grass fire barriers. In addition six 4-H Club owned and managed forests, comprising a total of 1,670 acres, are now serving as demonstrations in fire protection.

Forest Planting.—Planting forest trees on farms continued as a major activity of the Extension forestry program. During the biennium 24,193,150 slash pine seedlings were distributed by county agents to 3,939 farmers for planting on 35,580 acres of farm land. Slash pine seedlings—13,027,400—were furnished free to county agents by six Florida pulpmills and other wood using industries for distribution to farmers in 45 Florida counties.

In addition the Extension Forester's office collected and distributed, free, to farmers and 4-H Club boys for demonstration plantings, 216,000 red cedar seeds, and 140,000 catalpa seeds. The cedar seeds were to establish Christmas tree plantings, and catalpa seeds for farm fence post production.

Marketing.—A total of 1,210 farmers in 43 counties were assisted in marketing their forest products wisely for continuous production.

Naval Stores (Gum Farming).—Assistance was given 212 farmers in 17 counties in working their trees for naval stores. Demonstrations in new and improved methods of chipping the trees, and using acid to stimulate gum flow were given, and the additional profits possible through gum farming were pointed out.

Game, Fish and Wildlife.—5,518 farmers and 4-H Club members were assisted in conserving and developing game and wildlife on farms, including construction and improving farm fish ponds.

Four-H Forestry Projects.—The program for training farm boys in forestry through 4-H Forestry Clubs was expanded during the biennium. During the annual 4-H short course held at the University, at 4-H summer camps and during club meetings in 45 counties, 2,214 4-H Club members received training in farm forestry. In addition, in six Florida counties, 4-H members own, or manage, according to sound forestry practices, six demonstration forests, comprising a total of 1,670 acres of forest land. These demonstration forests serve as laboratories where the boys "learn by doing". Four-H Club members in 44 counties also planted a total of 604,000 pine seedlings on individual forestry projects.

Marketing

Extension marketing work was carried on during the biennium with growers of most major farm commodities in many different sections of the state. Considerable work has also been done on farm business training, including marketing, with youth groups.

Youth Education in Marketing.—Cooperative Activity Contests were conducted among 4-H Clubs and F.F.A. Chapters of the state. The purpose was to teach farm youth about cooperative marketing and other aspects of farm business. The clubs and chapters participated as groups in the contests. Each year ten district winning 4-H Clubs and six winning F.F.A. Chapters received expense-paid trips as awards. The award money—about \$3,000 per year—was furnished by the Florida Council of Farmer Cooperatives which joins with the Extension Service in sponsoring these youth contests.

Citrus.—Marketing assistance to citrus growers included the three day citrus marketing program at the annual "Citrus Institute" at Camp McQuarrie. The Institute was attended by about 400 citrus industry leaders and growers. Other examples of citrus marketing work are assisting many of the citrus marketing cooperatives, talks on citrus marketing at numerous grower and citrus industry meetings.

Truck Crops.—During the second year of the biennium an additional full time Extension Vegetable Marketing Specialist worked with vegetable growers of the state. There was such a great interest on the part of growers in marketing agreements for tomatoes, celery, cucumbers, watermelons, avocados

and limes that all of the new specialist's time was utilized during the year in holding meetings and hearings on these agreements. Agreements are now in effect on tomatoes, avocados and limes and work is continuing on the cucumber and watermelon agreements.

Livestock and Poultry.—Marketing assistance was given to livestock growers through the means of marketing talks at various cattlemen's institutes, short courses and at local cattlemen's meetings in various parts of the state. Marketing assistance was given to poultry producers mostly by intimate work with the six local egg marketing cooperatives in the state as well as by marketing talks at many local poultrymen's meetings and institutes.

Dairy.—Dairymen in two important dairy sections of the state—Miami and Orlando—are trying to get Milk Marketing Agreements put into effect to replace the state milk commission regulations which have been suspended. These two milk-producer groups have required a great deal of assistance in the way of advice, information, material and attendance at meetings to discuss the operation, advantages, and disadvantages of milk marketing agreements.

Other Commodities and Activities.—Assistance on marketing problems was also given honey producers by means of much detailed work with their state-wide Florida Honey Marketing Cooperative. Producers of general crops, such as corn, were assisted through several local meetings to consider improved marketing and storing. Considerable time was spent in assembling and adapting marketing material for use by county agents and growers.

Farm Management

During most of this period more than one-half of the Farm Management Specialist's time was devoted to teaching methods and techniques in Extension. Two scheduled courses were offered during one semester, a problems course during every term, and four scheduled courses in a special three-week summer school.

The Specialist counseled with new leaders in the Farm and Home Development program and assisted in training workers for that program.

Publications on economic outlook were prepared and distributed in the early part of each calendar year and supplemented at later relevant times. Outlook information was also disseminated by the press and radio.

Information on Social Security and income tax was carried to agents and farm people by means of press, radio, and public meetings. A 24-page booklet on Social Security for farmers was compiled and distributed. Personal assistance on this subject was given more than 2,500 families attending meetings conducted by the Specialist in twenty-two counties.

Reports from the county offices give the following estimates of individuals assisted in the field of farm management during the period December 1, 1953 to November 30, 1955:

Personal contacts made	61,775
Outlook information given	23,179
Keeping and analyzing farm records	12,921
Developing over-all farm plans	5,784
Making adjustments in farm organization	5,478
Developing supplemental sources of income	7,850

Obtaining and using credit	4,839
Selecting farms for rental or purchase	2,579
Obtaining, training and using farm labor	864
Legal aspects of the farm business	976
Income tax accounting	3,408
Days devoted to farm management	2,500
4-H Club members enrolled in farm management projects	163

Entomology

Most of the work of the Extension Entomologist has been in cooperation with other specialists and in the 4-H Entomology program.

In 1954, 91 boys and girls from 17 counties participated in the 4-H Entomology project. During 1955, the number increased to 199 in 28 counties. During the past two years, entomology has been taught at the Boys State 4-H Short Course and at several summer camps.

In 1955, the Extension Entomologist cooperated with other specialists in 11 area training meetings for county agents, in citrus, ornamentals, vegetables and field crops. During 1955, he participated in 20 dooryard clinics which included insect identification and control of pests of ornamentals, lawns, citrus and other fruits, etc.

The Extension Entomologist has prepared or cooperated in the preparation of nine printed circulars and about twelve mimeographs on insect control. These have been made available to all counties.

Radio talks, TV programs, radio tapes and newspaper stories have been prepared in cooperation with the Editorial Department.

During 1955, a Roach Control Campaign was carried out in cooperation with a commercial company that supplied us with several visual aids.

In 1954, insect control (including external parasites of livestock) was taught to 143,536 people in counties by agents and assistant agents. During 1955, the number was increased to 170,399.

Agronomy

Extension activities in agronomy during the biennium, as in the past, consisted primarily of assembling, summarizing, interpreting, and bringing to the attention of the county agents, industry groups and others, who work with farm people. This included information on soil and crop management practices that would be of help to farmers in maintaining or improving soil fertility and increasing yields and improving the quality of their field crops and pastures.

Work with County Agents.—Production guides for corn, cotton and peanuts were revised and published as Extension circulars. A 4-H Corn Project Guide for use by 4-H members in carrying out 4-H corn projects was prepared and published. The "Field Crops and Pastures Section" of the Florida County Agent Handbook was thoroughly revised in order to keep subject matter information as current as possible.

Two-day training conferences were held in Sebring in December 1954 and at Gainesville and Quincy in January 1955 at which the latest agronomic research results were presented and discussed. County extension activities were planned at the meetings. Three similar training schools devoted entirely to

discussion of agronomic information were held in DeFuniak Springs, Quincy, and Gainesville in January 1956.

Demonstrations on chemical control of weeds were conducted. Materials were distributed to county agents for use in demonstrations of chemical weed control in peanuts and chemical sucker control of flue-cured tobacco. Outlines for 4-H method demonstrations were revised for compiling into a 4-H Method Handbook by the 4-H Department.

Score cards for training 4-H judging teams were prepared for ear corn, seed oats, corn silage and grass hay, together with information on points to be considered in scoring, and judging cards, including reasons for placement. A judging contest, in which teams from 17 counties judged field crops, beef cattle, dairy cattle, swine and poultry was staged as a part of the 1955 North Florida Fair.

The project leaders assisted with approximately 40 county events each year.

Work with Industry Groups.—The Florida Seedsmen's Association was assisted each year in planning and conducting their annual state-wide short course for seedsmen.

Fertilizer recommendations previously adopted in cooperation with the Florida fertilizer industry were repeatedly brought to the attention of those interested in the fertilization of field crops and pastures.

A program on management of pasture and livestock for fertilizer mixers and dealers was held in September 1955 in cooperation with officers of the Florida Agricultural Research Institute and the Experiment Station Department Heads.

Through cooperation with county Cattlemen's Associations in three groups of counties, the project leader helped plan the program and gave three lectures at each of the three Cattlemen's Schools.

Meetings of dealers in seed, fertilizer and pesticides were held in December of each year for the purpose of better acquainting them with research results and Extension recommendations for production of field crops and pastures.

Distribution of Foundation Seed.—The project leaders solicited applications and distributed through the county agents' offices, Experiment Station-produced foundation seed of Florispan and Dixie Runner peanuts, and Lee and Jackson soybeans. They also assisted new growers in obtaining foundation single-cross seed of Dixie 18 corn.

Summary of Activities and Results.—Crop yields are considered to be good guides to the effectiveness of Extension programs in crop production. Yields for a single year are less reliable than those for a longer period. Comparative yields for major field crops for the last two five-year periods are presented in the following table.

Average Yields of Principal Field Crops Grown in Florida for the Last Two Five-Year Periods.

Crop	Yield Per Acre		% Increase During Last 5-Year Period
	1946-1950	1951-1955	
Corn, bushels	11.7	16.6	42
Cotton, pounds	198	273	38
Peanuts, pounds	696	923	33
Flue-cured tobacco, pounds ...	1,017	1,230	21
Oats, bushels	18.2	27.8	53

Vegetable Production

The production of vegetables continues to be one of the more important agricultural industries of the state. The total acreage planted has continued to increase and during the season of 1954-55 the value of crops marketed reached an all time high. Production and marketing costs have continued to increase.

State Program.—Emphasis has been placed on assembling, evaluating, and disseminating research results of the Florida Agricultural Experiment Station, U. S. D. A., and other public and private research agencies so that they might be effectively utilized. The proper usage of pesticides so as to comply with the Pure Food and Drug requirements has received specific emphasis. Special attention has also been given the timely assembling and dissemination of information on past and prospective planting and prices of major crops in an effort to assist industry to adjust acreages so that plentiful, but not excessive, amounts of specific crops might be produced. Many methods were used in reaching growers with information concerning pesticides, herbicides, soil fumigation, plant nutrition, land management, irrigation, varieties, pre-cooling, grading, and other subjects dealing with the culture and handling of vegetables. More intensive emphasis was placed on the vegetable home garden program for youths and adults.

County Programs.—Requests to agents for assistance with vegetable production and handling problems continue to increase with more than 3,500 individuals requesting assistance. More than 7,000 boys and girls are engaged in 4-H vegetable projects.

A six-phased program was used to service these increased requests. The activities included (1) four training programs for county agents; (2) holding more than 20 meetings annually in key vegetable producing areas; (3) assisting and encouraging the holding of 10 annual field days at the laboratories or stations conducting vegetable research; (4) assisting with short courses for seedsmen and handlers of vegetables held on the University Campus; (5) preparing publications including five production guides, a pesticide manual, 4-H Vegetable Handbook, 4-H Record Book, mimeographed "Vegetarians," a news letter for guidance of county agents, and "Vegegrams," a grower letter prepared for county agent usage; and (6) presenting information through the press, radio, and television.

Vegetable Merchandising

Retail Training Course.—The retail training is available to all Florida produce handlers that desire it. It consists of instruction and demonstrations on the importance of proper care and handling of fresh perishable products for the maintenance of quality and condition. It also includes the skills and techniques found best for conditioning, training, and preparing produce for display. The principle involved in "Building displays that sell," is an important phase. Also covered are instructions in good business procedures for retailing, along with what good management involves.

Individual stores are visited during open operating hours for on-the-spot recommendation and assistance with local problems. Definite improvements in handling and management have resulted from this approach.

Current Market Situations.—Production trends and market conditions are followed daily so that advance notice may be sent out to inform consumers and to create a *retail price* level favorable to the supply situation.

Special Feature Promotions for Peak Production.—During periods of rapid supply increases and F.O.B. price decreases, retail prices usually change very slowly. A bottle-neck at retail is created by relatively non-flexible prices which prevent the operational performance of the law of supply and demand.

Advance information goes out ahead of peak production periods requesting retailers throughout the south to promote the item increasing in supply and sell it as a special feature or a good buy. Consumers are also notified that “good buys” are coming in that commodity.

Such a special feature promotion was scheduled in the spring of 1955 for cabbage. Supplies were increasing; F.O.B. price was decreasing. During the two weeks necessary to conduct a special feature program, cabbage supplies increased 14 percent or 133 cars. F.O.B. price increased 52¢ per fifty-pound bag, for 531,000 bags shipped. The price increase to farmers alone on this volume amounted to about \$276,000—not to mention the fact that markets for the additional movements may not have been available without the special merchandising plan.

On another special feature promotion during April 1954 on Pascal Celery, Florida food stores were asked to feature and promote celery the week of April 12-18, and at the same time consumers were informed that “now is the time to buy”. Below are listed the advertising schedules and purchase changes for celery from some of the Florida retail food organizations:

Number of Stores Per Retail Food Organization	REGULAR STORE ACTIVITY April 5-11	SPECIAL FEATURE AND PROMOTION April 12-18		REGULAR STORE ACTIVITY April 19-25	
	Adver- tised	Adver- tised	% Changes In Purchases from April 5-11*	Adver- tised	% Changes In Purchases from April 5-11
60 Stores and up	Yes	Yes	102	Yes	48
	-----	Yes	47	No	41
	No	Yes	42	No	----
	Yes	Yes	38	Yes	3
	Yes	Yes	25	Yes	0
3 to 30 Stores	Yes	Yes	56	Yes	20
	Yes	No	11	No	-33
	Yes	No	-20	Yes	20
	No	Yes	-22	Yes	-35

* Crate numbers ranged from 40 to 1207½.

Citrus

The University of Florida faces an ever-increasing obligation to growers with their production problems. The citriculturist is responsible for grower education and the dissemination of current information on citrus production.

Citrus Advisory Committee.—The citriculturist heads this group of state staff members and citrus county agents whose responsibility it is to develop and implement an Extension program that will give Florida growers the results of all research and grower-developed practices, translated in lay terms and presented through research or method demonstrations. This committee met on six occasions for a total of 12 days of program planning.

County Agent Training.—Many county agents are not trained horticulturists. To help agents render technical advice and assistance to their growers, the citriculturist constantly trains and aids county agents. He does this in several ways:

1. Establishment of special courses at the University. During the biennium HE-650, "Projects in Citrus Production," (4 projects, 3 semester hours credit per project) was added to the official schedule of courses. Currently 22 agents and assistants are registered in this course.
2. Five annual training meetings were held.
3. Three special or emergency training meetings were conducted, such as the Medfly Training Meeting held in Miami on June 7 and 8.
4. Three hundred ninety two individual contacts were made.

Program Development and Projection for Growers.—Individual contacts, meetings, and mass media were used in the Extension program. To disseminate factual and technical information, we have set up:

1. Citrus Institutes:

We worked closely with county agents, county advisory committees and other local and statewide groups to develop a timely program of special interest to growers. We contacted all speakers, laid out the program, and assisted the local committee in publicizing the institute. Approximately 2,000 growers and industry representatives attended one or more of these six annual institutes.

2. Horticultural Clinics:

We used the clinic principally in connection with dooryard growers. It was necessary to gather many specimens of deficiencies, diseases, and insects which were displayed and explained to the small-scale growers. At the same time growers brought specimens for identification and presented their individual problems. Some 5,000 individuals were contacted and assisted through a series of clinics.

3. Schools:

In view of the great amount of technical background required for the most successful production of citrus, the University through the Citriculturist has innovated citrus schools—teaching, in classroom fashion, the basic fundamentals underlying the science of citrus culture. During the biennium we held 4 such schools with an average attendance of 200 growers per school.

4. Demonstrations and Tours:

Through our county agents we sponsored and conducted the following tours:

- a. 23 growers' tours to State and Federal experimental plots.
- b. 30 county tours (usually within the home county) to observe result demonstrations that growers are conducting.

Assisting Industry Groups.—During the biennium we assisted 30 organized groups, such as the State Horticultural Society, with program development and cooperated in various other ways.

Fairs and Exhibits.—The citriculturist was called on to help plan and in some instances to help build exhibits in 12 county fairs. In addition, he judged 14 horticultural exhibits.

Youth Work.—A guide was written for the National Council of Boy Scouts of America for a merit badge in citrus and assistance was given in merit examinations.

The citriculturist spoke at the state Vocational Agriculture convention program each year. He spoke to local FFA chapters on four occasions.

During 1955 our Advisory Committee developed a 4-H Club citrus program. This was the first time the Extension Service had attempted a youth program in citrus. The objective is to equip boys to go into the industry or to pursue more technical training at the University.

Public Relations.—During the biennium we handled about 25 foreign visitors and made itineraries for two county agents from California who spent two or more weeks touring our industry. Approximately 40 letters were answered weekly, in addition to bulletins and other literature mailed routinely.

Citrus Grove Management

There were 193 completed grove records in 1953-54 and 202 in 1954-55. Operating cost per acre in 1953-54 was eight percent higher than the previous season on groves 10 years of age and older. This cost was \$202.83 in 1954-55, which was 10 percent higher than in 1953-54. The 1953-54 cost was highest of these records up to that time at \$184.00 per acre. The average yield in 1953-54 was 447 boxes. This was 92 boxes or 26 percent more than the second highest season of 1951-52.

Twenty-six magazine articles were prepared and published in a like number of issues of citrus magazines. Six publications and 33 different sheets of data were published. Five forms were issued for expediting the presentation and tabulation of data. A total of 76 different publications and forms were issued, representing 17,265 copies and a total of 156,265 pages of material.

Soil and Water Conservation

On November 1, 1954, an Assistant Soil Conservationist was appointed to serve as project leader in soil and water conservation work.

Organization.—The Director of the Florida Agricultural Extension Service serves as Administrator to the State Soil Conservation Board and is responsible for administering the State Soil Conservation Districts Act. The Extension Soil Conservationist assists with the educational work with districts at the state level. County Extension agents assume a similar responsibility at the county level.

County agricultural agents serve as secretaries to 46 of the 59 soil conservation districts now organized in Florida. Educational work in the districts is carried on by the county Extension agents and in cooperation with many county, state, and federal agencies.

At the beginning of the biennium there were 57 soil conservation districts. On June 30, 1955, there were 59 districts. In practically all cases, district boundaries coincide with county lines. Presently, only five counties in Florida—Monroe, Dade, Collier, Broward, and Palm Beach are not included in districts.

Activities.—County Extension workers spent 1,100 days and attended 1,402 meetings in cooperative work with the Agricultural Stabilization and Conservation Program Committee, Soil Conservation Service, and Soil Conservation Districts. They assisted 22,943 individuals with soil and water conservation management, 6,609 with forestry problems, and 3,017 with wildlife management. Training in soil and water conservation was given to 5,559 4-H Club members. Of this number, 213 members in 27 counties completed projects involving 3,958 acres.

A mimeographed Soil and Water Conservation Record was prepared to be used in carrying out Florida 4-H Club soil and water conservation projects.

Most rural adults and youths and many of the urban people would benefit from information and training in soil and water conservation. To reach the largest number of people the land appreciation school and associated judging contest were provided. The Extension Conservationist attended the 4th National Land Judging Contest held in Oklahoma City in April of 1955 and subsequently adapted the material used there to the extremely variable conditions in Florida. Presently this approach is being used to further the soil and water conservation programs.

Ornamental Horticulture

During the biennium the Ornamental Horticulturists held 248 horticultural clinics and meetings with industry groups, Home Demonstration Clubs, 4-H Clubs and other groups with approximately 11,317 persons attending. The staff also made 433 direct contacts with commercial nurserymen, florists and growers, and home owners to assist them with specific ornamental horticultural problems. They supplied 83 requests for information to county extension offices.

The first and second Annual Chrysanthemum Growers Short Courses were held. Over 100 persons attended each. More than 185 persons attended the First Annual Nurserymen and Growers Short Course. Three 8-week Garden Schools were organized and conducted by the staff and local county offices with some 500 people registered for the courses.

Forty-five bulletins, circulars and mimeographs were released. The staff also produced one movie, and prepared and presented 84 radio talks, tapes, TV shows and news articles.

The favorable reception of the short courses and garden schools has led the staff to formulate plans to expand this phase of the ornamental program.

Agricultural Engineering

Approximately 4,000 rural families in Florida received electricity during the period of this report. This brings the number of electrified farms in the state to 51,000 or about 90 percent of the total.

Farm Electrification.—The program in Farm Electrification was planned to meet the needs of all Florida farmers and other rural people in the field of electrification. Proper wiring and proper lighting have been emphasized.

The specialist prepared Circular 135 entitled "A Good Reading Lamp", and organized good reading lamp contests at Boys' and Girls' 4-H Short Courses.

More than 20 copies of publications in the 4-H electric program were distributed to county Extension workers.

Negro 4-H members were taught at the Wildlife Camp, Negro Short Course, and at county meetings.

With a large number of farms in the state receiving electricity, considerable emphasis has been given to the promotion of economical farm and home electrical uses. Poultry-Electric contests were organized for 4-H Boys and for 4-H Girls. These encouraged the use of electricity in brooding chicks.

Twenty power suppliers donated 284 infra-red brooders and reading lamp kits for use by 4-H members in 50 Florida counties. More than 27,000 chicks have been brooded by 4-H members using the equipment donated.

During the biennium, county Extension workers assisted more than 10,800 people with problems concerning electricity.

Safety.—The 4-H Safety Program was given special emphasis. In cooperation with the Health Education Specialist, a new 4-H safety record book was prepared and distributed. Also 2,000 copies of commercial literature concerning safety were obtained for county Extension workers.

Safety courses were taught at 4-H Boys' Short Course, at electric co-op annual meetings, and at county training meetings. Safety was emphasized by the specialist on two TV programs.

Each week during the summer 500 4-H boys and girls were taught water safety at the five 4-H camps. They also received traffic instruction by a member of the State Highway Patrol. At Wildlife Camp and at two tractor maintenance clinics, 175 agents and 4-H boys received training in safety.

During the biennium more than 28,000 4-H members received training in safety.

Farm Structures.—The Farm Structures Program includes three phases—farm service buildings, farm housing, and the Florida Farm Building Plan Service.

During the biennium 45 plans were developed. Of these, 35 were special plans for particular buildings such as county livestock pavilions, county agricultural office buildings, buildings for the various 4-H Club Camps in the state, etc.

As a part of the Farm Building Plan Service which was conducted in cooperation with the USDA Regional Plans Service Exchange, over 7,000 sheets of dwelling and farm building plans were distributed in response to written requests.

During the period covered by this report over 84,473 farm people were assisted in Florida either by direct contact or other means such as demonstrations, lectures, etc.

Farm Machinery.—Four farm machinery shows were held during the biennium. Two of these were held in North Florida and two in Central Florida.

Various phases of farm machinery were discussed at numerous county agent meetings and at many farmer meetings.

During the biennium a total of more than 21,000 contacts were made with farmers relating to their farm machinery problems, either by direct contact or through meetings.

Irrigation.—During the biennium the specialist made approximately 75 visits into some 25 counties to work with agents and farmers on specific irrigation problems.

Eight irrigation clinics were held and irrigation discussed at ten farmer meetings.

4-H Tractor Program.—The 4-H Tractor Program has progressed rapidly during the biennium. Participation has increased from 16 counties to 40 at the present time.

Four state-wide leader training clinics have been held at which over 200 adult and junior leaders have been trained.

Sixty five county, 20 district, and two state 4-H Tractor Operators' Contests have been held with approximately 850 boys participating in these contests.

Apiculture

The honey crop in Florida in 1954 was 17,612,000 pounds and dropped to 14,756,000 pounds in 1955. The decrease in honey crop was due to cold and drouth. The honey crop was produced by over 200,000 colonies during the past two years.

4-H Club Camp Apiary Activities.—Two additional apiaries of 12 colonies each were established and two apiary buildings were equipped at the New 4-H Camp and at Camp Timpooshee. Several thousand pounds more honey should be produced each year, at the Camps. The buildings provide complete laboratories at key points in the state to teach beekeeping.

The total number of colonies operated by 4-H members as projects in 1955 was 900.

Field Activities in Marketing and Production.—The Apiculturist attends the business meetings of the Florida Honey Cooperative as a member of the Advisory Board. He promoted 24 beekeeping exhibits from 18 counties at State and district fairs. Seventeen marketing meetings were held and 25 district beekeepers association meetings attended. Nineteen newsletters were sent out to 725 beekeepers and agents in 1954 and 1955. The Extension Apiculturist assisted 4,637 beekeepers, honey packers and other individuals with information relative to their problems in the field of beekeeping during 1954-55.

Farm and Home Development

As an educational method employed by the Florida Agricultural Extension Service, the purpose of farm and home development is to teach the principles of management of farm and family resources.

Subject-Matter Specialists from the Agricultural and Home Demonstration staffs were assigned the joint responsibility to act as project leaders for Farm and Home Development. State staff members from both phases of work served on the State Farm and Home Development Advisory Committee.

Because the coordination of the farm home with the farm business was new to many Extension personnel, the major work of project leaders was the preparation of teaching materials and the training of personnel in the farm and home development method. As a result, all counties except three have at least one member of the staff who had some formal in-service training.

Since the initiation of the farm and home development method in November

1954, statistics on cooperating families show that 190 families have participated. Of these families, substantial progress was made by 155 in setting goals; by 146 in inventorying resources; by 155 in analyzing present family operations; by 147 in analyzing present family living situations; by 86 in inventorying farm buildings; by 90 in improving farm machinery and equipment; by improving farm operations with (1) farmstead arrangement, 76; (2) house, 85; (3) equipment and furnishings, 93; and (4) food supply, 124. In 117 families, the children participated in the development of the farm and home plan. In 95 families there were 4-H Club members whose project activities directly supported the family's farm and home plan.

Negro Work

Work with Negro families has been incorporated in this report. Negro County Agents are in 10 counties, and Negro home demonstration agents in 12 counties where Negro populations are heaviest. These agents work on programs designed to be of special benefit to Negroes.

Two Negro district agents are employed, one for men agents and the other for women agents. These district agents have offices at Florida A&M University, Tallahassee. In addition, Negro programs are serviced by the Specialist and Administrative Extension staff at the University of Florida and Florida State University.

In 1955 a total of 6,287 Negro families were assisted by the Negro extension programs and 7,694 Negro boys and girls were enrolled in 4-H club work.

Home Demonstration Work

The State Home Demonstration office developed and guided an integrated educational family and community life program for women and 4-H Club girls. The importance of families working together as units in solving their economic, technical and human relations problems was emphasized.

The state office of home demonstration work functions as both a division of the Agricultural Extension Service, University of Florida, and the Home Demonstration Extension Department of the Florida State University.

The State Home Demonstration Agent, under the guidance of the Director of the Florida Agricultural Extension Service, coordinates and supervises this program, both white and Negro.

Employed in state and the 52 county offices are 105 professional home demonstration workers. Of this total 52 are home demonstration agents, 24 are assistant home demonstration agents, one agent works with the Seminole Indians in the Everglades, 12 are Negro home demonstration agents, 10 work as subject matter specialists, 4 serve as district agents, and one is assistant to the State Home Demonstration Agent in the training program.

Appropriations were granted for five additional home demonstration agents in Okaloosa, DeSoto, Lafayette, and Hamilton Counties and on the Seminole Indian reservation. Six new positions for assistant agents were opened in Dade, Pasco, Hillsborough, Manatee, Jackson, and Leon Counties. There was an increase of \$164,368.74 through county appropriating boards. This included salary increases, clerical assistance and funds for operating expenses.

Personnel Training.—Since its beginning in July, 1954, these are the accom-

plishments in the pre-service and in-service personnel training program: (1) the undergraduate curriculum in home demonstration education was established in the School of Home Economics, Florida State University. Fifteen undergraduates and 2 graduate students completed home demonstration education courses; (2) a coordinated plan for long-time and short-time pre-service training for prospective home demonstration agents was developed; (3) Twenty-one home economists took the pre-service training course before being appointed as home demonstration agents.

The Assistant in the Training Program also helped to coordinate the in-service training program for State and county personnel. In-service training for county home demonstration agents was conducted with the help of Federal Extension Service personnel, State agent, district agents, specialists, 4-H Club agents, and faculty members of Florida State University and the University of Florida.

A total of thirty-four home demonstration agents attended summer schools in Florida, three attended regional Extension summer schools, one attended a special six weeks session on human relations, and two State Staff members completed their work for a Master's degree.

Activities and Accomplishments.—At the end of this biennium 13,185 women were enrolled in 526 white and Negro home demonstrations clubs, and 20,801 girls were enrolled in 792 4-H clubs. These clubs met regularly at least once a month. There were 33,986 girls and women actively participating in a program which the women and girls planned with the counsel of home demonstration agents. Approximately 59,799 individuals not in organized clubs received timely information through mass media, contacts with club members and agents.

The home demonstration program in Florida served urban as well as rural people. Each year during the biennium approximately 52,500 urban families were assisted in making some changes in their homemaking practices. In 1955 there were 4-H Club girls from 20,801 urban homes.

In 1955 leadership development reached a high of 6,737 with 4,303 home demonstration leaders and 2,434 4-H Club leaders. For young men's and women's work 51 leaders volunteered. Training meetings for all leaders totaled 1,988 with an attendance of 53,809. Of this grand total, 33,863 home demonstration leaders received training at 1,009 meetings. Four-H leaders numbering 19,758 attended 958 training meetings. One hundred eighty-eight leaders for young men and women's work attended 21 meetings. These trained leaders held 4,093 meetings which were attended by 71,009 people.

Girls' 4-H Club Work.—At the close of the biennium 20,801 4-H Club girls carried a total of 54,569 projects in which they developed skills in home economics and agriculture. By participating in 4-H Club activities the girls grew in leadership and ability to get along with others.

Thirty-six county councils served as advisory committees to their county home demonstration agents. The State Girls' 4-H Club Council, composed of two representatives from each county council, helped to plan the State Girls' 4-H Short Course, State 4-H Club exhibit and State 4-H Club Day at the Florida State Fair, and served as an advisory committee in planning other State 4-H events.

Each year some 600 4-H Club girls, their leaders, and agents attended the State Girls' 4-H Short Course at Florida State University. The week's program

provides leadership opportunities for the girls.

Four district 4-H camps and two county camps provided camping experiences for 4,631 4-H Club girls.

Two girls were selected to attend the National 4-H Club Camp in Washington each year of the biennium. Trips to the National 4-H Club Congress in Chicago and to the American Youth Foundation Leadership Training Camp at Shelby, Michigan, were awarded to total of 21 4-H Club girls.

Program Projection.—During the fall of 1955, ten counties began program projection analysis in order to institute a better county agricultural Extension program. Program projection involved the collection, organization, and analysis of the many facts affecting the situation in which people live and the development of a program of extension education to help solve priority problems. More than 10 percent of the counties participated. More than two-thirds of the remaining counties have made initial steps in program projection.

Editorial and Visual Aids.—The assistant editor and visual aids specialist worked for effective and efficient communications in reaching both rural and urban homemakers with home-economics information.

Through 12,361 news and feature releases, 1020 news pictures, 2405 radio broadcasts, and 159 television programs the story of Home Demonstration Work has been carried to the public. Home demonstration pictorials reached an all-time total of 36 full and double-page features. The State Home Demonstration office distributed 466,601 bulletins. Six new bulletins and leaflets were prepared and published.

Home demonstration clubs sponsored 221 rural libraries. Five 4-H Club camp libraries served 18,701 readers.

The first State in-service training workshop for home demonstration agents in audio-visual techniques and materials featured individual instruction in operating motion picture and filmstrip projectors, in opaque projection, in filming still and motion pictures, in dry mounting, in tape recording, in planning and designing exhibits, and in evaluating films and filmstrips. Home demonstration and 4-H club members have studied news writing and reporting techniques in 30 county information workshops.

Clothing and Textiles.—The main objective of the clothing and textiles program was to develop standards in clothing that will improve the health, comfort and appearance of each family member, as well as to give poise and satisfaction for better and happier living within the family budget.

In 1955 as a result of an in-service training program on household textiles and home management conducted jointly by the clothing, home improvement, and home marketing specialists, 24 counties had meetings with emphasis on new fabrics, their selection and care.

In 1954 there were 110 leader training meetings for women and 81 for girls. In 1955 there were 120 training meetings for women leaders and 90 for girls in 50 counties reporting. The number of clothing leaders trained in 1954 and 1955 totaled 3,517.

In 1954-1955, 56,173 families received help with clothing problems. Of these families, more than 1,167 homemakers were assisted for the first time. During the biennium, 2,056 white women and 352 negro women have appeared in dress revues before home demonstration groups, civic organizations, and other organizations.

Food Conservation.—Newer developments in the freezing and canning of foods were of first importance in the 1954-55 period. Due to the rising number of home freezers in use in the State, increasing emphasis and training was given on the freezing of foods.

During the biennium, 2,335,789 pints of food were canned and 2,848,138 pounds of food frozen. Home demonstration clubs had 9,023 food preservation demonstrators and 1,269 food preservation chairmen.

The specialist assisted the county home demonstration agents in getting freezing and canning information to the people through in-service training meetings for agents and through assisting agents in training local leaders. Assistance was also given through mass media and through printed material to aid agents in teaching. A total of 4,266 method demonstrations were given by agents and specialist on food conservation.

During the past year a series of demonstrations on freezing of meat, poultry, and fish was begun in cooperation with agricultural specialists. This cooperative work was carried on in four counties with an attendance of 137.

Food and Nutrition.—The food and nutrition program served to improve the food habits of the total population, extending beyond the organized groups through the use of press, radio, television and meetings open to the general public.

Emphasis was on weight control and food for older people. These are real problems because of Florida's large segment of retired and aging population.

During 1954-56, the following activities with families were reported: 44,062 serving improved meals, 36,001 producing food at home, 37,806 using consumer education, 22,248 preparing food for children, 11,541 feeding older folks, and 13,950 controlling weight.

Food Production.—Emphasis on the food production phase of the family food program was placed on producing a variety of foods to meet nutritional needs. Where practical, families were encouraged to supplement the home food supply.

In accordance with this emphasis, reports for 1954 and 1955 show that 34,238 families were assisted by home demonstration agents in planning and producing their home food supply.

Health Education and Recreation.—Major points of emphasis in this program were focused on overcoming the lack of information and the complacency concerning health. Specific areas emphasized were health problems of older people, weight control and mental health. Health education was included in all Extension activities.

Agents reported that 1575 club health programs were held.

Four-H health education work increased with 15,225 4-H Club members receiving definite training in health, first aid, good grooming and personality improvement. Nine thousand and thirty-six had physical examinations. Seven thousand and eighty-eight enrolled in health improvement projects.

Cooperation with health agencies was an important part of the health education program. One of the specialist's responsibilities was to bring the services and facilities of health organizations and agencies to the attention of people.

Recreation was an important part of 4-H rally and achievement days, State 4-H Short Course and 4-H camps. Four area recreation leadership training meetings were held. At two of these meetings 295 white 4-H Club members and

leaders were trained. At the other two meetings, 310 Negro 4-H Club members and leaders received training.

As a means of raising the standards of crafts taught at 4-H camps, the first phase of a five year program for improving camp crafts was begun. Approximately 3000 4-H Club members participated.

Home Improvement.—The home improvement program helped Florida families to have comfortable, convenient, well-managed and beautiful homes; to make use of income, time and abilities to meet the needs and wants of family members; to maintain desirable family relationships; and to take advantage of religious, educational and recreational opportunities.

A majority of the requests for assistance were in the field of housing, house furnishings, family living and human relations.

Extension agents spent 11,323 days in home improvement work, which was 163 more days than reported in the previous biennium. During this period, agents contacted individually or through meetings, a total of 296,979 persons, 68,310 more than were contacted before. Of this group, 187,988 families or individuals were assisted with the adoption of recommended practices in housing, home furnishings, yard beautification, management, and family life. This was 87,473 more than the agents reported in 1953-1954.

Voluntary leaders numbering 6916 were trained in 382 meetings and assisted with county home improvement programs. More than 43,000 home improvement projects were carried by 4-H Club members. This shows increase of approximately 1500 over the previous biennium.

Home Industries and Marketing.—The home industries and marketing program assisted individuals and families with increasing or extending their income by obtaining and using consumer information, by producing and marketing quality products at home, and by more satisfactorily managing their time, energy, money and other resources.

Approximately 9000 persons other than Extension Service personnel were contacted by the specialist. The specialist assisted the agents with training 1,384 leaders. These leaders held 4,484 meetings which were attended by approximately 58,000 adults and 4-H Club girls.

Some of the accomplishments reported by agents in the home industries and marketing program are: 561 families assisted with development of supplemental sources of income, 1,662 families improved quality of products sold, 33,943 families were given consumer information on agricultural products, 9,704 families asked for information on financial planning, 14,986 persons were assisted with practices incident to the production of arts and crafts, 15,973 4-H Club members received definite training in money management. Club members reported selling \$1,501,279.88 worth of home produced products during 1954 and 1955.

Foreign Visitors

The Extension Service assumed the direct responsibility of training foreign visitors in Extension methods.

During the biennium, state and county staff members devoted considerable time to the training of 162 foreign visitors representing 18 countries.

REPORT OF THE DEAN OF THE COLLEGE OF ARCHITECTURE AND ALLIED ARTS

To the President of the University:

Sir: I have the honor to submit the following report for the College of Architecture and Allied Arts covering the biennium ending June 30, 1956.

The College is concerned with one of the most basic and fundamental necessities of mankind. Through the work of the architect, the builder, the planner, and the artist, man gives substance and permanence to his ideas and ideals, and shelter to all his diverse activities.

More particularly, the College of Architecture and Allied Arts is dedicated to the challenging task of *building Florida*. Construction has become Florida's largest production field. With a volume of well over a billion dollars a year, construction in Florida ranks above tourism and above agriculture in the expanding economy of our State. And building, which accounts for some 90 per cent of Florida's construction, is one of the primary interests of the College of Architecture and Allied Arts.

Proud as we have right to be of the departments which comprise the College, and concerned as we must be for their individual welfare, the fact remains that it is the total College with its related programs of teaching, research, and service in the arts, that gives this unit of the University its particular strength and relevance. Here, as nowhere else in the South, a great center of the creative and cultural arts is being developed. And here, as perhaps nowhere else in the Nation, the nucleus of a great school of building arts and sciences is to be found.

In the various fields, 213 degrees have been awarded during the biennium: 199 bachelor's degrees and 14 master's degrees. In February 1955, enrollment in the College reached an all-time high of 2,297 course registrations.

This report outlines the manner in which the units of the College of Architecture and Allied Arts are performing their teaching, research, and service functions, describes some of the problems which the College faces, and suggests some of the prospects for the future.

Department of Architecture

It was pointed out in the last biennial report that the Department of Architecture had developed into one of the largest units in the University, and it was recommended that the work be divided into three departments: Architecture, Building Construction, and Community Planning. This change met with Board of Control approval and became effective July 1, 1955. As presently constituted, the Department offers undergraduate degree programs in Architecture, Interior Design, and Landscape Architecture, and a graduate program in Architecture.

Since its establishment in 1925, the Department has played a leading role in the development of architectural education in this country. It was here that the idea of teaching architecture not as a series of separate and unrelated subjects but as a unified and correlated whole was first put into general practice. It was here, as the AIA Survey Commission has noted, that we first "conducted all the usual professional subjects of the upper three years entirely by means of a series of carefully integrated projects developed under tutorial guidance."

Like all new and challenging ideas, the integrated project approach to professional education has been the subject of controversy, both on and off the campus. But if the validity of an idea can be measured by its influence, there can be little doubt of the success of the pioneering educational efforts at Florida. From this country and from abroad, architects and teachers in ever-increasing numbers are coming to learn at first-hand more about the philosophy and methods which have been under development at Florida for a quarter of a century. And from one end of the country to the other the old idea of compartmented teaching has been gradually giving way to a new and unified approach.

Curricula

As suggested in the last biennial report, the lower division program in science and mathematics has been strengthened, and an augmented counseling program in the lower division has served to guide into other fields many students formerly unable to meet the requirements for admission to the upper division. The Department has maintained its accreditation by the National Architectural Accrediting Board, and the curriculum in Architecture is one of 46 accredited programs in the entire country.

Despite heavy teaching loads, it has been possible to continue a modest program of adult education. In cooperation with the General Extension Division of Florida, two five-day regional short courses for Building Officials have been conducted, and a short course in landscape design for the Florida Federation of Garden Clubs has been inaugurated. A new lecture series for adults, *Housing Your Family*, has been offered in Gainesville during the past semester.

Through the cooperation of various professional groups, our teaching programs have been enriched throughout the biennium by a comprehensive program of lectures by visiting architects, builders, manufacturers, and others.

Faculty

The faculty continues to be active at state, regional, and national levels in the work of professional organizations and, to the extent permitted by heavy teaching schedules, to be active in professional practice. Several members of the faculty are pursuing programs of advanced study, and three have been awarded advanced degrees during the biennium.

The last biennial report drew attention to the critical shortage of teachers and to the low salary scales in effect at Florida. During the past five years in Architecture, Building Construction, and Community Planning we have lost 30 members of the teaching staff: 11 to other institutions and agencies at greatly increased salaries, 11 to professional practice, 5 by leaves of absence, 2 by death, and 1 by retirement. The percentage of the staff lost by years has been as follows: 1951, 32 per cent; 1952, 29 per cent; 1953, 13 per cent; 1954, 7 per cent; and 1955, 34 per cent.

These continuing high losses—15 per cent a year would not be considered excessive—not only produce an unstable situation but also make it virtually impossible to build a faculty of dedicated career teachers. The problem which faces us is not one of being able to hire a new faculty every few years. Rather the problem is one of being able to hold together the members of an important professional group. The problem is not one of adequate salaries for new positions. Rather the problem is one of *major salary adjustments for an entire faculty*.

Among the 41 institutions included in a study of average salaries in schools of architecture during 1955-56, in all but one instructional rank Florida stands

in the lowest quarter. The average salary of professors in architecture at Florida would need to be increased by \$4,800 to bring the average to the top of the range, and by \$1,900 to bring it to the middle of the range. The average salary of associate professors would need to be increased by \$2,900 to bring it to the top of the range, and by \$1,100 to bring it to the middle. The average salary of assistant professors would need to be increased by \$1,200 to bring it to the top of the range, and by \$300 to bring it to the middle. And the average salary of instructors would need to be increased by \$1,200 to bring it to the top of the range, and by \$400 to bring it to the middle.

The fact that Florida graduates with bachelor's degrees and little or no experience are receiving starting salaries higher than teachers with master's degrees and several years of experience is an excellent commentary on the quality of our teaching. But it is an unfortunate commentary on salaries in architecture at Florida.

Students

Enrollment has continued at a high level, and course registrations in Architecture are the second largest in the Nation. Among the students are a group of six from Indonesia studying housing and planning as special students under the auspices of the Housing and Home Finance Agency.

Bachelor's degrees have been earned during the biennium by 93 students: 82 in Architecture, 8 in Interior Design, and 3 in Landscape Architecture. During the same period, master's degrees have been awarded to 4 graduate students in Architecture.

Numerous awards have come to students during the biennium. These include first prize in the American Institute of Decorators national student competition; second prize in the nation-wide Indianapolis Home Show competition; first, second, and third prizes in the American Institute of Decorators state competition; and honorable mention in the Rome Collaborative Competition. The high level of accomplishment of students in the Department is attested by the fact that National Board of Fire Underwriters scholarships have been awarded to two of our students in competition with students throughout the country.

Other notable student accomplishments include the annual Student Home Show, planned and carried out by the Student Chapter of the American Institute of Architects. This exhibition not only continues to win national acclaim as the best of its kind in the country, but also is a means of attracting thousands of visitors to the Florida campus.

A significant study entitled, "Architects for the South," has been completed during the biennium by the Study Commission on Architectural Education of the Southern Regional Education Board. The Commission found that although the architectural profession has grown five-fold in the South since 1900, it is barely keeping pace with increases in urban population, and it lags behind increases in the total value of construction. The Commission recommended the expansion of existing accredited schools of architecture to meet the rising demand for architectural education rather than the establishment of new schools. It further recommended study of the needs and opportunities for graduate education in architecture, architectural research, screening methods for admission, and the role of non-professional training. In this connection, it should be pointed out that we are one of the initial group of schools in the country assisting in the development of aptitude tests in architecture by the Educational Testing

Service.

Space

The Department occupies three makeshift wooden buildings scattered over the campus so that students and faculty must be separated from each other and from working materials in the College library. The division of the Department likewise separates students and faculty from daily contact with teaching exhibitions, hinders the cross fertilization of ideas, and hampers the development of a unified program of instruction.

Department of Art

For almost two decades after its establishment in 1929, the Department of Art was concerned primarily with professional education. But with the growth of the University and the increasing number of women students, emphasis has shifted so that most students now are enrolled in the Department primarily for the cultural opportunities the work affords.

As the result of studies carried on during the past two years, the place of the Department in the organization of the University seems more widely understood than ever before. During the next biennium, it is planned to conduct a study of the existing programs so that strengths and weaknesses may be assessed and plans made for future progress.

The Department now offers undergraduate programs in Painting and Drawing, Commercial Art, Crafts, Costume Design, and History of Art, as well as a graduate program with a major in Painting and Drawing, or in Crafts.

Faculty

During the past five years we have lost 15 members of the teaching staff: 7 to professional practice, 3 by leaves of absence, 2 to other institutions, and 1 each by reasons of maternity, illness, and marriage. The percentage of staff lost by years has been as follows: 1951, 30 per cent; 1952, 10 per cent; 1953, 39 per cent; 1954, 23 per cent; and 1955, 20 per cent. By far the greatest number of losses have occurred in the Commercial Art field where professional competition is keen.

While no studies of salaries in other institutions are available, it seems obvious from the rate of attrition in Commercial Art that our salary scale in this area is entirely too low.

During the biennium, members of the faculty have continued to be active in professional organizations and in professional work. One member served on the panel of judges for the International Art Contest in Tampa sponsored by the Junior Chamber of Commerce, and several have been elected to offices in the Florida Federation of Art, the Florida Craftsman, and the Home Economics Association.

Arthur Osver, the distinguished American painter, served as Visiting Artist during the year 1954-55, following Carl Holty and Fletcher Martin. During the second year of the biennium, the heavy load of campus instruction made it necessary to give up offering college extension classes at the Jacksonville Art Museum.

Professor S. R. Purser, who had served as Department Head since 1951, asked to be relieved of his administrative duties, and Associate Professor A. P. Borgia was appointed Interim Head, effective October 1, 1955.

Students

Enrollment in the Department has continued at a high level. During the biennium, bachelor's degrees have been awarded to 42 students: 28 in Commercial Art, 8 in Costume Design, and 6 in Drawing and Painting. During the same period, master's degrees have been awarded to 9 students.

An exhibition of oils, watercolors, and lithographs by 12 students from the Department was shown in the Forum Gallery in New York during the spring of 1955. The exhibition received very favorable comment, and is an indication of the quality of work being accomplished at Florida. Two students in Art were members of the team of students from the College awarded honorable mention in the Rome Collaborative Competition for 1955.

Each year an exhibition of student work has been shown in the Student Service Center on the campus. An opportunity is thus afforded the University community to see and enjoy representative examples of student work in the various fields. The annual High School Art Exhibition and Conference for 1955 was held in connection with the Student Home Show. Included at that time were an excellent student Art Exhibition, and Art Auction, and a Fashion Show, all of which received favorable national publicity.

Students and faculty participated in a number of field trips for study purposes during the biennium. Most extensive of these was a visit to the Lowe Gallery in Miami, the Four Arts Gallery in Palm Beach, and the Norton Gallery in West Palm Beach.

Space

The Department occupies two crowded wooden buildings on the campus. Students and faculty are far removed from the teaching exhibitions, from the College library, and from the slide collection. The wide separation of faculty and students removes them from stimulating contact with those in related fields, and deprives other departments of the interchange of ideas which is an essential part of any well-rounded educational program.

Department of Building Construction

A degree program in Building Construction was inaugurated at Florida in 1935, and for 20 years was administered as part of the Department of Architecture. The growth of the program and the importance of the work in the expanding economy of the State emphasized the desirability of establishing Building Construction as a department. Such a recommendation was contained in the last biennial report. Upon Board of Control approval, the Department of Building Construction was established as a budgetary unit on July 1, 1955. As presently constituted, the Department offers both undergraduate and graduate degree programs in Building Construction.

Florida set a new record in construction in 1954, and another new record in 1955. The new high of \$1,047,215,000 for 1955 was 23 per cent above the record for 1954. Non-residential construction for 1955 at \$298,158,000 was up 43 per cent from 1954; residential construction at \$543,936,000 was up 16 per cent; and heavy construction at \$205,121,000 was up 27 per cent, according to Dodge Reports. Construction, both in Florida and in the Nation, is our number one production field.

Curriculum

The lower division program in science and mathematics has been strengthened during the biennium, and the augmented counseling program in the lower division is proving of great value. The arrangement and content of the work in the upper division is under revision to keep it abreast of developments in the construction field.

As pointed out in the last biennial report, the construction industry is fast developing a consciousness of itself and of its important role in the national economy. In collegiate education, building construction is a new and emerging field. Through the sound preparation of our graduates, the pioneer work at Florida is coming to be known by such groups as the Associated General Contractors and the National Association of Home Builders.

The teaching program in Building Construction has been enriched during the biennium through a comprehensive lecture program conducted in cooperation with various professional groups.

Faculty

Members of the faculty continue active work with professional groups and in advanced study. During the past year one member of the staff has been on leave with the Building Research Advisory Board of the National Academy of Sciences.

The growth of student enrollment has resulted in the assignment of additional faculty members to the Department. We have been particularly fortunate to secure staff members with training and experience in construction and contracting activities, and these men have contributed effectively to the teaching program. Competition for personnel in the construction industry is particularly keen, and major salary adjustments will need to be achieved if we are to recruit and retain competent individuals for our teaching staff.

Although the last biennial budget made provision for a Professor of Building Construction and Department Head, the amount presently available will need to be increased by approximately 50 percent before we can hope to attract a qualified individual from the building industry or from another institution to fill this important position.

Students

The continuing demand for graduates in Building Construction has been reflected in high student enrollment. At the third- and fourth-year level, course registrations rose from 229 in February 1955 to 391 in February 1956, an increase of some 70 percent. Bachelor's degrees have been awarded to 63 students during the biennium, and among the schools offering programs in this field, student enrollment at Florida is the highest in the country.

Students, faculty and industry representatives have cooperated during the biennium in a series of field trips to construction projects and building material plants to study construction methods and building operations at first hand. Student organizations have been active during the biennium, and the Student Contractors and Builders Association has worked effectively with students from other departments in such undertakings as the annual Student Home Show.

Space

Third- and fourth-year students in Building Construction occupy space in two makeshift wooden buildings. The necessity for assigning space in widely-separated temporary buildings has an adverse effect on the work of the Depart-

ment. To split a professional program in this manner causes serious interference with the integration of the work, and robs students and faculty of the immediate use of working tools in the College library.

Department of Community Planning

The rapid expansion of population in Florida, the change from a rural to an urban economy, and the continuing industrial growth in the area are creating both problems and opportunities. If our communities are to take the steps necessary to guide and to take full advantage of their rapidly expanding economies, a continuing and responsible local planning program is essential.

Although the number of local planning agencies in Florida has increased significantly during the past decade, the number of qualified professional planners available to serve these citizen groups is still pitifully small. It was to meet this critical need for professional planners that the University established a two-year graduate program in this important field in 1953.

Graduate Faculty

The inter-departmental Graduate Faculty in Community Planning consists of 18 members representing 17 teaching departments concerned with various phases of planning. Members of the faculty have been active in the Florida Planning and Zoning Association since its establishment in 1951, and at the present time one member is serving as director of the Association and one as vice president.

A significant study, "Urban Planning Education in the United States," has recently been completed under the auspices of the Alfred Bettman Foundation. This study points up the vital role which universities play in the education of planners, and outlines means by which their work can be increased in effectiveness.

Accomplishments

The first three students in the broadened graduate program were enrolled in September 1954, and the first student to complete the new degree program was graduated in June 1956.

Tangible evidence of interest in the program at the national level came from the American Society of Planning Officials when the chairman was invited to participate in a clinic on planning education and, more recently, when the Alfred Bettman Foundation awarded a fellowship to one of our graduate students.

The first of a series of Cooperative Training Short Courses in Urban Planning was held in Atlanta last year. The series is sponsored jointly by the Southern Regional Education Board, the University of Florida, and the Georgia Institute of Technology. The second course is scheduled at the University of Florida during the 1956 Summer Session.

Needs

The biennial report for 1952-54 recommended and the Southern Regional Education Board has emphasized through its Advisory Panel on City Planning, that the University ought to secure at the earliest possible time a person to devote his entire time and energy to the development of the program of teaching, research, and service in the field of Community Planning. Although Community Planning was established as a budgetary department on July 1, 1955, no funds were made available for such a staff member.

Because no other space is available, graduate students in Community Planning do their major work in a small converted faculty office into which have

been crowded four desks. Few graduate programs at the University suffer under such a severe space handicap.

Bureau of Architectural and Community Research

The purpose of the Bureau of Architectural and Community Research, established under authority of the Board of Control in 1949, is to conduct and coordinate research in those fields which concern the design of shelter and environment for all kinds of human activity. In these areas which affect the lives and pocketbooks of all our citizens so vitally, the rapid expansion of our urban population and the phenomenal development of the State have created both problems and opportunities.

Research Problems

Building has become Florida's largest production field, and its present volume approaches a billion dollars a year. Industries which operate even at much smaller scale can ill afford the extravagance of failing to employ the best research techniques in designing, evaluating, and improving their product. If we are to safeguard and improve the building product in which Florida citizens invest such large sums, an adequate program of research is essential.

This research needs to be of two kinds: *architectural research*, and *building research*. Architectural research deals primarily with problems of function and form in buildings and their surroundings. This is research in which architects, working with others from related basic areas of science and technology, are best qualified to carry out. Building research includes all endeavors for the advancement of the science of building. This is research in which every profession and sector of the building industry needs to collaborate.

Florida communities never before faced with the necessity of planning for orderly growth, and communities that are finding their carefully prepared plans rapidly becoming outdated, need urgently to take a fresh look at their problems. Proper evaluation of these problems through an adequate program of *community research* would enable Florida communities to take the steps necessary to guide and to take full advantage of their rapidly expanding economies.

The last two biennial reports have outlined the important problems which await solution in the area of architectural and community research in Florida. This report reaffirms that outline and points to the increasing urgency of those problems

Accomplishments

Within the limitation of staff, space, and equipment, the Bureau has rendered effective service in our programs of resident teaching. But the demands of Florida citizens and Florida communities for assistance in the fields of architectural and community research far exceed the present limitations of the Bureau.

The relationships with other agencies in the fields of architecture, building, and planning have been deepened and strengthened during the biennium. A case in point is the valuable work accomplished through the Building Officials Association of Florida in assisting building officials in the Southeastern states to a broader understanding of the problems of protecting the health, safety, and welfare of the citizens of their communities.

The Bureau now occupies some 2,000 square feet of temporary space which includes a materials samples room, a model-making studio, and a heliodon

laboratory for teaching and research in solar orientation. Greatly needed at the present time is space for design and technology laboratories where experiments at full size can take place, construction laboratories where new and improved methods of construction can be developed, and research laboratories where important problems in community development can be investigated. For the closely related areas of teaching and research, at least 23,000 square feet of space will need to be provided under the new building program.

Since its establishment in 1949, the work of the Bureau has been carried on entirely by faculty members assigned to other duties. For the coming biennium, it is recommended that funds be made available for a full-time research professor and head, and for a small staff, so that a beginning can be made toward strengthening this important area of activity.

University Center of the Arts

The purpose of the University Center of the Arts, a unit of the College of Architecture and Allied Arts established under authority of the Board of Control in 1949, is to bring to a focus the educational and illustrative exhibitions of contemporary work in the arts which have been an integral part of our teaching and service program since 1925. Such exhibitions play a vital part not only in the education of our students but also in the cultural life of the University.

Many persons would agree with the idea that for the future citizen, the setting in which he lives, and the quality of the common life in which he takes part, determine his mental development at least as much as the knowledge he acquires. The opportunity which students have through the University Center of the Arts to see outstanding work in painting, industrial design, furniture, crafts, community planning, architecture, and the other arts are not unimportant factors in the education of our future citizens and, in fact, in the future development of our State.

Educational Services

The Center brings to the campus exhibitions covering every field of visual design. In addition, it assembles and sponsors local exhibitions, exchanges student exhibitions with other institutions, provides exhibitions for conferences and meetings of professional societies, conducts a comprehensive film program, and operates a growing slide library.

In spite of financial and space limitations almost beyond belief, the Center has continued to sponsor a constant program of circulating exhibitions which has risen during the biennium to perhaps its highest point of service to date. Worthy of particular mention are the following: *Modern Designs in Woven Textiles*, *New American Houses*, *Reunion of Architecture and Engineering*, *Man's Right to Knowledge and the Free Use Thereof*, *Annual AID Awards*, *Fifteen Young Southeastern Painters*, *AIA Honor Awards*, *Painters of Venezuela*, *The Skyscraper*, *The Artist's Poster*, *Drawings by Leonardo da Vinci*, *19th Century American Landscape Drawings*, *A Half Century of Picasso*, and *Florida Architecture by Florida Architects*.

The Center maintains active relationships with a number of museums and other groups in the field of the arts. These include the American Federation of Arts, the American Institute of Architects, The American Institute of Decorators, the Florida Federation of Art, the Museum of Modern Art, the Philadelphia

Museum of Art, the Scalandre Museum, and the Smithsonian Institution.

The slide library of the Center is one of the most comprehensive in the South, numbering over 18,000 slides from every field of the visual arts. It is a source of satisfaction to report that during the last 5 months of the biennium nearly 7,000 slides were circulated.

The program of the University Center of the Arts provides an effective means of cooperation among the arts, just as similar centers throughout this country and abroad provide equally effective opportunities. The time is probably not far distant when it will be desirable for the Center to sponsor an annual *Florida Festival of the Arts* which would bring together architecture, drama, literature, music, and painting in a cultural program of the first magnitude. Such a Festival would enrich the cultural life of the University and render a great service to the State as a whole.

Space

As indicated in an earlier biennial report, the lack of adequate space for teaching exhibitions at Florida has been pointed out by the National Architectural Accrediting Board. When it is realized that less than 8,000 square feet of makeshift space must not only serve several professional programs, but also a multitude of students from other colleges of the University, the magnitude of the deficiency becomes obvious.

It is little less than tragic that because of lack of suitable exhibition space we must deny students, faculty, and our citizens in general the opportunity to see and to study any exhibitions except those of very limited scope. Single circulating exhibitions often require from 300 to 400 running feet of wall space. There is no place on the entire campus where exhibitions of this size can be shown.

Space for the University Center of the Arts ought to be at the very heart of the group of buildings comprising the new physical facilities for the College. The teaching galleries should be readily accessible not only to the general public, but also to students and faculty from *each floor* of the studios and drafting rooms. A total of at least 17,000 square feet of teaching, exhibition and work space needs to be provided.

In close proximity to the teaching galleries should be the library, the nerve center of the College. Tightly packed at the present time into some 2,000 square feet of makeshift space is one of the most productive units of the University. It is a source of gratification to report that the circulation of books and periodicals in our library has risen from 11,000 in 1951 to almost 38,000 in 1955, and that the total circulation of reserve books has increased from 6,000 in 1951 to 26,000 in 1955. The total University holdings of books and bound periodicals in the arts now number 10,300 of which some 7,000 are shelved in the College library. To relieve the present overcrowded situation, a minimum of 5,200 square feet of library space should be provided in the new building.

Problems

The most pressing problems of the College of Architecture and Allied Arts have been outlined in previous biennial reports. They are 1) to provide an organizational framework and staff adequate for present conditions, 2) to make fundamental salary adjustments in keeping with current needs, and 3) to secure physical facilities to replace the temporary makeshifts now in use.

To assist faculty and administrative officers in studying the work of the

various departments and of the College as a whole, the University has invited qualified consultants to come to the campus periodically. In Architecture, the services of the National Architectural Accrediting Board—representing the American Institute of Architects, the National Council of Architectural Registration Boards, and the Association of Collegiate Schools of Architecture—have been extremely useful. In Building Construction, a group of distinguished consultants including John F. Poulton, William H. Scheick, and Walter C. Voss have made a valuable contribution. In Community Planning, the Southern Regional Education Board's Educational Advisory Panel has rendered excellent service. And for the College as a whole, a distinguished group consisting of Edwin S. Burdell, Lester D. Longman, G. Holmes Perkins, and Walter C. Voss has recently completed a comprehensive study.

Organization

The organization of the College of Architecture and Allied Arts has been the subject of much consideration during the biennium. The advantages and disadvantages of various possible groupings of departments within the University have been thoroughly explored, and it is believed that sound conclusions have been reached. During the coming biennium, further refinement of the proposed plan of organization will be developed.

A recurring question has been: "Shall architecture and its related disciplines continue to employ the integrated project method of teaching, or shall they return to the separate subject method?" Each of the groups of consultants which have been concerned with an evaluation of the project method has found its basic philosophy sound. But, as was pointed out 20 years ago in the biennial report for 1934-36, the project method 1) requires a higher type of teaching than does the subject method, 2) requires a group of teachers of *architecture* instead of teachers of *architectural subjects*, and 3) requires a professional type of man. Such men are scarce and, it might be added, expensive.

Staff

Few areas of education are faced with such competition for qualified personnel as are the professional fields. And in none, as the AIA Survey Commission has pointed out, is this situation more severe than in Architecture. In three other fields within the College—Building Construction, Community Planning, and Commercial Art—a similar situation exists.

A major problem which confronts the College at the present time, and one which promises to become even more critical as enrollment continues to rise, is that of obtaining—and holding—an adequate number of properly qualified teachers.

In a number of top-flight schools, a full-time teaching load consists 1) of 15 contact hours of studio work with one section of 15 students, or 2) of 10 contact hours of lecture-laboratory work with two sections of 25 students each, or 3) of 6 contact hours of lecture or seminar with two sections of 25 students each. Our present teaching loads are already far in excess of these amounts. If it becomes necessary to push teaching loads even higher, it would be a good investment to provide additional secretarial and clerical assistance, not for the purpose of grading, but to facilitate the other activities required of all those in academic positions.

Salaries

The situation with respect to salaries in the various areas of the College

has already been discussed in some detail. Suffice it say by way of summary that we ought to reject and replace, once and for all, the sorry subsidy of balancing our College budget by underpaying our faculty.

If properly qualified persons are to be employed to fill positions presently vacant and to replace staff members who resign, salaries from 30 to 50 percent above the amounts presently budgeted would be required in many cases. And if gross inequities are not to be created for members of the present staff, general salary adjustments of from 15 to 40 percent will be necessary.

Facilities

The College now occupies approximately 60,000 square feet of space in five makeshift wooden buildings, widely separated on the campus.

To provide for the number of students now enrolled—without any allowance for future growth—would require 196,000 square feet of building space. A building group of this size would be suitable for a load of 2,200 course registrations with the accompanying work in research and service, and would relieve conditions which qualified observers describe as “so desperately overcrowded as to be almost beyond imagining.”

There is a most pressing need for appropriate and adequate space. Draftsmen, designers, and painting students need rooms with good light, preferably north and east light. A particular need is a large space to be used for teaching purposes where exhibitions of the visual arts can be held. There is no place where the visual arts can be studied, which is a great cultural loss to the future citizens of the State.

The foregoing paragraph is completely as applicable today as it was when it was first written for the biennial report in 1936. What is necessary now is simply to make haste to catch up with an ancient need.

Prospect

Whether the College of Architecture and Allied Arts develops into a great school, whether it remains a good school, or whether it deteriorates into an inferior school, depends upon the support which the State of Florida provides. The College has been building a vital program during the past 30 years, largely on meager funds, in hopelessly inadequate facilities. It has imperatively urgent work to be accomplished. It needs to have the means to strengthen and enrich that work, and to have an adequate physical plant which will enable it to respond to the increased demands being placed on it.

Without the vision, the perseverance, and the dedicated effort of many members of the faculty, and without the help and encouragement of professional groups throughout the State, the broad and substantial foundations of the College of Architecture and Allied Arts could not have been laid. And without the subsidy which has been provided through the years by members of the faculty who have been willing to work at salaries far below the actual worth of their services, the important educational tasks of the College could not have been carried on.

But such methods of operation can not be continued indefinitely, and the time is at hand when they must be changed if the College is to move forward. Likewise, makeshift facilities can not be occupied forever, and the time is at hand when they must be replaced if the College is to conduct a respectable educational program. It is hoped that the next biennium will see us well

started on the way toward a solution of the problems of organization, staff, salaries, and space which have beset the College in the past.

On February 1, 1956, I completed 10 years of service as administrative head of the College of Architecture and Allied Arts. During that period, the work in teaching, research, and service has developed from a relatively small operation to a relatively large one. It has always been my conviction that members of the teaching staff should not serve indefinitely in an administrative capacity, and that conviction has always applied to my own situation.

For that reason, I have requested permission to relinquish my administrative duties and to return to my position as Professor of Architecture effective July 1, 1956.

Respectfully submitted,
William T. Arnett, Dean

REPORT OF THE DEAN COLLEGE OF BUSINESS ADMINISTRATION

To the President of the University

Sir: Herein is the biennial report of the College of Business Administration for the period July 1, 1954 through June 30, 1956.

The most significant event during the two year period unfortunately was the death of Walter J. Matherly on September 25, 1954, shortly after the new building now bearing his name was occupied by the College. Associate Dean Roland B. Eutsler served as Acting Dean until Dr. Donald J. Hart became Matherly's successor in January 1956. During the interim, Dr. Charles N. Millican served as Counselor in the Dean's Office to assist Dr. Eutsler.

Dean Matherly had served the University for twenty-eight years and was the first dean of the College, which he organized in 1926. A memorial ceremony was held on June 3, 1956, at which time there was a formal unveiling of Dean Matherly's portrait. Commemorative addresses were given by Dr. Eutsler and Dr. James E. Chace and remarks were made by Dr. Carter C. Osterbind, President J. Wayne Reitz, and Dean Hart. Dr. Osterbind served as chairman of the special Memorial Committee.

The College of Business Administration continued to make satisfactory progress during the biennium. Enrollment changes are indicated by the following table:

	1952-53	1953-54	1954-55	1955-56
Number of faculty	73	74	73	72
Number of undergraduate upper division students	562*	563*	564**(645)	709***(870)
Number of graduate students	51*	49*	54*	64
Number of undergraduate degrees	243	247	234	268
Number of graduate degrees	14	12	14	10
Aggregate course enrollments including courses in U.C.	9,399	9,372	10,456	11,930

* Figures for years prior to 1955-56 adjusted to conform to same basis of determination as those for 1955-56.

** Does not include an estimated 50 students on programs and an estimated 50 additional students taking upper division courses while still classified in University College.

*** Does not include 75 students on programs (by actual count) and an estimated 86 additional students taking U.D. courses while still classified in University College.

Only minor curricular changes were made during the biennium. In general, present offerings conform with the basic requirements of the American Association of Collegiate Schools of Business, and the general program compares favorably with offerings of other leading collegiate Schools of Business Administration.

During the biennium, 31 faculty members presented a total of 225 addresses, talks and professional papers; 17 faculty members published a total of 19 books and monographs; 36 published 87 articles; 21 participated in a total of 101 short courses, institutes, clinics and training programs at the University of Florida and at various other places; and 26 attended a total of 53 professional meetings. Currently, nine faculty members have ten books in progress. Duplications have been avoided in calculating these figures, which indicate a high degree of professional activity. The only notable deficiency is lack of wider attendance at professional meetings which is a reflection of inadequate budgeted funds for this purpose. Many of those who did attend did so at their own expense.

Present available space in Matherly Hall was adequate for the biennium, but faculty offices were fully utilized, which means that office space is unavailable for the additional staff needed to meet increasing enrollment pressures. It should be noted that a 27% increase in aggregate course enrollments between 1952-53 and 1955-56 was absorbed with an actual reduction in staff. Such continued increases in course enrollments, however, cannot be handled without both additional faculty members as well as offices in which to house them.

I—Department of Accounting

The Accounting Department has made substantial progress during the biennial period being reported.

The faculty of the Accounting Department ranks high in comparison to the faculties of similar institutions. Two new staff members were added who hold Ph.D. degrees making a total of five staff members who hold the Ph.D. degree. Eight staff members are certified public accountants. Two staff members hold LL.B. degrees (one of which was awarded in 1955) in addition to their degrees in accounting.

Four staff members attended the annual meeting of the American Accounting Association in 1955 and two in 1954. One attended the Southern States Accounting Conference and the Florida Institute of Certified Public Accountants semi-annual meetings in 1955. Four attended the Southeastern Section Meeting of the American Accounting Association with one staff member on the program in 1956 and two attended with one staff member on the program in 1955. One staff member presented a paper before the South Florida Chapter of the National Association of Cost Accountants. One staff member has served both years on two national committees of the American Accounting Association.

Funds have been inadequate to permit further participation by outstanding staff members in professional activities of this sort.

An examination of the offerings of the members of the American Association of Collegiate Business Schools shows that the courses offered and the soundness of the curriculum in accounting at the University of Florida ranks high. There has been little change in the curriculum during the past two years. However, course content has been modified in several areas. A new course, Machine Applications, has been added to the curriculum.

Much attention has been given to developing visual aids for use in the classroom. Visual aids are now being used in a number of the courses. It is believed that better teaching is being accomplished as a result of this use, and much classroom time has been saved in the presentation of accounting problems and techniques.

The enrollment in accounting courses has shown a marked increase during the past two years over the 1953-54 enrollment—13.3% in 1954-55 and 38.5% in 1955-56. The increase in enrollment during the 1955-56 academic year was 23.3% over the 1954-55 enrollment.

The first two doctorate degrees with a major in accounting are expected to be awarded in August 1956.

We receive excellent reports of the performance of our graduates in the practice of their profession. Our students have taken Level II examinations of the American Institute Collegiate Testing Program and the average mark of our group has been well above the average set by the participating colleges.

The Fifth and Sixth Graduate Accounting Conferences were held the past two years with record attendance. These conferences are jointly sponsored by the Florida Institute of Certified Public Accountants, Beta Alpha Psi, (the national honorary and professional accounting fraternity), and the Accounting Department of the College of Business Administration.

The Accounting Department has worked closely with the Florida Institute of Certified Public Accountants and the Florida State Board of Accountancy in matters relating to the professional education, training, and certification requirements.

II—Department of Business Organization and Operation

The academic years covered by this report were the seventh and eighth years of the existence of the Department of Business Organization and Operation as a separate department. It should have been a period of accomplishment, based upon the development of younger men brought in earlier and the longer period of working together on the part of the whole group. Actually, it has been a period when the primary job of the department head was to obtain staff to replace men attracted to other more remunerative positions.

During the past two years the department has lost the following regular staff members through resignation:

- One who was appointed in 1948
- One who was appointed in 1949
- Four who were appointed in 1950
- One who was appointed in 1952
- One who was appointed in 1954.

At least five of these were young men around whom plans for the continued

development of the department centered. Replacements have been made; in some cases the replacements give promise of being much more able than those leaving. But it is exceedingly difficult to develop and carry out very successfully long range plans in view of the turnover that has been experienced since 1954. A substantial part of the answer to the problem lies in higher salaries. That this is true may be seen from our experience in the insurance area. Two of our three residence teachers of insurance resigned February 1, 1955. They were receiving salaries of \$6,000 and \$6,200. In November, 1954, the New York Life Insurance Company awarded the department a grant of \$5,000 a year for three years to support insurance education. Our proposal to the insurance company provided for \$3,000 of each year's grant to be used to supplement salaries. Two outstandingly able young men were employed, one at \$8,200 and one at \$7,000, who have enabled us once again to assume leadership in this phase of business education, at least in this part of the country.

While higher salaries are necessary, they are not sufficient to enable this department to achieve its goals. The staff is much too small. A recent study by the office of the Vice President for Academic Affairs revealed that at the present time, on the basis of the existing student load and a very restricted amount of extension work, the department is short more than four full-time staff members. The department has not been permitted to budget for an additional full-time staff member since 1950 when one man was added. This addition has been more than offset by assigning one man full time to correspondence work in insurance and another three-fourths time to extension. Thus the teaching staff actually available for residence instruction is smaller than it was in 1950. With increasing undergraduate enrollments the staff has been absorbed to entirely too great a degree with undergraduate instruction to the necessary neglect of graduate instruction, research and other services. In short, the State would find that funds spent for higher salaries and additional staff for this department would yield increasing returns.

The department has been constantly strapped for expense money. This is particularly true with respect to funds for travel. Much travel has been necessary in connection with the recruitment of new staff members. This has left a completely inadequate amount to provide travel for staff members to meetings of their learned societies and of various business groups. It seems that representation at both of these types of meetings is essential if this department is to do the job expected of it.

The department thus has had and continues to have its problems but there have been accomplishments as well. Several exceedingly able men have been hired. There are others who show promise of becoming completely acceptable permanent staff members. Those who do not are being terminated as quickly as University procedures permit. Staff members have participated in programs of both national and regional learned societies. The department head served as president of the Southern Economic Association during 1954 and one member of the staff was appointed to the Board of Editors of the *Southern Economic Journal*. Another staff member is serving as book editor of the *Journal of the American Association of University Teachers of Insurance*. Two books, of which staff members were either sole or joint authors, were published and a third will be published in August of 1956. There is at least one other book that is under contract and should appear in early 1957. Several articles by staff members have been published in both learned and professional journals.

Other activities of members of the staff of this department include:

Inauguration of an annual clinic for sales executives;

Participation in many short courses arranged through the General Extension Division;

Serving as chairman of the Operating Committee of the Annual Business Conference;

Writing seven of the twenty-four issues of *Economic Leaflets* during the biennium.

Additional scholarship aid for undergraduates was obtained. The Educational Foundation of the Florida Bankers Association awarded eight \$250 scholarships for the first time in 1955-56. Two scholarships of \$300 each were provided by the New York Life Insurance Grant. These are in addition to similar scholarships furnished by Gulf Life Insurance Company and Peninsula Life Insurance Company. Various club manager groups have continued liberal scholarship aid for majors in this area.

III—Department of Economics

During the biennium ending June 30, 1956 total registrations in the Department of Economics have shown a substantial increase as follows:

	Summer	Fall	Spring	Total
1954-55	388	1788	1836	4012
1955-56	416	1980	1905	4301

During this same period the staff complement has remained at 24 members. As a result, the average size of classes has increased markedly, in some cases well above the optimum size.

There have been several changes in the staff during the past two years. Professor H. B. Dolbear retired after 28 years service in this department. Dr. O. E. Heskin was granted a leave of absence in September, 1955 to serve again with the U. S. State Department. These positions were filled on a temporary basis in 1955-56.

In September, 1954 Dr. M. J. Roberts resigned to accept a position at the University of California, at Los Angeles, but returned to our staff in February, 1955. One assistant professor and two instructors resigned during the biennium to accept more attractive positions elsewhere. One new instructor, an assistant professor, and an associate professor were appointed to the staff during the period. One instructor and two assistant professors were promoted to the next higher rank.

All junior staff members in the rank of assistant professor and instructor, who have not completed their doctorate, as well as all graduate assistants in the department were actively working on advanced degrees at the University of Florida or at other institutions. Two instructors received their Ph.D. degrees during this period.

During the biennium several members of the staff availed themselves of opportunities for summer fellowships with business firms including Alcoa Steamship Company, Swift & Company, National Biscuit Company, and Florida Power Corporation. One other professor attended the Case Institute Economics-in-Action Program in 1955.

The staff has been encouraged to attend and participate in the meetings of

both the Southern and American Economic Associations. In spite of limited travel funds many have done so either partially or entirely at their own expense.

	1954-55	1955-56
Number attending national association meetings.....	5	8
Number participating in program.....	1	1
Number attending regional association meetings.....	8	9
Number participating in program.....	1	3

Increasing emphasis has been placed upon creative scholarship. Much of the resulting material has been published in professional journals and bulletins, but special mention should be made of the following books:

Ralph H. Blodgett, *Our Expanding Economy*

Ralph H. Blodgett & Donald L. Kemmerer, *Comparative Economic Development*

Edgar S. Dunn, Jr., *The Location of Agricultural Production*

Elmo L. Jackson, *The Pricing of Cigarette Tobaccos*

During the past year a review of the undergraduate offerings in the various areas was undertaken, with a view of filling in gaps and eliminating duplications. No formal conclusions were reached pending possible college-wide changes that may be planned.

A seminar program for faculty and graduate students was started in the spring of 1955 and expanded during 1955-56 to take advantage of the presence of visiting scholars on our campus. We hope to further develop this phase of our graduate program, if some travel funds are available to bring in outstanding seminar leaders.

It will continue to be the policy of this department to foster and promote scholarly attainments by members of our staff. As staff vacancies occur as a result of retirements or resignations, we are endeavoring to bring in younger men who have already shown promise through their teaching and writing that they will become outstanding in their own special fields. Two new appointments have already been approved for 1956-57 staff in line with this policy, and we are still looking for a man for a position in statistics. Present salary ranges impose severe restrictions upon our range of choice in specialized fields.

IV—Department of Real Estate

Leadership in real estate education at the college level is being maintained by the Department of Real Estate. Members of the state and national associations of realtors have had their attention called to the outstanding program of undergraduate and graduate classes in real estate which are being offered each semester by the Real Estate Department of the University of Florida.

In addition to offering nine undergraduate courses in real estate, five graduate courses in real estate are offered during each academic year.

The staff is composed of three professors, one assistant professor, and one interim instructor. Assistant Professor Robert W. Travis has submitted his doctoral dissertation, and will receive his doctoral degree from the University of Indiana at their next convocation. The interim instructor leaves us on June 30 to accept a higher paid position as an appraiser for the Central and Southern Florida Flood Control District.

Enrollment in real estate classes increased during the biennium. There was

an increase in registration for lower division real estate courses. The head professor devotes one-fourth of his time to administrative duties and Dr. Dehner devotes one-fourth time to counseling duties in the University College.

Enrollments
Real Estate Department

	Fall	Spring	Summer
1955-56	329	424	109
1954-55	304	309	134
1953-54	292	302	85
1952-53	285	342	70

The department head was invited to address the two annual conventions of the Florida Association of Realtors. He has served on several committees and boards of state and national professional organizations, and has been a consultant to the Education Committee of the National Association of Real Estate Boards. He also served as Chairman of the University Committee on Public Functions and Lectures.

Professor Alfred A. Ring has rendered exceptional professional service. In the summer of 1954, he became co-author of a leading textbook which is currently used by over eighty colleges and universities. Also, in 1955, he published a workbook, an article in THE REVIEW of the Society of Residential Appraisers, and contributed a chapter in "Selected Readings in Real Estate Appraisals" published by the American Institute of Real Estate Appraisers. In addition, Dr. Ring has served as appraiser for the University of Florida, and is active in several local and national professional groups.

The Department of Real Estate has co-sponsored two courses offered by the American Institute of Real Estate Appraisers. In the summer of 1955, Appraisal I was offered with Dr. Ring serving as Chairman of the Course. In June of 1954, Farm Appraisal II was offered under the direction of the same Chairman. In July 1956, Urban Appraisal II is being offered.

Other faculty members in the Real Estate Department also are active in professional associations, and two have contributed chapters to the Brumbaugh report.

Dr. Albert H. Dehner, formerly professor of real estate at the University of Tennessee, joined the staff in September 1954. Since that time, he has addressed a number of professional meetings, and has conducted several short courses.

The Florida Association of Realtors keeps contact with the students by inviting them to their conventions and providing funds to bring them to the conventions. Individual realtors and various boards of realtors donate real estate scholarships. All graduating students in this department have been placed in real estate offices with the exception of those who went into the military service or decided to enter some other occupation. Students have been stimulated to do a better quality of work by coming into contact with realtors at conventions and at social occasions of the Real Estate Club.

Research has been limited by reason of course enrollment pressures. If another member can be added to the staff, it is our intention to do some research in the field of urban land economics. There has been a need for research growing out of the instability of the investment demand and its effect on the problems

of local, state, and federal governments in relationship to housing and the administration of community development. One of the most important areas is that of industrial properties.

Another area for research is that of the determination of market conditions at a moment of time. There is a need to develop devices and criteria for judging the level and trend of real estate prices.

The Real Estate Department needs one additional staff member in order that it may do a reasonable amount of research work and offer general extension courses to meet demands which have been made. Short courses in real estate which are designed to prepare individuals to enter the real estate business or else to train those who have just entered the business are requested through the General Extension Division.

The Department of Real Estate needs a larger appropriation for travel to meetings and conventions. In order to keep in front we should be in personal touch with realtors from Florida and from all other parts of the United States.

We plan to review the organization and content of our courses on the graduate and undergraduate levels. In order to meet a definite demand we plan to offer short courses through the General Extension Division. We plan to assign part of the time of the new staff member to continuing research of a kind which will be useful to those engaging in real estate development, finance, appraising, and brokerage. Staff members will be encouraged to do individual research and write articles for publication in professional journals.

V—Bureau of Economic and Business Research

The *Economic Leaflets* are mailed twelve months in the year to nearly 3,100 persons and institutions. The local, as well as the national, interest in the Leaflets is shown by the fact that for the 24 issues of the biennium, 825 individual requests were received and met for 3,661 copies in addition to the regular mailing list. In addition, special bulk requests were filled for certain issues exceeding 1,500 copies. For the biennium the average number of copies printed per issue was 3,400.

Research programs completed and published include:

Commercial Fisheries

1952 County Income Estimates

Belle Glade Data Book

Other research partially or fully completed:

Brunbaugh Report—In the fall of 1954 the Director of Studies for the Council on Higher Education requested the assistance of the University in preparing a report dealing with the present economy of Florida and a projection of economic activity in Florida to the year 1970. It was arranged that Professor Wylie Kilpatrick should act as coordinator for this study and the Bureau staff was obliged to assume the burden of a large part of this work in addition to the full time of Professor Kilpatrick from that point until his leave of absence in May 1955. Upon his return November 15, 1955, Professor Kilpatrick was obliged to give several months of further work to this undertaking which again engrossed a large part of the Bureau staff. Together with Professor Henry Hamilton, the Bureau Director was requested to act with Professor Kilpatrick in a review of the entire manuscript. Although this review has been completed, this manuscript has yet to be completely revised. When this revision is finished, it is anticipated

that the product may be published by the University of Florida Press.

Development Credit Corporations—In February 1955 the Bureau Director was requested by Governor Collins to prepare a report for his use and his advisory committee's use dealing with development credit corporations. This involved bringing together a considerable amount of published material as well as rather extended correspondence with the managers of the corporations in existence. This report was submitted to Governor Collins and his committee in March 1955 and was used in the formulation of legislation authorizing the creation of such corporations.

Cooperative Research with the Industrial and Engineering Experiment Stations—In the summer and early fall of 1954 the Bureau developed with Dean Weil, as Director of the Industrial and Engineering Experiment Stations, an agreement for cooperative undertakings. "Cooperative" here means that the Experiment Station furnished part of the money and we furnished the personnel and direction. The results to date of these efforts have been three undertakings; two of which have been completed and the third is close to completion. The first was a report on the practicability of establishing an aluminum ingot plant in Florida. This work was carried out by Professor Lee Melton and was completed and delivered to Dean Weil in September, 1955. A study dealing with the financial experience of new manufacturing plants in Florida, 1946-55 was started October, 1954 with Professor Muehlner heading this project. Subsequently, Professor Richardson joined this work, which involved extensive field work and some 175 interviews throughout the state. The third joint project dealt with the economic feasibility of manufacturing lightweight aggregate in Florida. This project was begun in April, 1955 by Professor Roberts and Mr. Charles Gersna, with Professor Osterbind's subsequent advice and guidance. It is expected that the report of this study will be ready for publication in the summer of 1956.

Florida Power Corporation—At the request of the Florida Power Corporation, the Bureau undertook to have two graduate students prepare reports on the practicability of establishing some form of wool industry and some form of glass industry in Florida. The cost limitation precluded completing the glass report. These reports were forwarded to the Florida Power Corporation in early 1956.

New Census Data—During the winter and spring of 1956 the 1955 censuses of retail, wholesale, and service trades were published and the Bureau at once began the analysis of the Florida data. Our preliminary reports of these studies for retail and wholesale trade have been published in the March and May, 1956 issues of the Economic Leaflets and the service trades analysis and report is scheduled for publication in the issues of either June or July. The Census of Manufactures when issued will be dealt with similarly.

Industrial Location Bulletin—In June, 1949 the Bureau published Special Bulletin No. 1 entitled "Industrial Location in Florida—a Guide to Economic Features and to Informational Services." This publication had a sale of over 2,000.

Research work in progress and continuing programs:

1954 County Income Estimates—The complex series of estimates by counties has been completed for 1954 and the earlier county estimates for 1950 and 1952 are being revised to conform to the personal income basis. A report is scheduled

for publication in 1956 which will show the 1954 estimates in detail and the 1950 and 1952 estimates in summary form.

Intercensal Estimates of Population of Florida Counties—In July, 1955 the estimates as of July 1, 1954 were prepared by Professor John Webb and released to the press and copies sent to all chambers of commerce in Florida. Subsequently, similar estimates were made as of July 1, 1955 and were completed in November, 1955.

Construction Permit Activity—In January, 1955 the Bureau entered into a formal agreement with the Bureau of Labor Statistics to cooperate in the better reporting and analysis of construction permit activity in Florida. Reports are now being received from 167 Florida permit issuing agencies. These reports are edited and processed by IBM equipment in the Central Statistical Laboratory and copies sent to the Bureau of Labor Statistics. The Bureau also prepares monthly a summary statement which is sent to every permit issuing office as well as to a number of other agencies and individuals who have requested this information. In the period 1956-57 the Bureau plans to put additional resources into this work and develop it extensively.

Migrant Retired Project—Several years ago, the Bureau developed with the University of Chicago, a joint project to study the migrant retired. With the cooperation of two professors in the Department of Sociology, this proposal has been refined, and has been in the hands of the Ford Foundation for consideration of financial support. To date, no decision has been reached by the Foundation.

Mining of State Administrative Data—Much valuable information is collected by State administrative agencies which is either not published or otherwise made available, or when made available, is not analyzed and arranged in a way to make it useful for economic understanding. The Bureau has made continuing explorations and efforts to gain access to this data with the intention of giving it relatively simple analysis and interpretation so as quickly to make it available to all who might find it useful. Attention has been directed especially to tax collection data of the Comptroller's office, a considerable range of data accumulated by the State Road Department, including drivers license and automobile registration data, financial reports of cities through the Comptroller, and such enrollment figures. Certain sales tax data recently has been obtained from the Comptroller's office, and the Bureau is currently utilizing this data to relate it to census data with the hope of establishing estimates of retail sales by county and by month for the year 1954.

General Service Activity—Extensive Bureau staff time is given at frequent intervals to advising with and informing individuals and firms seeking economic advice, guidance, and information.

During a six-months leave of absence (May-November, 1955) Dr. Wylie Kilpatrick served as Consultant to the Northern Virginia Regional Planning Commission carrying out research work in local government finance. In March, 1956 appointed Executive Secretary of the Florida Citizens' Tax Council. This body was authorized by the 1955 Florida legislature to survey state and local tax problems on which reports will be submitted to the 1957 legislature. Leave of absence June 1, 1956 to June 30, 1957.

Dr. Carter C. Osterbind, in addition to research assignments, has been teaching one to two courses per semester in the marketing field, and has served on graduate supervisory committees. In addition, he has served on six college committees.

Dr. Felix Muehlner has taught one course per year in foreign trade. Miss Elise C. Jones is faculty advisor to Phi Chi Theta, a national commerce fraternity for women.

Dr. George B. Hurff is a member of the Governor's Council on Industrial Development, and chairman of a committee on Priorities and Informational Gaps, Florida Council on Research.

VI—Progress of the Graduate Program

No changes were made in the graduate program in the College of Business Administration during the biennium, pending the selection of a new dean of the College. Acting Dean Eutsler administered the graduate program, working closely with the Committee on Graduate Offerings and Degrees. It is contemplated that a Director of Graduate Studies will be appointed during the next biennium to make possible a thorough-going reexamination of graduate offerings and requirements in the various degree programs.

The number of graduate courses remained unchanged, with a total of sixty-nine offered. The number of graduate students remained fairly constant from 1952-53 to 1954-55, but took a sudden upturn in 1955-56. In 1954-55, there were three M.A.'s granted, nine M.B.A.'s, and two Ph.D's. In 1955-56, four M.A.'s were granted, five M.B.A.'s, and one Ph.D.

The vital goal in the graduate area is to strengthen the M.B.A. program and make it more consistent with nationwide expectations and standards for this type of degree. Considerable time and effort will be expended in this direction during the next biennium.

VII—Counseling and Guidance of Students

Acting Dean Roland B. Eutsler carried forward his program to further strengthen our system of counseling and guidance, including the continued assignment of counselors from this College to work with students in the University College, preparatory to their admission to the College of Business Administration. Dr. Charles Millican has been a key figure in making our counseling program more effective, and he has been assisted especially by Dr. Lee Melton and Dr. Albert Dehner, who have been working with the University College students.

Admission standards have been tightened, reversing the prior procedure of admitting students to the College of Business Administration on probation with grade point deficiencies. The effect has been a noticeable improvement in student attitudes.

A conscious and continuing effort has been made to improve the quality of student classroom work. Considerable effectiveness has been achieved through the cooperation of various student organizations which include: Alpha Kappa Psi, Beta Alpha Psi, Beta Gamma Sigma, Delta Sigma Pi, Finance Association, Insurance Society, Marketing Society, Propellor Club, Real Estate Club, Sales Club, Society for Advancement of Management, Phi Chi Theta, Student Club Managers Association, and the Business Administration Student Organizations Council.

VIII—Placement Service

Following successful direction under L. A. Gaitanis for several years, the

Placement Service has been headed by Clifton Oliver, Jr. since September 1955. In 1955-56, campus interviews were arranged for representatives of ninety companies with an additional thirty employers contacting us for placement assistance. There were 228 registrations for assistance in finding suitable positions, thirty of these being students outside the College of Business Administration and sixty-six being Business Administration alumni. Many of the latter were returning veterans. About 300 students had placement counseling interviews with the director, these interviews ranging from ten minutes to four hours in length. A total of 128 graduates were placed in positions in 1955-56. A total of 396 job notices were posted, many of these involving several positions.

Individual correspondence with prospective employers totalled 570 pieces.

Starting salaries in 1955-56 ranged from \$165 to \$600 per month with the average being approximately \$360. This compares with an average of \$335 the preceding year and with \$295 in 1953-54. Demand continued to be especially high in Accounting, Insurance, and Sales.

IX—Annual Business Conference

During the last biennium, the Seventh and Eighth Annual Business Conferences were jointly sponsored by the College of Business Administration and the General Extension Division. The Seventh Annual Conference was held April 21-22, 1955 in Jacksonville, with the Jacksonville Chamber of Commerce and the Florida State Chamber of Commerce cooperating. This was the first time the Conference was taken off campus, and the result attendance-wise was encouraging. The theme of the Conference was "Planning Your Profits" and speakers were James C. Downs, Jr., President, Real Estate Research Corporation (Chicago) and senior partner of Downs, Mohl and Company; William Burston, Manager Merchandising Division, National Retail Dry Goods Association (New York); Millard Caldwell, Member, Caldwell, Parker, Wigginton & Miller (Tallahassee), former Governor of the State of Florida and former Congressman; and Arce Patton, Management Consultant for McKinsey & Company (New York), and Vice-President and Sales Executive of Wilbur Suchard Chocolate Company of Pennsylvania.

The Eighth Annual Business Conference was held April 19-20, 1956, at Redington Beach, St. Petersburg. This drew the largest attendance of any Conference to date, an experience which reinforced the feeling of the Conference's Steering Committee that the Conference should be moved about the state. Co-operating in the promotion of the Conference were the Florida State Chamber of Commerce and the Chambers of Commerce of St. Petersburg, Tampa, Bartow, Lakeland, and Clearwater. The general theme was "Planning Florida's Growth," with the following speakers participating: Frank Pace, Jr., Executive Vice-President and Director, General Dynamics Corporation (New York), and Vice-Chairman of the Board of Canadair, Ltd., also former Director of the Bureau of the Budget and former Secretary of the Army; John M. Fox, President, Minute Maid Corporation (New York); Roger Allen, head of the architectural firm of Roger Allen and Associates (Grand Rapids, Michigan); Robert H. Montgomery, Small Business Administration (Washington, D. C.); Elmo Hall, Executive Vice-President, Union Bank and Trust Company (St. Petersburg); A. L. Ellis, President, First National Bank (Tarpon Springs); Oliver Whipple, Vice-President, Gulf Life Insurance Company (Jacksonville); John Dabney, Florida Development

Commission (Tallahassee); and Alan Ewing, Investment Banker (Jacksonville).

The Steering Committee had become so large that it lost its effectiveness in planning the Conference. Accordingly, this Committee suggested an organizational revitalization. This was accomplished by dissolving the Steering Committee and establishing a new Advisory Committee of about seventeen members who would serve for only one year. The new committee met in the spring of 1956 to lay basic plans for the Ninth Annual Business Conference which will be held in Pensacola in 1957.

X—Extension Activities

The College of Business Administration has cooperated with the General Extension Division in holding a number of short courses and seminars in Gainesville and in several other Florida cities. Together, we have had to turn down a sizeable number of other possible short courses and institutes because of the lack of available staff. The College badly needs sufficient staff to provide enough flexibility to meet the demands throughout the state for extension programs we are currently unable to handle. Hundreds of Florida employees are being sent by their firms to attend extension-type short courses in various other parts of the nation (some going as far as Indiana, Illinois, Texas and California) simply because our own faculty has been so completely tied down by increasing campus enrollments that we could not meet the needs for adult education and training. Experience in other states has demonstrated that programs of this sort quickly become self-sustaining financially, and thus do not impose additional burdens upon the taxpayers. Development of plans for a management center, to be coordinated with the General Extension Division, will be forthcoming for the next biennium, with a view to making it possible to serve the business people of Florida more effectively along these lines.

COLLEGE OF EDUCATION BIENNIAL REPORT 1954-56

The College of Education of the University of Florida recognizes the following objectives: (1) the selection and preparation of teachers for the schools of the state, (2) the preparation of instructional materials, (3) the preparation of college teachers, (4) the preparation of educational leaders, (5) supplying field services, such as consultants, program leaders, and educational surveys, and (6) the conduct of research on educational problems.

Teacher Supply and Demand. Florida continues to face an acute shortage of teachers. The number of young people who are entering teacher education has not kept pace with the rapid growth of the school population. To illustrate, the number of white teachers employed in Florida in 1950-51 was 18,885 and the number employed in 1955-56 was 27,920, an increase of slightly more than 50 per cent in this five year period. The State Department of Education estimates that about 5,000 new teachers are needed annually to supply replacements and provide for enrollment increases. The number of white teachers prepared by all of the institutions in the state in 1951-52 was 1,344. The estimated number prepared in 1955-56 was 1,198. This number represents an increase over the previous year when only 988 teachers were prepared. The University of Florida has consistently supplied about one-fourth of the teachers

prepared in the institutions of the state. It can be easily seen that something must be done if we are to staff the public schools with qualified teachers.

While we are beginning to feel the effects of the recruitment program which has been under way for the past three years there is no hope that the present program will supply the teachers needed. Florida must find a way to tap every possible source of teacher supply if it is to staff its schools with qualified personnel.

Table I indicates that the number of bachelors degrees granted in the College of Education increased 40 per cent in 1955-56 over 1954-55. If we combine the figures for this biennium and compare them with those of the preceding biennium we find that in 1952-54 408 prospective teachers were graduated from the College of Education and 458 were graduated in the years 1954-56.

The number of masters degrees awarded during the current biennium is 431. This is slightly fewer than the 466 awarded in the preceding biennium. However, the work at the advanced degree level shows an increase, six students were awarded the Specialist in Education degree, a new six-year degree offered by the College, and forty-six were awarded the Doctor of Education degree. This compares favorably with the thirty Doctor of Education degrees awarded in the preceding biennium. These figures reflect the fact that the College of Education is continuing to be one of the large graduate schools of education in the South.

TABLE I
DEGREES AND CERTIFICATES AWARDED

	1954-55	1955-56
Bachelors	191	267
Masters	204	227
Specialist		6
Doctors	21	25
*Post Graduate Certificate	2	
**Advanced Post Graduate Certificate	50	3
Totals	468	528

* Thirty-six semester hours of graduate work.

** Masters degree plus thirty-six semester hours of graduate work.

Staff. The one factor that has the greatest influence on the instructional program of any college is the quality of staff employed. The staff in the College of Education is making a continuous effort to improve its qualifications. This is reflected in the fact that in 1950 twenty-seven members of the staff held doctors degrees and in 1956 fifty members, 76 per cent, hold doctors degrees. Only sixteen regular staff members do not have a doctorate and nine of these have completed most of the requirements for the degree.

The College places a great deal of emphasis on in-service growth of staff members. It believes that this can best be achieved through a cooperative attack on pressing educational problems. This is accomplished in several ways.

The Pre-School Planning Conference which is held one week prior to registration in the fall, provides an excellent opportunity for the staff to give con-

sidered time to the study of the instructional problems of the College. This conference is followed by the activities of the major committees charged with developing and improving the instructional program. These committees meet at regular intervals throughout the year.

For the past eight years the College has enjoyed the fact that it has been able to attract and hold staff of high quality. The turnover has been small. However, during the year 1955-56 six staff members resigned to accept positions involving higher salaries. Some of these salaries were as much as \$3,000 more than was being paid by the University. Unless the salary situation is improved greatly the College will continue to experience difficulty in holding its able staff members. In the foreseeable future the demand for a strong staff will be exceedingly great. The University of Florida and the College of Education has developed a national reputation for having an outstanding school and we are beginning to find that other institutions are turning to our school for staff members. While the turnover of six staff members, or approximately eleven per cent, does not seem large, it represents the beginning of a trend which could increase very rapidly unless something is done to overcome this handicap.

The turnover of staff in the P. K. Yonge School continues to be great. However, it has improved some during the last year. It is difficult to secure strong and able teachers for a laboratory school unless the salary schedule is considerably above that of the public schools. Teaching in a laboratory school is much more difficult than in the public schools; consequently, finding suitable qualified staff continues to be a problem.

Organization. During the school year 1954-55 the College faculty spent the entire year studying its organizational procedures and attempting to find ways and means of improving them. In the spring of 1955 the faculty adopted a new organization designed to make it possible for each staff member to participate in those phases of the program in which he has an interest. And, at the same time, attempting to streamline the organization so that the number of committees and special meetings would be considerably reduced. As a result of this study the new organization adopted by the faculty calls for five permanent committees: a Committee on Undergraduate Programs and a Committee on Graduate Programs. These committees are open committees and each member of the faculty interested in the work of these committees participates. This is a new experiment in organizational procedure and it seems to be working well thus far. The other committees are: the P. K. Yonge School Committee, which is designed to draw the P. K. Yonge School and the College faculties into a closer working relationship; the Committee on Research, Publications and Field Services, which has general supervision of all work in this area, and the College Development Committee, which is a small committee elected by the faculty and charged with the responsibility of overall college development. Its chief task is one of planning and looking far ahead as we envision our educational program. The work of these committees and the general work of the College is carried on with the cooperation of two assistant deans. Each of these staff members teaches half-time and devotes half-time to administrative responsibilities. One assistant dean is in charge of instruction and curriculum and the other in charge of administering the programs as they deal with students. They work together very closely and this makes an excellent division of responsibilities. It also provides some college-wide coordination in

program planning and curriculum development which had not been possible heretofore.

Instructional Program. During the biennium the College staff has devoted considerable time to an analysis and evaluation of the undergraduate program for the preparation of teachers. One entire year was given to a careful look at the content and experiences that were provided in the undergraduate program. The second year was devoted to reorganizing the program and re-arranging the sequence. The new program which has been approved by the College faculty makes it possible for students who are registered in other colleges who wish to become secondary teachers to participate in a core program of twenty-four semester hours. These students must meet the admission requirements established by the College of Education for entering the teaching profession. Moreover, they will have the benefits of the College facilities for placement and counseling services. Thus, prospective teachers who graduate from other colleges become the joint responsibility of the college from which they are graduating and the College of Education. For students who wish to graduate in secondary education from the College of Education the professional program has been reduced to twenty-four hours of required subjects and six hours of electives in the field of education. The requirements for elementary teachers have been reduced by twelve semester hours, thus making it possible for teachers entering Elementary Education to enrich their college program with electives of their choice.

At the graduate level steps have been taken to develop, in cooperation with other Colleges, some special courses in the subject matter areas for teachers. The details of these courses have not been completely worked out, but the plans give promise of strengthening the graduate programs so that they may include subject matter courses which give teachers the type of content they need. All of these developments have great promise and are symbolic of the spirit of cooperation that is being developed between the College of Education and other units on the campus.

Research. The College of Education has no budget for research and is able to do only that research which is financed by outside organizations or which can be carried on in connection with the funds provided for the instructional program. During the biennium the first grant from the Kellogg project for research in education leadership has been completed. This project proved to be a worthwhile undertaking for the College. It provided some needed research in the area of the relationships between the principal and the school in which he works, thus giving implications for the type of training program required for successful principals. Moreover, it provided vital experiences for doctoral students who assisted in the research undertakings. At the conclusion of the project eighteen students had written dissertations on some phase of this subject. The Kellogg Foundation has granted an extension of this research project for another three years. A separate phase dealing more specifically with the in-service training needed by principals will be undertaken.

There is a great need for research funds in the regular budget of the College. If the College were able to establish a permanent research division it would be in a position to attract funds from Foundations and, at the same time, continue at state expense some of the needed research which is so vital to the continuing development of the educational program in this state. It is

unwise for a state to be spending several hundred millions of dollars annually on education and practically nothing on educational research.

Individual faculty members continue to carry on research projects on their own time. During the biennium eighty projects were begun and fifty-six were completed.

Student research is rapidly moving to the doctoral level. During the past biennium twenty-five masters theses were written, compared with forty-seven during the previous biennium. However, at the doctoral level forty-six dissertations were completed compared with thirty during the previous biennium. These facts are shown on Table II.

TABLE II
FACULTY AND STUDENT RESEARCH

	1954-55	1955-56
Faculty Research		
Projects underway	35	45
Projects completed	33	23
Student Research		
Masters Thesis	14	11
Doctors Dissertations	21	25

Publications. Table III indicates the different types of materials prepared by the College of Education faculty during the biennium. The number of articles published in professional magazines continues to rise—119 were published in the previous biennium, compared to 177 in the current biennium. Five books were published in the previous biennium, compared with nine in the current biennium. This indicates the interest which the faculty has in sharing its experiences and research with other professional people. It also reflects the confidence which publishers have in the ability of the staff.

TABLE III
PUBLICATIONS BY STAFF

	1954-55	1955-56
Articles in professional magazines	86	91
Articles mimeographed for distribution	14	3
Books	5	4
Chapters prepared for books to be published in collaboration with others	6	6
Pamphlets or bulletins		5
Film strips produced	2	

Field Services. Assisting the public schools and their organizations with their problems is one of the purposes of the College of Education. Not only does this help the local institutions, but it also provides an opportunity for the College staff to become familiar with the problems in the classroom and in the field, thus enriching their campus teaching.

The College of Education provides regular consulting services for such

groups as parent teacher associations, county school boards, superintendents, principals and faculties. It also provides the part-time services of one of its staff members to assist the state in teacher recruitment programs. This service has begun to produce results as shown by the fact that the number of students graduating from the College of Education increased forty per cent in 1955-56 over the previous year. This is a cooperative undertaking between the State Department of Education and the University of Florida.

Another activity of importance to the state in which the College is engaged is that of providing assistance in county school surveys. Representatives of the College of Education have assisted in all but three of the sixty-seven counties of the state. This provides them with expert service and it gives the College staff an intimate knowledge of the school situation in the state.

Another phase of the field service program is that of providing staff to assist in school evaluations. This activity is confined largely to high schools and junior colleges. During the past biennium thirty-nine schools were assisted by members of the College staff in evaluating their school programs.

Probably the greatest single activity in which many of the staff engage is that of serving as special consultants, speakers, and program leaders for professional and lay groups throughout the state. During the past biennium members of the staff served on 664 different programs within the state and nation. They also provided consultant services for 137 groups within the state and fifty-seven groups outside the state. In addition to that, staff members served on sixty-nine regional and national professional programs. This reflects somewhat the confidence and respect which national organizations have for the College of Education staff. These details are summarized in Table IV.

TABLE IV
PROFESSIONAL SERVICES RENDERED BY THE STAFF

	1954-55	1955-56
High school or junior college evaluations.....	9	30
School surveys of county systems.....	7	6
Talks, panel discussions.....	339	325
Consultants within state.....	64	73
Consultants outside state.....	43	14
Special projects—state or national.....	51	43
Participation on regional or national programs of professional organizations.....	45	24

Extension Teaching. With approximately 5,000 new teachers coming into the schools of Florida each year there is a great demand for the University to offer extension classes for teachers in service. This becomes one of the major activities of the College taking a great deal of time of its staff members, and is one of the major services rendered the state by the University. During the past biennium the number of people taught in extension classes and off-campus workshops increased considerably. In 1954-55, 1,843 students were enrolled in off-campus classes, and 2,928 were enrolled in 1955-56. This gives a total of 4,740 taught in extension classes during the biennium compared with 2,938 taught during the previous biennium. Even with this increase in offerings in the field, the College is still unable to meet more than one-third of the demands which

come to it for extension classes.

A portion of these demands could be met by the creation of off-campus graduate centers. With centers in key cities throughout the state the University could take the staff and library facilities to the students, reducing the amount of student travel and increasing the quality of instruction.

Summary. It can be seen from this report that the staff of the College of Education is attempting to carry on many activities designed to meet the needs of this state and region. However, in their zeal to meet the great demands which are placed upon them they have assumed more than can be done effectively. One of the real problems which the College faces is to find funds for an adequate number of staff to meet the demands of the State of Florida. Much of the work reflected in this report was done in addition to the regular loads which the staff carry as a part of their instructional program. The primary needs of the College may be summarized as follows:

1. There is need for more guidance facilities in the College to serve the students who are currently registered in the University College. This would make it possible to become personally acquainted with each student who might be interested in becoming a teacher. This should be coupled with a strong selective recruitment program which is developed throughout the state.

2. A program of in-service education and recruitment could be substantially aided by the establishment of off-campus graduate centers. These centers might serve two functions: (1) become the recruiting agency for college graduates who might be interested in preparing to teach, and (2) serve as an in-service training agency to offer graduate courses to teachers in the immediate vicinity.

3. There is a need for additional funds for current expense. The departments in the College are seriously handicapped for lack of adequate funds to pay for the necessary expenses of operating the departments. Moreover, the demands for members of our staff to travel in the state are exceedingly great and the state should provide travel funds so that the services which the staff are qualified to render could be provided the various agencies and groups.

4. Adequate space continues to be a serious problem. When the new laboratory school is constructed and the present P. K. Yonge building is remodeled, it is hoped that adequate space will be provided for the current staff. However, this space will not take care of many additional staff members which must be added if the University continues to expand.

5. There is a genuine need for funds for research. The state cannot afford to continue large expenditures for education without a reasonable expenditure for research to insure that the funds are spent for effective, economical programs.

6. Staff salaries must be increased if the University expects to attract and hold competent staff.

REPORT OF THE DEAN OF THE COLLEGE OF ENGINEERING

To the President of the University:

Sir: I respectfully submit to you the following report for the College of Engineering for the biennium ending June 30, 1956.

"Bold, creative plans," is what Governor Collins urged of the delegates at the Work Conference on Nuclear Energy of the Southern Regional Education

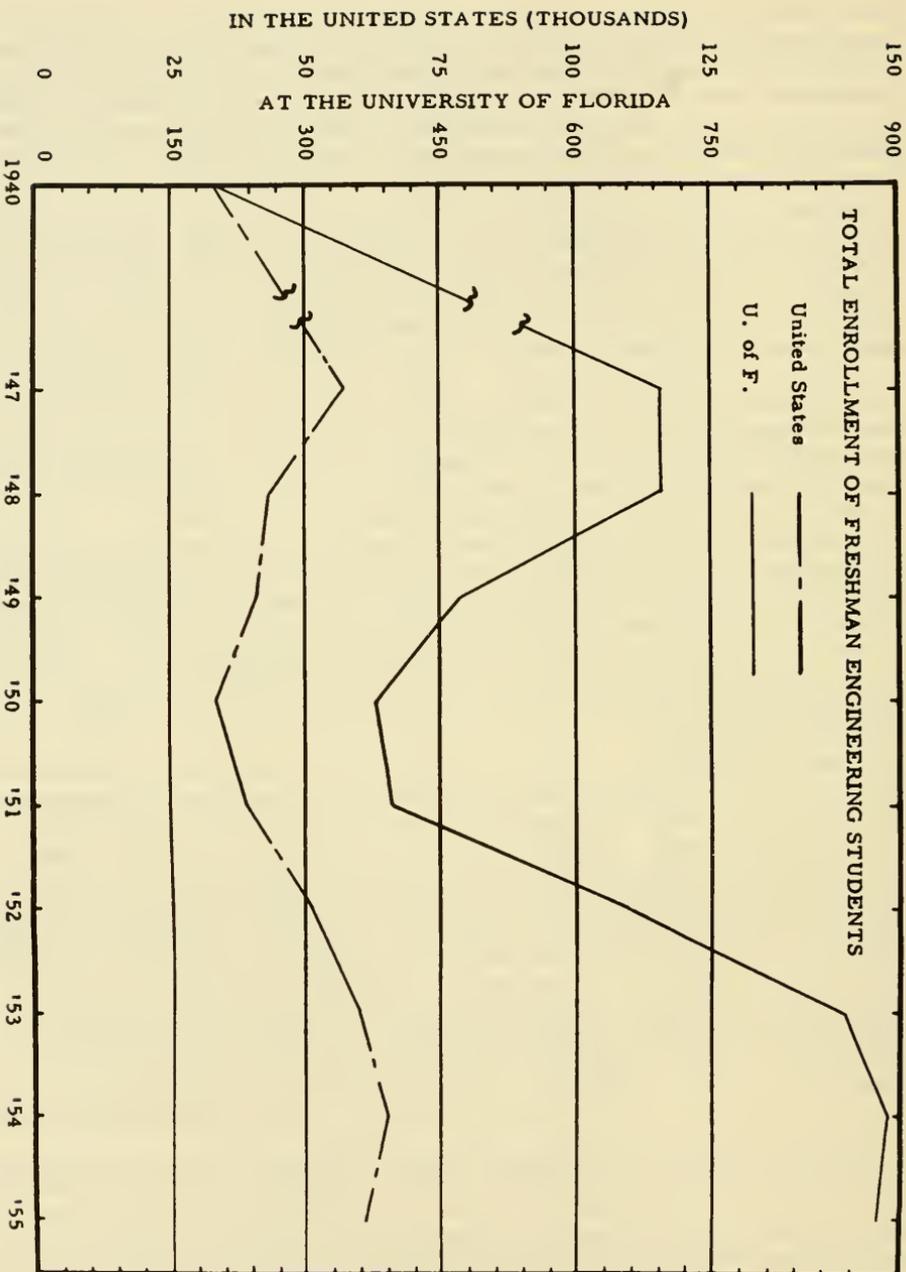
Board at St. Petersburg on August 1. Such thinking that could be crystallized into constructive action leading to the industrial development of the South was requested. This type of thinking has focused attention upon Florida to produce the industrial expansion that has occurred in recent years. Engineers and scientists must give the necessary leadership in developing natural resources, new sources of power, and new methods for new industries if Florida is to continue in the vanguard of this industrial movement to the Southeast.

Industry does not seek mediocrity. It demands superiority. In establishing plant locations it is superiority in some particular important factor that is sought. One of the important factors is the quality of the technological school in the area. The cry for more scientists and engineers need not be developed here, for it is well known that there is a great shortage in these fields. Unless every means can be taken to overcome this shortage, there must necessarily be a curtailment in industrial progress. What is true on a national basis is also true on a regional basis. The College of Engineering of the University of Florida faces a severe shortage of space and faculty to meet the requirements for the increased enrollment with which it is faced, and for the increased demands made upon it for services to industry. Our problem is not only to maintain the existing faculty but also to secure additional members for our faculty.

The number of positions offered our graduating students exceeds severalfold the number of students available. One large organization offered forty-seven of our graduates positions at salaries considerably above the national average, and yet only one student accepted. Our lone coed graduate this year was able to turn down a position which would have paid her \$635 per month. What is particularly gratifying is that more and more Florida students remain in our State and with the industrial expansion that is now occurring, this picture will be increasingly better.

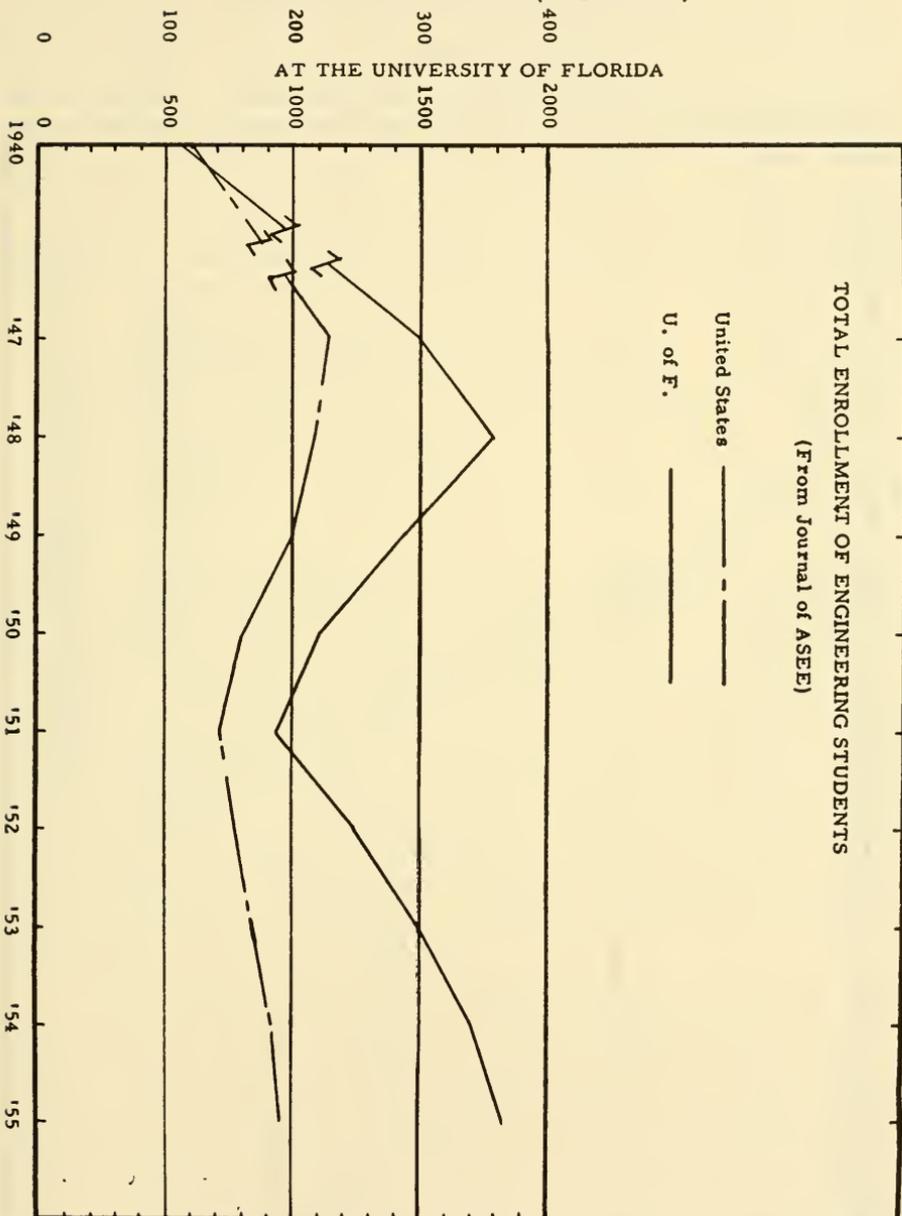
Second to this is the need for more space. Unless more space is secured we may be forced to curtail both research activities and enrollment. Our increase in enrollment continues to exceed that of the national average as is indicated by the attached graphs. Certainly, the Florida student who receives his education in Florida is more apt to remain here than the student who goes elsewhere for his training. Furthermore, it has been our policy to aggressively pursue research projects pertaining to the problems of our State. The Florida student who comes into contact with the attempts at solutions of these projects will carry forth his interest after he leaves the University and this must result in great benefit to our State. Every effort is being made to have the graduates of the Florida high schools secure their educations at their state university, for certainly it is better to learn how to grow oranges, if one intends to farm in Florida, than how to grow apples. What is true in agriculture is equally true with reference to the unique engineering problems with which we are confronted.

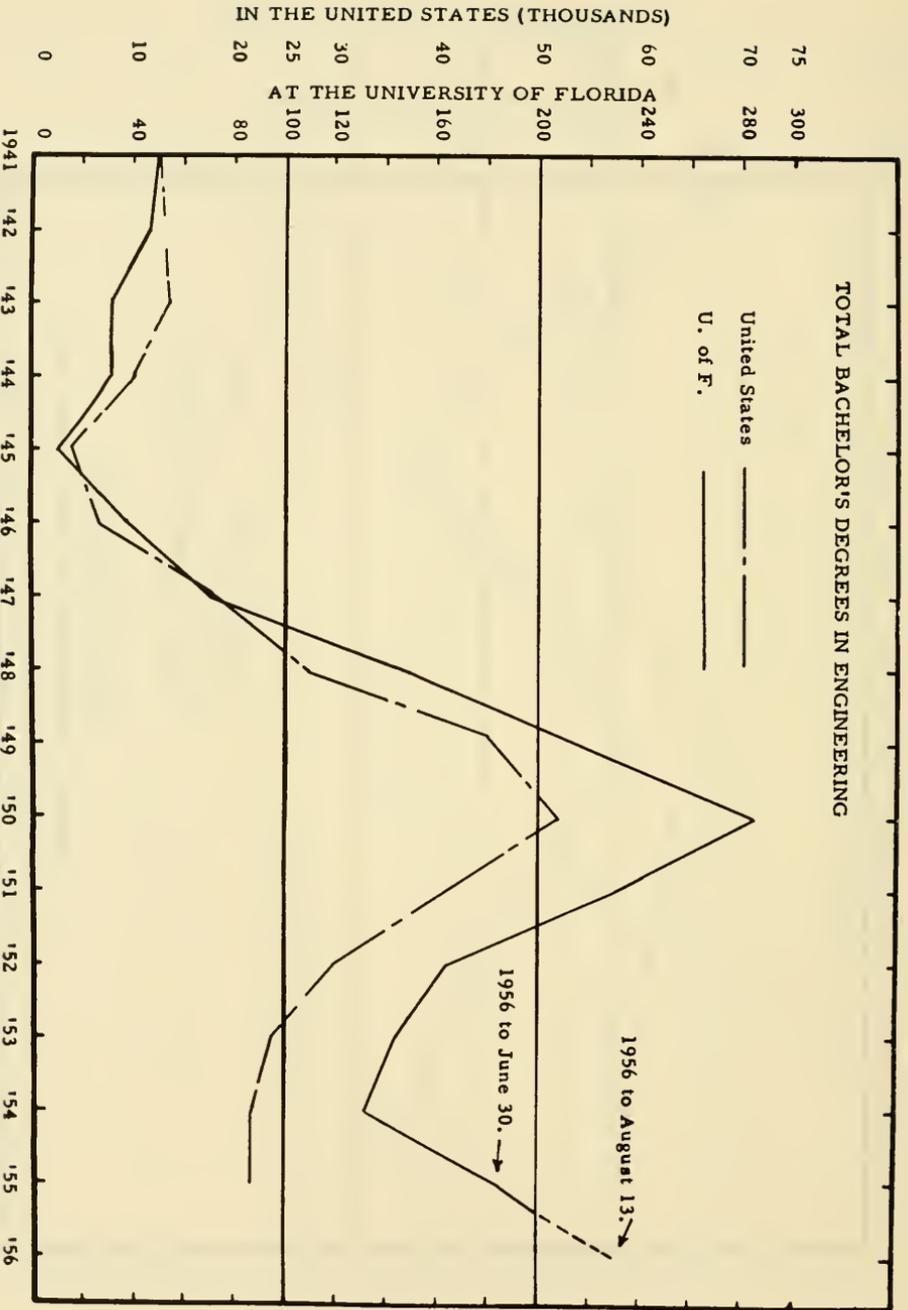
During the past biennium there has been considerable interest in many fields, but two stand out above the others—Coastal Engineering and Nuclear Energy. The University was particularly fortunate in being able to attract the services of an outstanding Danish engineer of world repute, and his services have proved to be of great value in the short time that he has been here. He has been in charge of a survey authorized by the 1954 Legislature and has submitted a report on shore erosion. The staff has now been expanded, and it is hoped that laboratory facilities will be forthcoming so that an aggressive effort can be made in



IN THE UNITED STATES (THOUSANDS)

AT THE UNIVERSITY OF FLORIDA





studies affecting one of our greatest assets—our coast line. No matter how large a sum of money may be spent in this direction, it is sure to pay great dividends. Research is expensive but cost will prove insignificant in comparison with the financial benefits that will accrue. To expect financial return a hundredfold greater than the expenditures involved would not be too optimistic. We have an extremely long coast line. Our problems are unique and we have done little in the past. The need is great, and it is hoped that action will be taken so that the University can render a great service in this direction.

The plans for nuclear energy vary from day to day. What was new yesterday is obsolete in an early tomorrow. The Legislature of 1955 made available an appropriation of one-half million dollars for an atomic reactor. At that time it was felt important that a reactor should be capable of the following:

1. Demonstrate the feasibility of generating power.
2. Make available research facilities of an engineering nature so that research of particular value to industry could be conducted.
3. Make available research facilities for studies in the basic physical sciences, in medicine, and in agriculture.
4. Make available training facilities for engineers in the design and operation of reactors.

Within the past few years it has become obvious that the first objective is no longer of great importance and the second has become of increasing importance. Our reaction now, therefore, is to build a reactor, taking advantage of new developments. Plans for such a reactor are now being made, and it is believed that this reactor will be designed in Florida and built in Florida. It is expected that while some parts must be purchased out of the State, it is hoped that many can be made here in Florida so that we can make a factual demonstration to industry of the feasibility of manufacturing reactors in our State. Many parts of the University have been cooperating in this reactor design and construction. Table 1 attached gives an outline of the College of Engineering Nuclear Program organization. We are indeed fortunate that over a period of years, and primarily because of our Engineering and Industrial Experiment Station research program, we have been able to attract to our campus many persons who have had practical experience in nuclear energy programs at Brookhaven, the Argonne National Laboratory, and at Oak Ridge. This staff is probably our greatest asset in our nucleonics program.

The Engineering and Industrial Experiment Station has continued its work in connection with the problems pertaining to the water resources of the State. It has cooperated with the Florida Resources Study Commission in the survey which it is preparing for the 1957 Legislature. Facilities and backlog of data have been made available to the Commission for their use. Dr. David Smith, the Director of the Commission, has been granted a leave of absence from the staff of the Station in order to direct this work. He has called upon other professional members of the staff for assistance whenever needed. The Station feels that the development and protection of our natural water resources is one of the great problems now confronting the State and stands ready to assist in any way that it can.

A change made in our education program during the past biennium is in connection with our attempt to better co-ordinate our activities with those of

the junior colleges and high schools of Florida. We have taken cognizance of the fact that statistics have shown that only about 4 per cent of the students who entered the University as freshmen and who showed an interest in engineering actually graduated at the end of four years. The others either dropped out of the University, transferred to other colleges, or took more than four years to complete their engineering program. This meant that we lost a large number of men who probably could have served in the engineering profession. Many of the men failed courses because of poor high school preparation. I feel that, in general, the high schools of Florida are as good as those in other parts of the Nation, but to be realistic we must recognize that many of our intelligent students come from rural areas and that the rural high school frequently is unable to find mathematics and science teachers to meet its needs. Since, therefore, these students are unable to secure this subject material in their high schools, we felt that rather than deprive them of an engineering education, we should be realistic and overcome this defect. Nor is this a waste of time, for it means the high school can then devote its energies in those fields of learning in which it is most competent. Our program also dovetails with the general junior college program, so the junior college can give the student two years of instruction in pre-professional engineering material and then at the University we can follow with three years of technical information. Considerable attention is being given to the student who is prepared to take an accelerated program, and the student who desires to do so and has the proper preparation can receive his undergraduate degree in four years or even less. A counseling program has been established so that freshmen are given counseling and guidance, and their individual problems are studied. It therefore may not come as a surprise that the 4 per cent figure referred to above may soon be materially raised, with a consequent decrease in overall cost of engineering education to the State.

It is particularly gratifying to find that the great industries of the country are placing a high value upon our engineering graduates. Statistics released by the University Placement Service indicated that the average salary of Florida undergraduates in engineering was approximately \$35 per month above the average of graduates of other universities. Furthermore, our students are accepted by the best graduate schools of the country, and there they make excellent records. The high quality of instruction which is maintained is due in no small measure to the fact that our research and educational programs are closely integrated. Were it not for the emphasis placed upon research, it is doubtful whether we could have as excellent a faculty as we now have. Certainly our budgetary requirements would have had to be greatly increased.

We place a great value upon basic research, and some of our sponsored research programs are of this nature, but it is part of our basic philosophy that we must serve in the industrial development of the area. We believe that every research worker should carefully consider to what extent his efforts might be directed into channels which might assist in the economic and industrial development of our State. We feel that a great deal of engineering research differs from most other research in that it makes available its results in a practical aspect in the immediate foreseeable future, whereas other research, though it may open new fields, its usefulness, if it ever comes, probably will be at some distant time. There is a definite place for all types of research. Certainly at this time we are paying a great deal of attention to that type of research which takes the information discovered by the scientist and combines it with prac-

ticality to create new methods and products for the use of man. It is research that should pay dividends now—and not at some distant date.

It has been the objective of the Engineering and Industrial Experiment Station to use part of the money made available by the Legislature to start projects that show some promise of having economic value, and then to show industry that it will benefit by supporting such research. The industry then, and in some cases the Federal Government, furnishes funds for further expansion and development. It is because of this policy that we are now operating with a budget in the Engineering and Industrial Experiment Station of approximately five times as great as is made available from State funds.

I believe that this is a transition period in the life of our College of Engineering. The next few years will be very critical ones. Whether we can continue the progress made in the past decade to achieve a stature of one of the great technological schools of the country or whether we drop to only mediocrity will depend upon the support which we secure from the State in the foreseeable future. Our opportunity for service is great, and as such service is rendered industrial growth will follow. We need more buildings and equipment, and while these are important, these must take second place to the need of a good faculty. Learning comes not from buildings but from brains. In the competition to hold our existing personnel and to secure competent new personnel, we are placed at a great disadvantage. Our present staff is overworked and underpaid. The proposed budget that we have submitted will not correct this situation. This problem is one that besets all universities of today. Only those universities that solve the problem will be able to render the services that they should.

On January 1, 1955, Dr. A. C. Kleinschmidt was appointed Assistant Dean of the College of Engineering, and on July 1, 1955, Dr. Marion E. Forsman was appointed Assistant Director of the Engineering and Industrial Experiment Station. Both of these men have done outstanding work and are heavily overloaded. Because of the diverse activities of the College of Engineering and the fact that so much of our budget is dependent upon contract sources, administrative duties are far in excess of what would normally be found in an educational institution. Additional administrative help is needed, but it is difficult to find. The engineer and scientist who has administrative ability is in great demand in the industrial world and demands a high salary. It is difficult to attract him to an educational institution.

There are attached excerpts from reports of the various department heads. Copies of the more complete reports are available for those who desire them.

Respectfully submitted,
Joseph Weil, Dean

Aeronautical Engineering

The Aeronautical Engineering Department is still badly housed in the hangar building. Originally it was contemplated that the entire hangar would be devoted to Aeronautical Engineering, but at the present time only approximately 25 per cent of the space is made available for this department. The department is also very understaffed and every effort made to secure additional staff members has failed because of the low salaries that were available.

Professor R. A. Thompson, who had been a member of the Engineering College staff since 1933 and who had been head of the Aeronautical Department

since 1946-47, resigned during the past year to accept employment in industry.

Certainly, in the field of Aeronautical Engineering, the state of Florida should have an outstanding department. Florida from an aviation standpoint is already doing a great deal, but more could be done if there were added impetus in this field. To do so, however, would require a greatly expanded staff. As the aviation industry in the state expands there will be more and more requests for services which an expanded Aeronautical Engineering Department could and should render.

Agricultural Engineering

The Department of Agricultural Engineering is administered through the College of Agriculture, although students who are candidates for the degree register in the College of Engineering, which grants the degree of Bachelor of Agricultural Engineering. The services that the field of agricultural engineering might render to the State of Florida are almost unlimited. It is hoped that steps will be taken so that the curriculum in this department will be accredited in the very near future.

The Department of Agricultural Engineering moved into its new building in the fall of 1955.

A report of the activities of this department is included in the report of the Agricultural College.

Chemical Engineering

The Chemical Engineering Department at the present time is housed in the hangar and in space which should be turned over to the Aeronautical Department as soon as possible. The department is extremely overcrowded, and there are many hazards which should be corrected. These hazards cannot be corrected until more space is made available.

Cognizance should be taken of the fact that many of the industries of Florida are of a chemical engineering nature and the services that this department is already performing for these industries are of real value. The work in the pulp and paper field has secured for it international renown. Many of the graduates of the department are now occupying key positions in various industries in the State. Certainly as soon as possible every step should be taken to secure a new building for this department in which the expensive equipment which is already in its possession, can be properly housed. From a safety standpoint the department has been frequently criticized, and yet little can be done in correcting these defects until new space is secured.

Civil Engineering

In the main Civil Engineering Laboratories there are two prestressed concrete beams about 45 feet long and 3 feet high. These two beams have been brought to the College of Engineering to serve as controls in tests of the actual beams now used in bridges in Florida. They are the two largest of many prestressed concrete beams undergoing tests here in our research laboratory and they illustrate the size and scope of research facilities urgently needed.

In the changing technology of concrete structures, whether they are ribbons of highway connecting the industrial and vacation areas of the state or imposing

bridges such as on the Sunshine Highway, research and testing of actual component parts are fundamental requirements. Failure of any unit after installation is too costly to be permitted. Although the Civil Engineering Department has been able to serve the state during this biennium using the facilities and staff available, future demands cannot be met with existing facilities.

A glance at the skyline in any of the industrial or vacation areas of the state reveals that new concepts in structural design are being put into practice. These new concepts of design bring many problems to the structural engineer in Civil Engineering. Where there are no guideposts, it is necessary for our engineers to do the research required to make these structures safe and effective. At the same time they are able to transmit this new information to the ever increasing numbers of Civil Engineers being trained in the College of Engineering. Space, staff and research facilities are all urgently needed if the Civil Engineering Department is to take its share of the responsibility for training the engineers who will live and work in the State of Florida.

Courses leading to the Ph.D. degree in Sanitary Engineering and Structural Engineering have been approved during the biennium. At present, the doctorate program in Sanitary Engineering at the University of Florida is one of only four in the country that has been approved by the United States Public Health Service as meeting standards which will justify enrollment of its commissioned officers. According to a recent statement by Professor Bengt O. K. Gusfstaffsson, Professor of Sanitary Engineering at the University of Stockholm, in Sweden, the University of Florida Sanitary Engineering research facilities are now recognized internationally.

Electrical Engineering

The increasing demand for automation in factories and on machines requires more highly trained Electrical Engineers. Industry and government are both demanding more and more engineers with this advanced training. An electronic computer and a servomechanism laboratory are necessary to provide adequate facilities and equipment for training in the applications of these key parts of the automation of industrial plants. Only by providing industry with engineers who are well qualified in this field can the industries of Florida gain a competitive advantage in manufacturing techniques.

The inclusion of new subject matter has been greater than normal during the current biennium, and points toward curricular revisions in the coming biennium. The increased emphasis on nuclear engineering, transistors, computers, automation and such, is demanding treatment over and above that which can be handled within the present curricular framework. A new course in nuclear instrumentation, for example, already has been approved and further revisions and additions are under consideration.

Classes and laboratories have averaged higher in enrollment than desired for effective teaching. This places a heavy load on the faculty and has taxed laboratory facilities. Considerable laboratory equipment has been purchased in order to provide for the handling of larger laboratory sections. Multiple sections of the same course are now being held. This puts an increased load on staff, space, and equipment requirements. In 1956-57 some classes will have to be held at night because of space considerations.

Engineering Graphics

The number of students currently seeking admission to drawing classes has now increased to such an extent that drawing has become a major instructional responsibility with an enrollment larger than that of a number of the separate departments in Engineering. Because of this a separate service department has been established in the College of Engineering to administer courses in Engineering Graphics. The effective date of the newly created department was June 5, 1956, with E. W. Jacunski named as Interim Head Professor.

The same classrooms, faculty and offices are being utilized. Class sizes have increased to room capacity for all available hours to take care of the student demand. Plans for night school classes are being made because of lack of drawing room space.

Engineering Mechanics

Since this Department is a service department to the College of Engineering, its growth will reflect the growth of all departments in the College of Engineering. Registration in Engineering Mechanics courses has averaged a 25 per cent increase per year. This increased number of students has made space and staff problems more and more acute. In order to keep class sizes at a desirable level for most effective instruction, it has been necessary to increase faculty teaching loads above the level which will allow us to acquire and hold competent staff members.

The legislature of 1955 appropriated funds for a study of the problems involved in maintaining the Florida coastlines. An internationally known Coastal Engineer, a member of the staff of the Engineering Mechanics Department in the Industrial Experiment Station, has coordinated the accomplishment of the survey and is preparing a report and recommendations to the legislature concerning this problem. In addition, nine engineers and technicians are currently at work on projects initiated by communities in Florida who felt that their problems of beach erosion were so critical that they needed immediate attention.

Industrial Engineering

Industries from many regions of the United States have investigated the possibility of locating new plants or moving their operations to the State of Florida during the biennium. Several of these companies have already located plants in the State, for example: The Sperry Rand Corporation, The General Electric Company, The Minneapolis Honeywell, The Fairchild Aircraft, and The Hamilton Standard are but a few of the well-known companies locating plants in Florida. Recognizing that these companies as well as many others have picked Florida as a state favorable to industrial potential, the facilities and staff in Industrial Engineering have been expanded to better serve the state.

Even though we have completed our new teaching laboratory this increased industrial expansion in the state puts additional demands on our facilities and staff which cannot be met. Competitive staff salaries could alleviate the shortage of well qualified faculty who are attracted to the state but who accept more desirable offers from other locations.

Greatly increased requests by Florida industries for cooperative students working under the Florida Industries Cooperative Plan have resulted in a review

of the curriculum in the Industrial Engineering Department to improve the flexibility of class offerings and thus permit a larger number of students to participate in this program. The demand for cooperative students in Florida alone has increased during the past year in much greater numbers than the College of Engineering has been able to certify.

The demands of industry for men with training over and above that required at the bachelors' level has resulted in an acceleration of the graduate program in Industrial Engineering. Additional staff, space, and facilities are urgently needed to meet this demand. Enrollment in service courses taught by this department has increased considerably above the level for effective teaching thus making it necessary to have multiple sections as soon as space and staff become available.

Mechanical Engineering

Recognizing that the new era in Technology will call for many metals comparatively unknown in the past—metals in many cases that are found in Florida—of which titanium, zirconium, and hafnium are examples, the Mechanical Engineering department has expanded its facilities in order that it can take its part in the practical utilization of these materials. During the past two years there have been added to the Department not only staff members competent to do outstanding research work in this field, but considerable valuable equipment including the following: an X-Ray diffractometer, a Bosch and Lomb micro metalograph and a metal specimen creep testing machine. Space for research and development programs directed toward maximum utilization of the Florida minerals is urgently needed but not available.

The department is hampered badly by lack of a heat power laboratory for training both undergraduate and graduate students. Effective training in heat measurements, heat transfer, and controls is a fundamental part of the Mechanical Engineering curriculum. Lack of this equipment prevents the department from being recognized as the equal of many other Mechanical Engineering departments in this field.

A partial list of appointments held by members of the staff in state, national, and international organizations during the biennium follows:

Professor W. H. Beisler

Establishing Department of Chemical Engineering at Punjab College of Engineering and Technology, affiliated with the University of Punjab in Lahore, Pakistan, as part of the general educational program being conducted by the State College of Washington for International Cooperative Administration of the U. S. Government (on two-year leave of absence)

Associate Professor T. L. Bransford

Secretary of the Florida Engineering Society

Director of Research and In-Service Training with the Florida State Road Department (on two-year leave of absence)

Associate Professor Per Bruun

U. S. Council on Wave Research 1955

Professor E. A. Farber

Board Member of Advisory Committee for Midwestern Conferences on Fluid Mechanics

- Associate Professor T. deS. Furman
 Chairman of Standards Evaluation Committee, Florida Sewage and Industrial Wastes Association
 Florida Representative on Federation of Sewage and Industrial Wastes Associations Committee on Research
- Professor F. W. Gilcreas
 Chairman, American Public Health Association Committee on Standard Methods for the Examination of Water and Sewage
 Chairman, American Public Health Association Committee on Laboratory Methods for the Examination of Air
 Chairman, Inter-Society Joint Committee on Uniformity of Methods of Water Examination
 Chairman, World Health Organization Committee for Development of International Standards of Water Quality and International Methods of Examination of Water (Traveling Consultant to W. H. O. Professor Gilcreas spent three months (1956) in the Far East, and attended the W. H. O. Conference in Geneva, Switzerland, in June)
- Dr. E. R. Hendrickson
 Chairman, Public Health Engineering Research Committee, Sanitary Engineering Division, American Society of Civil Engineers
 Special Consultant on Air Pollution, U. S. Public Health Service
- Associate Professor John W. Hoover
 Chairman, Aeronautical Division, American Society for Engineering Education
- Associate Professor E. W. Jacunski
 Member of the Editorial Advisory Board, Association of Graduates, U. S. Military Academy
- Professor J. E. Kiker, Jr.
 Chairman, American Public Health Association Rural Sanitation Committee and Chairman, Sanitation Section, Southern Branch, A. P. H. A.
 National Director, Federation of Sewage and Industrial Wastes Associations
 American Society of Engineering Education Representative on American Sanitary Engineering Inter-Society Board
 Chairman, Florida Engineering Society Constitution and By-Laws Committee
 Director, National Society of Professional Engineers
 Special Consultant, Bureau of State Services, U. S. Public Health Service
 Member, Sanitary Engineering Research Advisory Committee, Robert A. Taft Sanitary Engineering Center
- Dr. A. C. Kleinschmidt
 Committee Chairman, Methods-Time-Measurements Association for Standards and Research
- Professor R. W. Kluge
 Chairman, Specifications Committee, Prestressed Concrete Institute
 Chairman, Subcommittee of Lightweight Aggregate, American Concrete Institute
- Dr. J. B. Lackey
 Member, Sanitary Engineering and Occupational Health Study Section, National Institute of Health
 Member, Aquatic Life Advisory Committee of Ohio River Valley Water Sani-

tation Commission

Professor E. P. Martinson

Vice President, Southeastern Region, American Institute for Industrial Engineers

Dr. A. M. Ozell

Chairman, Program Committee, Prestressed Concrete Institute

Technical Editor, Prestressed Concrete Institute Journal

Professor F. H. Pumphrey

Participated in Technical Assistance Program in India (on two-year leave of absence)

Professor John C. Reed

Chairman, Instruction Division, Southeastern Section, American Society of Engineering Education

Chairman, Florida State Engineers' Council for Professional Development Guidance Committee

Dr. F. E. Richart

Chairman, Publications Committee, Society of Experimental Stress Analysis

Associate Professor L. E. Schoonmaker

Secretary, Southeastern Section, American Society of Engineering Education

Assistant Professor G. F. Schrader

Civilian Research Analyst with the Intelligence Service of the U. S. Army in Germany (on two-year leave of absence)

Dr. David B. Smith

Director, Florida Resources Study Commission (on leave of absence)

Vice-President, Florida Sewage and Industrial Wastes Association and Chairman of F. S. & I. W. A. Program Committee

Chairman, Florida Engineering Society Publications Committee and Chairman of that society's Engineering and Industries Council Study Committee

Chairman, Florida Water and Sewage Works Operators Association Constitution and Rules Committee

Consultant, Central and Southern Florida Flood Control District

Assistant Professor B. D. Spangler

Secretary, Florida Section, American Society of Civil Engineers

Associate Professor A. W. Sullivan

Chairman, U.S.A. Commission IV—Terrestrial Radio Noise; Chairman, Working Group on Atmospherics, International Commission IV; member, U.S.A. National Committee; and member, U. S. Preparatory Committee for Study

Group VI of International Scientific Radio Union

Member, Sub-Committee 27-1, Basic Measurements and member, Sub-Committee 27.11 on Atmospherics of Institute of Radio Engineers

Professor W. T. Tiffin

Vice-President, Southeastern Association of Spectrographers

Dean Joseph Weil

Member, Engineering Committee, Interstate Oil Compact Commission

Secretary-Treasurer, Florida State Board of Engineer Examiners and member, National Council of State Boards of Engineering Examiners

Delegate to World Power Conference at Vienna and International Electrical

Conference at Munich, 1956

Consultant, Institute of Technology, Haifa, Israel, spring of 1956

Member, Commission de Meteorologie radio-electrique

Consultant Member, Industry Advisory Committee, Florida Development Commission

Technical Consultant, Eglin Air Force Base, Florida

Consulting Engineer, Florida State Department of Public Safety

Professor D. B. Wilcox

Member, National Safety Council

Assistant Professor Walter H. Zimpfer

Granted two-year's leave of absence to accept a position with the University Relations Division at Oak Ridge Institute of Nuclear Studies

Dr. O. Zmeskal

Chairman, Chicago Chapter, American Society of Metals and member, Executive Board, A.S.M.

Member, National Education Committee

During the biennium there were a total of 29 resignations and terminal appointments of faculty members. Competition from industry and other educational institutions is becoming increasingly greater. Salaries should be increased and loads reduced.

Faculty Appointments

Lecturer:

C. W. Drake, B.S.E.E. Worcester Polytechnic Institute

P. T. Norton, B.S.C.E. University of Wisconsin

Professor:

J. H. Black, M.E. Cornell University

E. A. Farber, Ph.D. University of Iowa

M. E. Forsman, Ph.D. Iowa State College

T. S. George, Ph.D. Duke University

F. W. Gilcreas, A.B. Harvard University

G. A. Greathouse, Ph.D. Duke University

H. F. Payne, M.S. Polytechnic Institute of Brooklyn

W. O. Smith, M.S.M.E. Purdue University

A. H. Wing, Ph.D. Columbia University

O. Zmeskal, Sc.D. Massachusetts Institute of Technology

Associate Professor:

P. Bruun, D.Sc. Technical University of Denmark

J. M. Duncan, M.S. University of Wisconsin

H. F. Hrubecky, Ph.D. Iowa State College

C. E. Huckaba, Ph.D. University of Cincinnati

W. E. Lear, Ph.D. University of Florida

W. H. Miller, M.S. Massachusetts Institute of Technology

P. J. Nawrocki, M.A. Boston University

A. M. Ozell, Ph.D. University of Illinois

Assistant Professor:

C. H. Bovell, B.S.E.E. University of London

N. D. Cooper, B.E.E. University of Florida

M. O'L. Crowe, M.S. McGill University

F. Gerritsen, M.S. Technical University (Holland)
 E. R. Hargett, M.S.C.E. University of Colorado
 R. F. Hutton, Ph.D. University of London
 R. A. Keppel, B.Ch.E. Syracuse University
 E. W. Kopp, M.S.I.E. Georgia Institute of Technology
 C. W. Pennington, B.S.C.E. . . . University of Cincinnati
 S. O. Reichert, D.Sc. Colorado School of Mines
 J. A. Samuel, M.S.E. University of Florida
 W. A. Shaw, M.S.E.M. University of Texas
 T. Y. Sung, D.Sc. Harvard University
 L. W. Walker, M.A. Florida State University

Instructor:

J. D. Bennett, M.S.M.E. University of Florida
 D. L. Bensinger, B.S. Ohio State University
 E. H. Blekking, B.S.I.E. University of Florida
 R. F. Brown, M.S.E. University of Florida
 I. D. Cooley, B.S.C.E. Duke University
 F. R. Franke, B.Ch.E. Clemson College
 W. A. Hijab, M.S.E. University of Florida
 J. A. Hynes, M.S. University of Michigan
 J. Jagaciak, M.S.E. University of Florida
 C. W. Knight, M.S. University of Florida
 C. A. Langston, B.E.E. University of Florida
 J. J. Leendertse, M.S. Technical University (Holland)
 F. P. May, B.Ch.E. University of Florida
 C. H. Moore, B.E.E. University of Florida
 G. B. Morgan, M.S. University of Florida
 J. L. Murphy, M.A. University of Florida
 R. H. Patton, Ph.D. University of Florida
 M. V. Peck, B.Ch.E. University of Florida
 G. F. Perdue, B.E.E. University of Florida
 D. A. Sawyer, M.S.E. University of Florida
 D. M. Shuford, B.Ch.E. North Carolina State College
 F. R. Sias, B.E.E. University of Florida
 R. E. Stockstill, B.S. U. S. Coast Guard Academy
 W. L. Wood, B.E.E. University of Florida
 P. Z. Zia, M.S.C.E. University of Washington

Assistant Editor:

M. Shovar, B.A. University of Florida

Faculty Promotions

Assistant Dean and Professor of Industrial Engineering:

A. C. Kleinschmidt

Interim Head of the Department of Engineering Graphics and Associate

Professor:

E. W. Jacunski

Professor:

F. E. Richart, Civil Engineering

D. B. Smith, Civil Engineering

W. T. Tiffin, Mechanical Engineering

Associate Professor:

W. H. Chen, Electrical Engineering
F. M. Flanigan, Mechanical Engineering
T. Jaffe, Civil Engineering
M. H. Latour, Electrical Engineering
E. H. Lewis, Mechanical Engineering
R. W. Sampson, Electrical Engineering
A. W. Sullivan, Electrical Engineering

Assistant Professor:

T. L. Bailey, Electrical Engineering
S. P. Hersperger, Electrical Engineering
M. J. Wiggins, Electrical Engineering
W. F. Zetrouer, Electrical Engineering

Return From Military Leave of Absence

Associate Professor:

E. W. Jacunski, Engineering Graphics

Leaves of Absence

Professor:

W. H. Beisler, Head, Chemical Engineering
F. H. Pumphrey, Electrical Engineering
D. B. Smith, Civil Engineering

Associate Professor:

T. L. Bransford, Civil Engineering
J. W. Wilson, Electrical Engineering

Assistant Professor:

G. F. Schrader, Electrical Engineering
W. H. Zimpfer, Civil Engineering

Instructor:

J. D. Holmgren, Chemical Engineering

Resignations and Terminal Appointments

Lecturer:

P. T. Norton, Industrial Engineering

Professor:

J. H. Black, Industrial Engineering
G. A. Greathouse, Chemical Engineering
R. C. Specht, Chemical Engineering
R. A. Thompson, Head, Aeronautical Engineering

Associate Professor:

T. Jaffe, Civil Engineering
P. H. Nelson, Electrical Engineering
J. W. Wilson, Electrical Engineering

Assistant Professor:

E. Ardaman, Civil Engineering
J. M. Barney, Electrical Engineering
C. H. Bovell, Electrical Engineering
G. R. Clark, Chemical Engineering

D. L. Emerson, Chemical Engineering
W. C. Hackler, Chemical Engineering
R. L. Harvin, Chemical Engineering
S. P. Hersperger, Electrical Engineering
R. F. Hutton, Civil Engineering
R. C. Pinkerton, Chemical Engineering
T. Y. Sung, Civil Engineering
G. E. Sutton, Mechanical Engineering

Instructor:

D. E. Barnes, Chemical Engineering
R. F. Brown, Electrical Engineering
D. C. Busciglio, Civil Engineering
B. S. Gray, Chemical Engineering
J. A. Hynes, Civil Engineering
J. W. Jagaciak, Mechanical Engineering
A. F. Kirstein, Civil Engineering
C. H. Moore, Electrical Engineering
M. V. Peck, Chemical Engineering
J. D. Wells, Electrical Engineering

Transferred to Other Colleges of the University of Florida

Assistant Professor:

D. C. Bunting, Electrical Engineering
R. D. Powell, Chemical Engineering

Gifts and Grants

The College takes pleasure in acknowledging a number of gifts from various companies and organizations.

The Florida Road Builders' Association, the Florida Portland Cement Division, the Union Pacific Railroad, International Minerals and Chemicals Corporation, the Florida Power and Light Company, The Florida Power Corporation, Southern Bell Telephone and Telegraph Company, Eastern Air Lines, and other industries presented the College with a number of murals in the halls which the faculty, students, and visitors enjoy as they walk down the halls.

Friends of Dr. D. B. Steinman, noted engineer and bridge builder, have made possible a mural collection for the D. B. Steinman Room which will add to the cultural aspect of our College.

The Aeronautical Engineering Department received for instructional purposes from the Pratt and Whitney Company an assortment of axial flow jet engine parts and from the Vertal Aircraft Corporation a rescue assembled scale model H-21-AF.

The Allis-Chalmers Manufacturing Company has donated several pumps for use in the Pulp and Paper Laboratory of the Chemical Engineering Department.

Inflico, Inc. presented the Sanitary Research Laboratory with an aero-accelerator unit.

The Electrical Engineering Department received from Allis-Chalmers Company a cutaway motor and Type TWM transformer. The Ward Leonard Company made available one hundred complimentary copies for graduating seniors of their Handbook of Power Resistors while Western Electric again gave to the Depart-

ment a quantity of material from their college gift program. The Westinghouse Electric and Manufacturing Company made available two cartons of assorted appliances.

We continued to receive supplies and equipment through the services of the Florida State Improvement Commission.

The National Science Foundation made available two grants for research. One grant is for a study of "Stress Transfer in Granular Elastic Media" and the other for "Application of Shallow Shell Theory to Analysis of Buckling Phenomena." The National Institutes of Health made available a grant for a study on the "Dispersion and Effects of Air-borne Industrial Wastes."

Scholarships and awards not previously recorded:

Julius Davidson Scholarship

Douglas Aircraft Scholarship

Smith and Gillespie Scholarships

Southern Paint and Varnish Product Club Education Fund Scholarships

Sperry Corporation Scholarships

Ethyn Corporation Scholarship

Student Awards and Activities

A number of national and regional awards and scholarships were received by students during the past biennium. Among these awards were:

Air Force R.O.T.C. (Gold Key and Certificate Commander of Best Drilled Flight)—Oscar E. Hayes

Air Force R.O.T.C. (Silver Medal, Best Student in Electronics)—Jimmy Page

American Institute of Electrical Engineering (Certificate for Most Outstanding Member in Activities of Student Branch)—Harold L. Hess, W. R. Ryan

College of Engineering Fellowship—Howard Searcy

Julius Davidson—Abe Levine

Douglas Aircraft Co., Inc.—Shirley Van Patten

Ethyl Corporation—Charles L. Sibley

General Electric Scholarship—W. A. Sauer

Gregg Award—Martin L. Essick, Lloyd L. Williams, Jr., John Ridout, Michael Glagola

National Tung Oil Marketing Corporation—Edward H. Beardsley III

Rayonier Fellowships—C. J. May and D. F. Milsark

Silent Hoist and Crane Co.—Malcolm Field, W. Lewis Johnson

Southern Paint & Varnish Product Club—(1955) Robert Agee, Gilbert Brown, Roland Foster, Allen Leybourne III, George Speed, and Gordon Riel. (1956)

William Choate, Don Windham, John Martinez, George Barnhill, John Walter, and William Moger

Sperry Corporation—John J. Rose, B. N. Townsend, D. L. Funk

Westinghouse Educational Foundation Scholarship—J. J. Westman

The annual Engineers' Fair, one of the largest events held on the Campus, drew crowds of over 12,000 persons (1955), and 17,000 (1956). Displays and exhibits built by engineering students were supplemented by Army, Navy, Air Force, and industrial exhibits. The Fairs are planned and managed entirely by the students.

Another student enterprise deserving special mention is publication of the *Florida Engineer*. The last eight issues of this outstanding student engineering

quarterly have shown remarkable improvement in scope of subjects covered and in quality of presentation. This continued emphasis on improving its excellence won for the *Florida Engineer* two prizes during the biennium—one for printing quality in a state contest, and the other, second prize in the annual A. F. Davis Welding Contest for an article on welding.

NEW EQUIPMENT

Aeronautical Engineering

In the Aeronautical Engineering Department, the Supersonic wind tunnel has been improved by the addition of pressure-measurement equipment, additional models and better photography equipment. A color Schlieren system is being investigated with the view to improving shock visualization. In the structures laboratory an oven has been acquired which fits the Dillon testing machine and permits demonstration of the loss of strength in metallic materials at elevated temperatures. The airplane design laboratory has been equipped with better and larger drafting tables and drafting machines and other equipment in order that the design room environment may approximate that of a production design engineering department.

Chemical Engineering

In the Chemical Engineering Laboratory a Perkin-Elmore Vapor Fractometer has been installed. This is a gas-liquid partition chromatography device for gas analysis. In addition, many specialized pieces of equipment have been made available through sponsored research in the field of macromolecular technology.

As part of the course in Process Design a model of a citrus fruit processing plant was constructed by students who carried the project from the research stage to completion.

The Allis-Chalmers Manufacturing Co. has donated several pumps which are in use in the pulp and paper laboratory and many other important pieces of equipment have been acquired.

Civil Engineering

The Civil Engineering laboratories have been expanded mainly in the fields of structures and soil mechanics. The most important additions in the Structures Laboratory included two constant-strain-type fatigue machines, of 10,000 and 50,000 pound capacities, designed for testing reinforced concrete and prestressed concrete structures under repeated loads. In the Soil Mechanics Laboratory, triaxial test equipment and related apparatus were added for purposes of research and instruction. A large walk-in refrigerator was added at the Sanitary Research Laboratory for the storage and preservation of increased numbers of biochemical specimens incidental to continued gains in sanitary engineering research.

Electrical Engineering

A Sub-Critical Reactor has been constructed in the Nuclear Laboratory of the Department of Electrical Engineering. This reactor is intended for laboratory work only and several nuclear instruments have been purchased, such as a Nucleometer, Decade Scaler, Geiger Counters, etc. An Analog Computer has also been constructed by members of the staff and considerable equipment has been pur-

chased in order to provide for the handling of larger laboratory sections.

Industrial Engineering

The Industrial Engineering Department has added a Bridgeport Milling Machine and a Logan Lathe to the equipment in its main teaching laboratory. These machines will provide a more realistic shop practice for laboratory classes in production problems.

For use in Motion and Time Study classes and laboratories a special 16 mm Time and Motion Study projector was procured. This projector makes it possible for the students to do more and better work in film analysis.

Engineering Mechanics

In the biennium the Department of Engineering Mechanics has established a Dynamics and Vibrations Laboratory. With modern high speed machines and increased speeds of airplanes and missiles, vibrations research is becoming a very important field of study.

A number of demonstration models for use by advanced undergraduates as well as graduate students have been constructed for the laboratory to illustrate various shock and vibration phenomena.

Since advanced experimental work in mechanics depends greatly upon electronic instrumentation as a tool, the laboratory is equipped to demonstrate to the student the application of modern electronic instrumentation to the various measurements used in research investigations in Engineering Mechanics.

In the Fluid Mechanics Laboratory an apparatus for the study of compressed air flow has been designed and partially completed. The equipment installed to date and in operation provides for the measurement of dry air flow over a wide range of discharges.

For the Coastal Engineering field research work, complete apparatus for underwater surveys has been acquired. This includes a sonar type depth recorder, sand sampler, and tag line.

Mechanical Engineering

Several important facilities have been added to the equipment for metallurgical research during the past two years, in connection with two research programs being conducted for governmental agencies. An apparatus has been built which permits heating specimens at elevated temperatures either under high vacuum or under atmospheres of dry hydrogen and of dry helium. Such an apparatus is useful in many metallurgical studies but it has been particularly put to use in the sintering of bars pressed from powdered metals and in the hydrogenation of titanium.

A corollary to the hydrogenation apparatus is the so-called Sieverts equilibration apparatus for the determination of hydrogen in titanium. This equipment is patterned after that of Sieverts, who was the first to study gas-metal equilibria systematically. This equipment can be used to determine hydrogen in any metal or alloy from which it can be vacuum-extracted.

The latest model Baldwin-Lima-Hamilton creep and stress-to-rupture testing machine has been installed during the past year. It permits the determination

of the elongation of metals with time under stress (capacity of the machine is 20,000 pounds load), at temperatures that may range from room temperatures to 1800° F.

The most modern research metallograph made by the Bausch and Lomb Optical Company has been installed during the past year. It enables examination of the microstructure of metals over a range of 25 to 2,000 magnifications and permits the recording of these structures photographically.

The X-ray diffraction equipment has been expanded. The apparatus comprises the basic X-ray generator and control systems, and an electronic circuit panel, a Geiger counter type goniometer, two powder cameras, and a precision back reflection focusing camera. The X-ray spectograph attachment enables the determination of the presence of elements of atomic number over 22; it is particularly useful for the rare earth elements.

A hot hardness tester has been built and is used to evaluate the indentation hardness of metal specimens at temperatures up to 1200° F. The liquid metal seal permits the operation under a helium atmosphere.

The powder metallurgy facility has complete equipment for powder testing processing, pressing and sintering. A melting facility is approaching completion. The furnace is designed to melt titanium and zirconium without contamination, by use of an electric arc in an inert atmosphere, struck between the charge and non-consumable electrodes.

REPORT OF THE DIRECTOR OF THE ENGINEERING AND INDUSTRIAL EXPERIMENT STATION

To the President of the University:

Sir: I respectfully submit to you the following report for the Engineering and Industrial Experiment Station for the biennium ending June 30, 1956.

Because of the close co-ordination of the research program of the Engineering and Industrial Experiment Station and the teaching program of the College, much of the information given in the previous report pertains to the Station. The Station continues to grow in size and service to the State. Only about 20 per cent of its revenue comes from State funds, the remaining coming from contract sources.

There can be no question that the Station has rendered a real service in connection with the development of the resources of the State and in connection with services to industry. Furthermore, the research problems require a great many varied grades of technical assistance; and consequently, any engineering student who desires to secure employment on these projects can do so. This gives the student not only financial remuneration but perhaps, and this is even of greater importance, it enables him to become familiar with some of the problems facing the State and Nation and enables him to work side by side with skilled research workers, frequently his own instructors. Certainly, this gives an ideal form of technical instruction.

In the foregoing report some discussion has already occurred with reference to Coastal Engineering and the Atomic Energy program. The importance of these two programs, both from a research standpoint and from an educational standpoint cannot be too greatly stressed.

The quality of research is of course entirely dependent upon the intelligence,

training, and capacity of the research worker. Furthermore, in this field we are in closer competition with industry than in any other field. It is well recognized that our personnel are overloaded and underpaid. The situation is particularly peculiar in this field due to the fact that in the case of 80 per cent of our workers their salary in its entirety is reimbursed. Research contractors have, almost without exception, indicated that they felt that our workers were underpaid and have indicated their willingness to pay higher salaries. In many cases the contractor is disturbed by the fact that he feels there might be a serious interruption to the work should the worker leave because of higher salaries that might be paid to him elsewhere. While there have been some recommendations as to increased salaries, it is still our feeling that the new salary scale recommended is not sufficiently high and that if possible it should be increased.

Certainly, today in the industrial transition that is occurring in Florida, the Engineering and Industrial Experiment Station has a most vital part to play. Money invested in Engineering research will pay great dividends. In many cases the funds made available by the State have been used for starting projects which later have then been carried on with funds secured from outside sources. In effect, therefore, the State appropriation acts like the seed that the farmer plants and from it comes the harvest. No one can foresee what developments will come forth in the next few years. The State should be prepared for any eventuality in this direction. At the present time it becomes practically impossible for the Station to accept new projects because of limitations of space that now beset us. It is hoped that arrangements may be made so that new buildings can be secured and a plot of land suitable for some of our research projects which cannot be carried out on the campus can be acquired. There is no question that if additional space is secured there will be brought into the State many millions of dollars which otherwise would have to be turned away. Furthermore, it should be recognized that unless it is secured now, considerable time will elapse before buildings can be completed, and in the meantime the State will lose.

Attention should also be called to the fact that at the recent conference at St. Petersburg in connection with Nuclear Energy, the delegates recommended that there be set up two research centers in the Southeast. Whether one of these stations will be located in Florida will in no small measure be dependent upon what progress is made in technological educational facilities in the next few years. Attention is called to the list of publications put out during the past two years and the projects that have been undertaken.

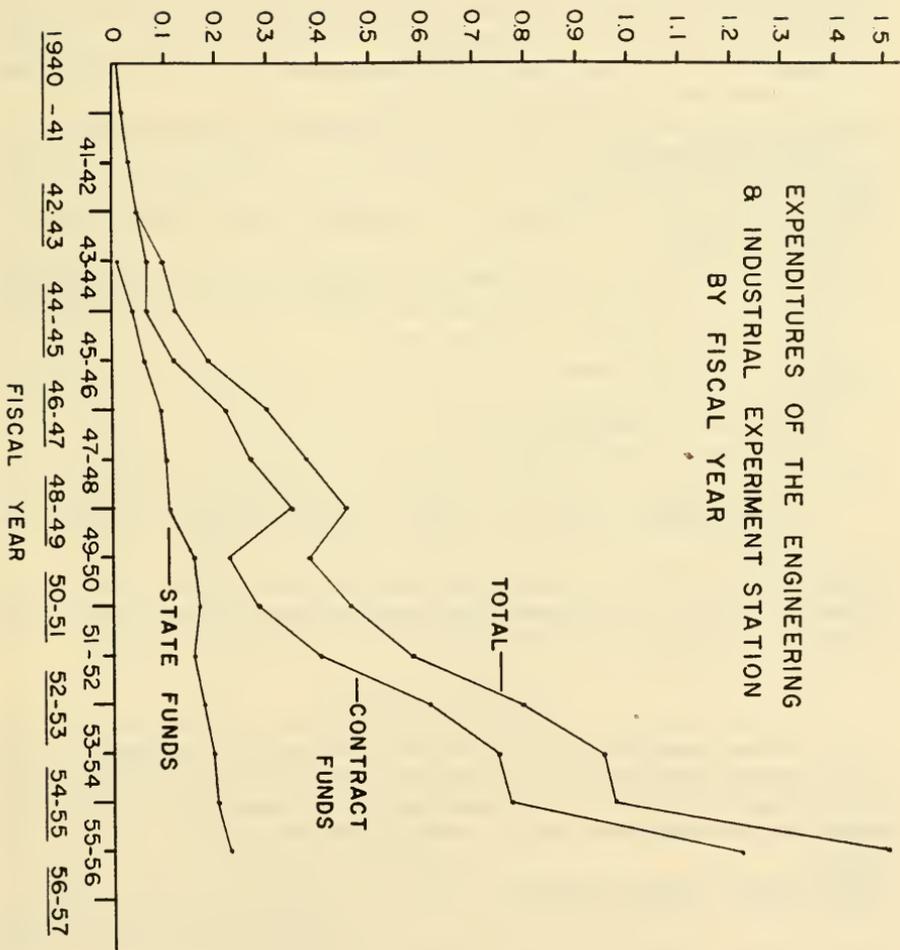
A chart is also given showing our general sources of funds. It is interesting to note that research funds closely parallel the volume of manufacturing in Florida. One cannot help but wonder just how much each of these factors affects the other.

Conferences and Short Courses

During the past two years the College of Engineering through its Engineering and Industrial Experiment Station has conducted conferences, seminars, and short courses on the following subjects of major interest to the development of the State.

Accident Prevention Engineering Conference (in cooperation with the General Extension Division of the University of Florida)

MILLIONS OF DOLLARS



Air Conditioning Conference

Conference on *Electrical Engineering as Applied to the Paper and Pulp Industry* (in cooperation with the American Institute of Electrical Engineers)

Short Course and Conference on *Electric Meters* (30th and 31st in the annual series, with the Southeastern Metermen's Association participating)

Highway Conference

Southeastern Symposium on *Industrial Instrumentation* (in cooperation with the Instrument Society of America)

Liquefied Petroleum Gas Conference (co-sponsored with Florida Liquefied Petroleum Gas Association)

Methods-Time-Management—short courses given by the Department of Industrial Engineering

Power Reactor Conference

Prestressed Concrete Conference (in cooperation with the Prestressed Concrete Institute)

Public Health Engineering Conferences—specifically on Water Management (8th) and Atmospheric Pollution (9th) (in cooperation with the Florida State Board of Health and others)

Pulp and Paper Conference

Southeastern Seminar on *Spectroscopy* (in cooperation with the Southeastern Association of Spectrographers)

Survey and Mapping Conference

Water and Sewage Treatment Plant Operator's Short Course (in cooperation with the General Extension Division of the University of Florida and others)

In addition to the above annual conferences the fall meeting of the U.S.A. National Committee of the International Scientific Radio Union was held at the University of Florida in December, 1955.

Research Projects

The various research projects in operation during the biennium are listed below. Summaries of some of the projects listed have been omitted for the following reasons: discussed in previous reports; terminated during the biennium; special projects of short duration; presently inactive; classified for security reasons.

AERONAUTICAL ENGINEERING

Robert A. Thompson, M.S. in
Engineering, Department Head

Project 5327—"Investigation of Wind Forces on Structural Shapes"

—R. A. Thompson

—J. W. Hoover, Leaders

Project 5425—"Empirical Investigation of Shear Load Distribution in Bolts in Line"

—J. W. Hoover, Leader

Project 4728—"Pulp and Paper Research"
on Heat Transfer to Clouds of Small Particles"
—W. F. Brown, Leader

A study was made of heat transfer to moving clouds of small particles dropped through still air in a furnace approaching the conditions of two infinite parallel heated plates. The radiation coefficient was found to be a function of the concentration of the particles in the cloud.

Project 4278—"Pulp and Paper Research"
—W. J. Nolan, Leader

Research on this project consisted mainly of studies of the kraft pulping reactions on southern pine and on bagasse. In pine pulping, experiments showed the need for increased wood surface in the high speed pulping reactions now being contemplated by the southern mills. As a direct result of these investigations, one mill is installing equipment to shred chips before pulping in the manner recommended by this laboratory. Two other mills are carrying out pilot plant experiments on the preshredding of chips.

The following projects undertaken for industrial organizations have been completed during the past two years.

- No. 5414—Manufacture of Hardboard from Creosote Bush
- 5422—Low Density, High Strength Wall Board from Aspen Wood
- 5426—High Density Bleaching of Douglas Fir
- 5431—Processing Sulphite Screenings in the Rotapulper
- 5436—The Pulping of Nicaraguan Woods
- 5451—Bleaching of Kraft Cuttings and Semichemical Pulp
- 5452—Pulping of Brazilian Eucalyptus by the Kraft Process
- 5453—Pulping of Brazilian Eucalyptus by the Neutral Sulphite Process
- 5458—Philippine Bagasse for Paper-making Grades by the Kraft Process
- 5459—High Density Bleaching of St. Joe Kraft
- 5502—Evaluation of Shell Chemical Company Peroxide
- 5522—High Density Peroxide Bleaching of Crown Zellerback Ground-wood
- 5532—Mixed Hardwoods for Hardboard and Semichemical Pulp
- 5538—High Density Hypochlorite of Swedish Kraft
- 5556—The Manufacture of Hardboard from Philippine Bagasse
- 5602—Depithing of Peruvian Bagasse
- 5606—A Complete Demonstration of the Manufacture of Hardboard from Philippine Bagasse

As a result of projects 5556 and 5606, a \$4,000,000 plant is under construction in Cuba for the manufacture of hardboard from bagasse.

Project 4933—"Short Course in Industrial Instrumentation"
—W. C. Hackler
—M. Tyner, Leaders

Project 5006 T—"Solution Concentration by Direct Contact Freezing"
—M. Tyner, Leader

Project 5018—"Corrosion Resistant Protective Coatings for Tin and Steel Structures"

—H. F. Payne, Leader

A great many corrosion inhibiting paint systems for steel structures were formulated and made in the paint laboratory. Extensive testing of these paint systems coated on steel panels and evaluated in the laboratory and on exterior exposure fences at Indian Key indicated that superior durability could be expected over the paint materials in use by the State Road Department. As a result of this work the State Road Department revised its specifications for primer and finish coat paints for steel bridges.

Project 5021—"Research in Fluoride Carbon Compounds"

—J. H. Simons, Leader

Project 5031—"Development of Refractories from Florida Clays"

—D. L. Bensinger, Leader

Samples of clay were obtained mainly from refractory-type clay deposits in the Zephyrhills area. Various tests were made to determine the quality of refractory that might be obtained for a manufacturing endeavor.

Project 5032—"Development of Low Temperature Porcelains"

—D. L. Bensinger, Leader

Considerable investigation and work was done in the development of three low temperature porcelain bodies and suitable glazes for studio potters. All effort was made to include as high a percentage of Florida clays into the bodies as practical.

Project 5125—"Correlation of Physical Properties and Film Heat Transfer Coefficients of Sulphate Black Liquor"

—W. F. Brown, Leader

Complete data were obtained on specific heat, thermal conductivity, viscosity, and specific gravity of sulfate black liquor over the range of 0 to 60 per cent solids and 100°F to 200°F.

Project 5236—"Annual Pulp and Paper Conference"

—W. J. Nolan, Leader

Project 5314—"Resins, Plastics and Elastomers from Florida Materials"

—R. B. Bennett, Leader

Development of Florida raw materials, especially along the line of macromolecular products, resulted in the initiation of the work on Spanish moss, two groups of students in Process Design working on the interesting gum which can be extracted in 25 per cent yields from the scrub palmetto, and in numerous contacts with raw material and plastic industries over the state.

Project 5321—"Research on the Production of Fluorocarbon Derivatives"

—R. D. Dresdner, Leader

Fourteen persons located in Reed Laboratory are engaged in chemical research to prepare and study new substances in the field of organic fluorine chemistry.

The subject contract has been in effect for over three calendar years and funds have been made available for work up to January 31, 1958. The Office of Naval Research has requested a proposal for the extension of this work for another year, that is, until January 31, 1959.

The studies are truly of a fundamental nature and permit the use of graduate students in chemistry. They may use the research results in the dissertations needed for advanced degrees.

Project 5324—"The Use of Polyamide Resin Suspenoids as Protective Coating for Paper"

—W. F. Brown, Leader

Work was done on completing of project and a paper was written on the research. An abstract follows:

A polyamide resin dispersed in water to form a suspenoid was investigated to determine its effectiveness as a coating for barrier type food packaging paper. It was found that the coated sheet even at low coated weight gave complete resistance to penetration of peanut oil for a period of 1000 hours when subjected to the oil at 73° F and 50 per cent relative humidity. It was found that the minimum amount of methyl cellulose should be used as a thickening agent because the greater the amount of methyl cellulose the higher the water vapor transmission.

The water vapor transmission rate varied with the thickness of coating up to 18 pounds per ream, beyond which little difference could be found. The addition of clay caused the water vapor transmission rate to rise rapidly.

Project 5403—"Plastic Moulding"

—R. B. Bennett, Leader

The initial assignment of working out the technique of enclosing a camera in a transparent dome has been completed and reported. The additional task of attaching this dome and a rotatable camera to two wing tanks is well under way. A new assignment is well along with several possibilities in evidence of fulfilling the requirement of increasing the speed accuracy, and ease of making polyester-glass cloth laminates (commonly called "fiberglass" construction) used in boats, radomes, wingtanks, etc. The results should be of value to this new Florida industry as well as to the Eglin Air Force Armament Testing Center. One patent disclosure has been submitted.

Project 5404—"Oxygen Analyzer"

—R. B. Bennett, Leader

It appears that the electronic device which has been devised, constructed, and installed, has been shown capable of detecting in one-thousandth of a second any change in the concentration of certain gases in the atmosphere. The details are now classified.

Project 5423—"A Process Development in the Utilization of Waste Sawdust"

—S. S. Block, Leader

A laboratory process was developed by which edible mushrooms were produced from waste sawdust. The yield was considered excellent and the mushrooms had a desirable flavor.

Project 5427—"Research on Power Supply"

—R. D. Walker, Leader

The Diamond Ordnance Fuze Laboratories, Ordnance Corps, are sponsoring this project. It is a classified project under the supervision of Professor R. D. Walker.

Project 5430—"Phase Equilibria in System Containing Fluorocarbon-type Compounds"

—T. M. Reed, Leader

Two papers were published in May 1955 on the theoretical aspects of liquid solutions containing a fluorocarbon. A semimicro equilibrium still for vapor-liquid studies has been designed and used in this laboratory. This still is

unique in that it requires only 10 ml of liquid, and produces very accurate equilibrium data.

Project 5435—"Research, Development, and Evaluation of the Polyamide Resins Applied as a Heat Sealable Barrier Coating to Subsistence Packaging Papers"

—W. F. Brown, Leader

The work on the polyamide resins was continued under a new contract. First a new coater was quite flexible and much easier controlled.

Coating was done on the new coater by three different methods: (1) Emulsion coating, (2) Hot melt coating, and (3) Solvent coating. Barrier coatings of a superior type were made by both the emulsion method and the hot melt method. It was found also that the material had excellent heat sealing and non-blocking characteristics.

The peanut oil test developed during the research is a new method and much superior to the present standard method. The water vapor transmission rate test was adapted from the standard method and gave excellent and consistent results.

Project 5437—"Construction of Continuous Paper Machine"

—R. D. Walker, Leader

Project 5441—"Prevention of Slime in Paper Mills"

—S. S. Block, Leader

A new method for the prevention of the slime that accumulates normally in the paper making system has been tested. This method employs a high concentration of a toxic chemical in a waterproof adhesive binder. Several materials show retardation of slime but further work is necessary in the development of a practical composition.

Project 5443—"Lightweight Aggregate"

—D. L. Bensinger, Leader

Continued work on lightweight aggregate. Various samples from different localities were checked in the Ceramic Laboratory for their adaptability to lightweight aggregate manufacture.

Project 5447—"Packaging Papers for the Florida Food Industry"

—W. F. Brown, Leader

Project 5455—"Additional Chromatographic Studies on Asphalt"

—H. E. Schweyer, Leader

Project 5510 T—"Adsorption Fractionation Mechanisms in Fixed and Moving Adsorber Beds"

—R. D. Walker, Leader

This is a continuing study of the mechanisms of adsorption fractionation of binary mixtures, aimed to develop design methods for commercial processes.

Project 5515—"A Preliminary Study of the Use of Florida Plastic Kaolin as a Coating Material for Paper"

—W. F. Brown, Leader

Project 5516—"Research and Development of Spanish Moss"

—R. B. Bennett, Leader

Project 5521 T—"Molten Salt Electro-chemistry"

—R. D. Walker, Leader

Project 5527—"Grade Standards on Natural Sponges"

—R. B. Bennett, Leader

Grading standards for natural sponges have been set up as the result of a contract and extensions sponsored for the past year by the Fish and Wildlife Service.

Project 5529 T—"Alumina in the Chromatography of Asphalt"

—H. E. Schweyer, Leader

Project 5534 T—"A Method for the Instantaneous Analysis of Simple Gas Mixtures"

—R. B. Bennett, Leader

Project 5536 T—"Phase Equilibria in Systems Containing Fluorocarbons"

—T. M. Reed, Leader

Project 5548 T—"A Study of the Variable Factors in Starch-Clay Coating"

—W. F. Brown, Leader

Project 5549—"Evaluation of Compounds as Fungicides and Preservatives"

—S. S. Block, Leader

The Hooker Electrochemical Company has requested an evaluation of their chemicals for possible value as fungicides. In this evaluation program the test compounds are screened against various fungi to determine their inhibitory properties. Those that appear active shall be given further tests to demonstrate their practical usage as fungicides for textiles, paints, leather, wood, adhesives, or other applications.

Project 5603 T—"Efficiency of Laboratory Fractionating Columns Distilling Fluorocarbons"

—T. M. Reed, Leader

This project includes (a) the preparation and/or purification of the fluorocarbon compounds from available materials; (b) measurement of the thermodynamic properties of binary mixtures of fluorocarbons suitable for finding the number of theoretical plates in a column in the temperature range -30° to 0°C and 90° to 150°C ; with those obtained with hydrocarbon materials.

Project 5607 T—"Design and Control Methods for Unsteady-State Distillation Towers"

—H. E. Schweyer, Leader

An experimental and theoretical investigation into the fundamental aspects of the behavior of distillation towers under unsteady-state conditions.

Project 5609 T—"Transient Heat Conduction Through Composite Sections"

—C. E. Huckaba, Leader

CIVIL ENGINEERING

Ralph W. Kluge, M.S.
Department Head

Project 4734—"Highway and Surveying Conference"

—A. A. Katterhenry, Leader

Project 4806—"Subsurface Sewage Disposal"

—J. E. Kiker, Jr., Leader

Health hazards and other problems are created by the subsurface disposal of sewage from individual homes and small industries not served by public sewerage facilities. Particularly at realty subdivisions in fringe areas, the problems have been increasing in Florida and throughout the rest of the country. Continued studies of these problems will culminate in the develop-

ment of a national manual to be published by the U. S. Public Health Service and which includes new standards of practice in the design, construction, and operation of subsurface disposal systems.

Project 4810 B—"Studies on Diatomite Type Filters"

—J. E. Kiker, Jr., Leader

Project 4826—"Municipal and Public Health Engineering Conference"

—E. R. Hendrickson, Leader

Project 5025—"Prestressed Concrete Highway Bridges"

—R. W. Kluge, Leader

Research in prestressed concrete started here during the construction of the Sunshine Skyway. Since it was the first major structure in the State using prestressed concrete in the approaches to the bridge, some studies as to behavior of such structures were begun. Laboratory tests were completed in 1954 but field studies are still being conducted to establish the behavior of five test beams, which are part of the structure, while subjected to traffic loads and as affected by the site conditions.

Similar tests are being conducted on the Gandy Bridge in the Tampa Bay area. These studies also will yield much valuable data for the bridge engineers of the State Road Department, enabling them better to understand the behavior of prestressed concrete structural units so as to accomplish a safer and more economical design.

Project 5034—"Structural Engineering Conference"

—B. D. Spangler, Leader

Project 5110—"Anti-Pollution and Sewage Disposal for Florida Communities"

—T. deS. Furman, Leader

The treatment of domestic sewage from small Florida communities has presented serious economic problems. Oxidation ponds have been used in other sections of the country, principally in the far west, as a means of reducing the cost of treatment. Exploratory work is now underway to study the possible applications of this method of treatment in Florida.

Investigations on the use of sand beds for the treatment of domestic sewage have been continued at the Sanitary Research Laboratory. Sand bed depths as well as effective sand size was correlated with results of treatment as measured by B.O.D. removal. Studies were also continued to determine the effects of varying the sizes of sand used in uncovered sludge drying beds.

The effect of sludge elutriation is under investigation with respect to settling rate and sludge density. The information obtained from these studies will be useful in designing more efficient sludge digesters.

Project 5228—"A Study of Fatigue Crack Propagation in Flexure Specimens"

—F. E. Richart, Jr., Leader

The progress of fatigue cracks through metal structures have been studied using plate specimens of structural steel.

Project 5232—"Microscopic Flora and Fauna of Florida Streams"

—J. B. Lackey, Leader

Chemical and biological investigations were continued on the Santa Fe River system to determine the effects of natural elements on the flora and fauna of a stream relatively free from pollution. The results of this work will be used in the future to evaluate the effects of discharging wastes to similar streams.

Project 5234—"Study of Arching in Elastic Media"

—F. E. Richart, Jr., Leader

Project 5304—"Producing Domestic Animal Food from Sewage Plant Effluents"

—J. B. Lackey, Leader

Project 5305—"Atmospheric Pollution"

—E. R. Hendrickson, Leader

A project of great value to the potential industrial development of the State is the one on atmospheric pollution. This project is concerned with the dispersion and effects (on vegetation, materials, livestock, and human health) of the air-borne wastes from some of the major industries in Florida. Experience and results obtained from this work have led to appreciable outside financial support from the U. S. Public Health Service and it is anticipated that additional support will be received from the Pulp and Paper Industry.

Project 5306—"Quantity and Quality of Inshore, Estuarine or Neritic Algae and Protozoan Plankton"

—J. B. Lackey, Leader

Project 5308—"Effects on the Polyelectrolytes on Sewage Filterability"

—T. deS. Furman, Leader

Project 5337—"Addition to the Engineering & Industries Building"

—B. D. Spangler, Leader

Project 5340—"The Purification of Citrus Wastes"

—J. B. Lackey, Leader

The National Institutes of Health, U. S. Public Health Service, has for the past three years made available grants for the study of citrus waste treatment. This problem has become critical in Florida because of the rapidly expanding citrus industry. Previous to these studies, only ponding and lagooning were used; however, this work has shown possibilities of several new methods of treatment.

Project 5401—"The Microscopic Biota of Sewage, Industrial Wastes and Natural Pollution"

—J. B. Lackey

—W. T. Calaway, Leaders

A search of the literature, both foreign and domestic, was made with the view of developing a bulletin which will contain descriptions of all protozoans reported in sewage, industrial wastes and polluted streams. Drawings from living organisms have been prepared to replace inadequate drawings now appearing in the literature.

Project 5424—"Evaluation of Fatigue Damage Theories"

—F. E. Richart, Jr., Leader

Project 5432—"Electric Shock in Rough Fish Control"

—J. B. Lackey, Leader

Preliminary studies were made to determine the effectiveness of killing rough fish by electrical shock. A usable circuit was established and the fields for several types of electrodes were defined. Results showed that a pulsating D.C. was more effective than straight D.C. or A.C.

Project 5436—"Properties of Lightweight Aggregate Concrete"

—R. W. Kluge, Leader

Project 5446—"Stress Transfer in Granular Elastic Media"

—F. E. Richart, Jr., Leader

A project which has particular value to construction of structures in sandy regions is the study of stress transfer by shear in granular masses under the influence of certain pressures. Model tests of retaining walls, caissons, and piles are being conducted to verify the analytical results which were prepared in the early stages of the project. This study has been made possible by a grant from the National Science Foundation.

Project 5445—"Hydrology of Florida. Part III. Rainfall Distribution in Florida"

—D. B. Smith, Leader

Continuing studies on the various phases of hydrology in Florida have been pursued with emphasis on rainfall and its corresponding runoff. The successful culmination of one part has disclosed the runoff criteria applicable to the sandy soils in the Jacksonville area. This information is of economic importance to the successful design of municipal and other storm drainage facilities. A second study has demonstrated quantitatively the relationship existing between rainfall and ground water recharge in the Floridan aquifer of Central Florida. A third investigation, not yet complete, is concerned with the areal distribution of rainfall over the state. The intent is to reduce to usable form a large mass of point rainfall data already available in the state and to publish the results in graphical form.

Project 5457—"Compressive Strength of Column Sections with Stiffeners"

—A. M. Ozell, Leader

Project 5505—"Flexible Pavement Design"

—W. H. Zimpfer, Leader

Project 5506—"Soil and Cement Stabilization"

—W. H. Zimpfer, Leader

Project 5507 T—"Marl"

—A. A. Katterhenry, Leader

Project 5508 T—"Rubber Asphalt Mixture"

—W. Gartner, Leader

Project 5509—"Vegetative Growth Control"

—J. B. Lackey, Leader

Treatment of areas similar to Eglin Air Force Base ranges with herbicides to secure, if possible, a cover of short grass only, by efficient and economic methods.

Project 5512—"Basic Mechanisms of Secondary Sewage Treatment Processes"

—F. W. Gilcreas, Leader

Radiotracers are now being used to establish the flow pattern in sand beds used for sewage treatment. Similar work has been undertaken to determine the ion exchange qualities of sand. Tracer studies are also being made to determine some of the basic mechanisms of secondary sewage treatment.

Project 5519—"Loss in the Bond Strength of Prestressed Concrete Structural Members"

—A. M. Ozell, Leader

In cooperation with the State Road Department, research in the behavior of prestressed concrete units under repeated loads was begun in 1955. Data obtained so far have already helped the bridge office tremendously.

To conduct repeated load studies, members of the department have designed and built one 10,000 lb. and one 50,000 lb. capacity fatigue machine which will accommodate full size bridge members.

Studies were conducted to determine the relative load carrying capacity of prestressed concrete and reinforced concrete columns. Altogether 47 full size columns were tested which made it possible to arrive at an empirical expression for the engineer to use in the design of such columns.

A full size bridge beam with 46 ft. span was tested to failure to determine the ultimate load carrying capacity and the safety factor of such bridge members.

Project 5524—"Short Course in Prestressed Concrete"

—A. M. Ozell, Leader

Project 5531—"Research on the Static and Fatigue Strengths of Prestressed Concrete Structural Members"

—A. M. Ozell, Leader

Studies were conducted to understand better the behavior and improve the design of prestressed concrete composite lintel beams generally used in low-cost buildings and homes in the State.

Research in the methods and duration of curing of prestressed concrete units was conducted in the laboratory and extended to include production under field conditions.

Project 5539—"Recovery of Sand and Other Building Materials from Offshore Areas"

—W. Gartner, Jr., Leader

Project 5540—"Flexible Pavement Design"

—W. Gartner, Jr., Leader

During the past year, the Department of Civil Engineering has undertaken a study of wheel load distribution in flexible pavements constructed from materials common to the State of Florida. A typical section of roadway has been constructed in the Laboratory with SR-4 strain gages embedded for the measurement of wheel load distribution. The results of this investigation, when completed, will provide the State Road Department with information vital to the design and construction of economical and durable highways needed in this State.

Project 5546—"Stress Transfer in Welded Partial Length Cover Plates"

—A. M. Ozell, Leader

Project 5552—"Field Study of the Effects of Plastic Flow and Shrinkage on Change in Stress in Reinforcement of Prestressed Girders"

—R. W. Kluge, Leader

Project 5613—"Dispersion and Effects of Airborne Industrial Wastes"

—E. R. Hendrickson, Leader

Project 5616—"Toxicity of Phenolic Compounds to Fish"

—J. B. Lackey, Leader

Project 5617—"Air Pollution Problems in the Pulp and Paper Industry"

—E. R. Hendrickson, Leader

ELECTRICAL ENGINEERING

M. J. Larsen, Ph.D.
Department Head

Project 2201—"Short Course and Conference on Electric Meters"

—E. F. Smith, Leader

Project 4512—"Electronic Instrumentation"

—P. M. Tedder, Leader

Classified.

Project 4926—"Weather Radar Studies"

—M. H. Latour, Leader

The investigation of weather phenomena by radar has been conducted by this project for several years. The demonstrated usefulness of radar for tracking tropical storms has helped the extension of this facility in the Weather Bureau Offices throughout the nation.

The weather radar facility has been used to study hurricanes, thunderstorms, tornadoes, squall lines, frontal weather, and rainfall intensity. During the last two years, the equipment has been maintained and manned during every hurricane threat to the Florida coast. Fortunately these storms have not affected Florida during that period.

A study of the radar echoes obtained from lightning discharges has been conducted during the last two years. Radar echoes of large amplitude are obtained from the ionized channel of the lightning discharge. Using the radar as a sensing instrument some of the properties of the lightning discharge can be studied. The results of this investigation were published in the "Reflection of Microwaves from Lightning Discharge Regions," by Donald C. Bunting, (Thesis for Master of Science degree).

Project 5129—"A Study of Negative Gaseous Ions"

—T. L. Bailey, Leader

Sponsored by the Office of Naval Research Under Contract NONR 580 (00)-580 (01). This research is of a fundamental nature, and is yielding information which is expected to be of value to such diverse subjects as electrical discharges, negative ion stability, upper atmosphere physics, and organic chemistry. To date four publications have resulted from this work; two more are in process of publication.

The experimental techniques used, and the fundamental intent of the work, provide opportunity for research training in electrical engineering, chemistry, and physics. So far, three M.S. candidates in electrical engineering and one Ph.D. in physical chemistry have received degrees under this contract.

Project 5305—"Atmospheric Pollution"

—A. L. Danis, Leader

Project 5310—"A Study of the Neutralization of Gaseous Ions"

—W. H. Cramer, Leader

U. S. Army Office of Ordnance Research Contract No. DA-01-009-ORD-422, July 1, 1954 to June 30, 1956. An apparatus has been constructed for the study of collisions of positive ions with atoms and molecules in the gas phase. This apparatus consists of a mass spectrometer, a special collision chamber, associated electronic equipment, and a vacuum manifold.

Project 5605—"Subcritical Reactor"

—W. F. Fagen, Leader

A subcritical reactor is being installed on the ground floor of the Engineering Building on the campus. The Atomic Energy Commission has released 2500

kilograms of natural uranium for use in this facility. This uranium in the form of aluminum clad slugs is arranged in a lattice of some 200 aluminum tubes in the interior of a six-foot tank of water. The tank is supported by a heavy reinforced concrete base which, by the provision of retaining walls, also serves as a safety vessel while providing support for a raised floor around the tank to permit convenient access to the interior structure. A superstructure of angle iron supports the instrumentation and transparent cover plate which is locked in position over the top of the tank for safety. Access to the interior of the tank is provided only under the supervision of the laboratory radiation officer or other responsible party.

The facility will be used for instruction in connection with the courses in nuclear engineering authorized by the College of Engineering and for research in reactor kinetics and instrumentation, thus providing the first major facility in the College of Engineering program of nuclear studies.

Project 5610—"Electrical Engineering as Applied to the Pulp and Paper Industry"

—L. E. Schoonmaker, Leader

Project 5611—"Seismograph"

—W. F. Fagen, Leader

The two horizontal component seismographs of the Department of Electrical Engineering have been mounted on a concrete table in a vault located in the Engineering Building. New transducing elements have been designed and installed. These are based on the use of frequency-modulated r-f oscillators. By the use of beat frequency techniques, an audio signal of frequency proportional to displacement is obtained. This signal is converted by an electronic system into a signal to operate two pen recorders.

The instrument is set up in a permanent fashion and can be used for earthquake recording as well as research in tracking of hurricanes by microseismology.

Elastic and inelastic (charge exchange) cross sections have been measured for He^+ ions in He in the energy range from 4 to 400 ev. The interaction energy for the formation of the molecular ion He_2^+ is calculated to be 3.9 ev., as determined from the elastic scattering data. A paper describing these experiments has been prepared for publication. A study of the scattering of Ne^+ in He has also been completed, and work now in progress involves the interaction of Ne^+ with Ne. Such experiments are important for understanding certain types of chemical reactions, processes occurring in electrical discharges and gaseous conduction, and upper atmospheric phenomena.

The contract under which this work is being done has provided support in the form of graduate assistantships for three students who received M.S. degrees in Engineering and for one in Physics.

Project 5331—"Investigation of Atmospheric Radio Noise"

—A. W. Sullivan, Leader

Sponsored by the Air Force Cambridge Research Center, Bedford, Massachusetts, under Contract No. AF 19(604)-876.

During the past two years it has been shown that the amplitude probability distribution of the atmospheric noise is easily measurable and that this measure of noise can be related to the performance of communication systems operating in the presence of this noise.

Special instrumentation has been designed and developed for the meas-

urement of noise characteristics and laboratory models of commonly used radio communication systems were fabricated. With this equipment studies were made which clearly indicate the usefulness of statistical measures of atmospheric radio noise.

Several graduate students have been engaged in this work and the following theses resulted from the research:

“A Statistical Model of Atmospheric Noise” by J. M. Barney; Ph.D. degree.

“The Effect of Atmospheric Noise on a Frequency-Shift Radioteletype System” by S. P. Hersperger; M.S. degree in Engineering.

“A Logarithmic Amplifier for Noise Measurement” by J. Douglas Wells; M.S. degree in Engineering.

“The Effect of Atmospheric Noise on a Manual Radio-telegraph Communication System” by R. F. Brown; M.S. degree in Engineering.

A paper entitled “Radio Receiver Counts Lightning Strokes” by A. W. Sullivan, J. D. Wells, and H. E. Dinger published in *Electronics*, Vol. 27, No. 10, October, 1954, resulted from the research done under this project.

Project 5336—“Induction Heating Methods of Aircraft Structures Testing”

—R. W. Sampson, Leader

The Department of Electrical Engineering initiated studies in the simulation of air-friction heating in aircraft structures several years ago. This work is presently being continued and expanded by the addition of a new 200-KW unit. The facilities then will include a large 20-KW unit and two 200-KW induction generators under electronic control. The research problem is concerned with the development of improved means for concentrating the heat on air foil surfaces located some distance from the generator and in applying computer techniques to the simulation problem. A detailed study of work-coil designs and the problems associated with nonuniform heat gradient production are being studied. This induction heating facility is the largest in the free world devoted exclusively to research and development.

The production of extremely high-power densities has been studied by this group and has resulted in the opening of a whole new area for future research. Heat transfers to metals in the order of 100-KW per square inch have been achieved. These are among the highest heat transfer rates ever achieved in the laboratory. The engineering techniques and methods which are being developed in this project will be used in the design for the large-scale high-temperature test facility at Wright Air Development Center of the Air Research and Development Command, sponsors of this work.

Project 5409—“Shade Tobacco Problems”

—A. L. Danis, Leader

Project 5444—“Application of Magnets and Magnetic Materials to Urological Surgery”

—M. J. Wiggins, Leader

Project 5517—“Conference on Small Power Nuclear Reactors”

—W. F. Fagen, Leader

Project 5518—“Production of Tobacco Products”

—A. L. Danis, Leader

Project 5520—“Thermal Shock Tests of Conical Models by Induction Heating Methods”

—R. W. Sampson, Leader

Project 5528—"Ultra High Frequency Wave Propagation Study"

—M. H. Latour, Leader

The phenomenon known as "forward scatter" was discovered during experiments conducted by military scientific groups shortly after World War II. This phenomenon results in ultra-high-frequency radio signals being detectable at ranges far beyond the horizon.

Originally it was assumed that UHF signal's strength decreased rapidly beyond the horizon, falling below the detectable level in a short distance. The experimental evidence obtained indicated that amplitude of signal beyond the horizon did not drop to as low a value as had been previously assumed. Thus, with receivers of sufficient sensitivity and high powered transmitters VHF signal can be detected at ranges up to six hundred miles beyond the horizon.

This opened up a new field for communications. However, little is known about the phenomenon. The physical factors which cause the phenomenon have not been established. The fluctuations of the signal amplitude as a function of the day and season and under various climatological conditions are also unknown.

The project, under sponsorship of the Office of Naval Research Contract Nonr 580(04), has undertaken a study of the fluctuations of the UHF signal as a function of the meteorology, the season, and the time of day for a transmission path over the open sea.

To this end, field stations have been established at the Air Force Missile Test Center, Cape Canaveral, Florida, and on New Providence Island, Bahamas. This will give an oversea path length of 300 miles.

Correlation with the various meteorological factors will be made as the data are collected.

Project 5544—"Interaction Between Electron Beams and Positive Ions"

—W. E. Lear, Leader

This project is concerned with the nature and cause of interactions which take place between electron beams and positive gas ions in certain very high frequency vacuum tubes.

Experimental techniques have been devised to measure the degree of disturbance of the electron beam and the frequencies of oscillation of the disturbing ions. A special vacuum tube is being constructed having an electron gun so placed that the effect of secondary electrons can be simulated so that their role in the ion-electron interaction process can be determined. Analytical work has been done which gives further insight into the nature of ion oscillations.

This work is sponsored by the Electronic Tube Division of the Sperry-Rand Corporation.

Project 5604—"Linear Accelerator"

—W. F. Fagen, Leader

Design and construction of a 10-MEV accelerator has been undertaken. The high-voltage d-c power supply and the pulse generator are being constructed. It is planned that the klystron system and accelerator tube proper will be developed in cooperation with Sperry Corporation of Gainesville. Dr. Morris Ettinberg of the Sperry staff is working on a theoretical design of a novel accelerator tube construction which can accomplish 10-MEV acceleration in three feet. Previous accelerators have used tube structures approximately ten feet long for this acceleration. Thus the new design represents a major improvement in

linear accelerator design.

The program will utilize several graduate students and will make possible research in nuclear studies, food sterilization, medicine, and biology as well as accelerators.

ENGINEERING MECHANICS

W. L. Sawyer, M.S.E.

Department Head

Project 5410—"Torsional Buckling of Thin Cylindrical Shells"

—W. A. Nash, Leader

Project 5418—"Instrumentation and Analysis of Vibration Induced by Aircraft Multi-gun Installations"

—W. A. Nash, Leader

Classified.

Project 5503—"Absorption of Wave Energy by Vertical Walls with Special Reference to Coastal Protection and Harbor Problems"

—Per Bruun, Leader

Various arrangements of vertical walls are being studied in a small model basin for their wave absorption ability. Wave diffraction, friction loss including generation vortexes, phase displacement and influence of permeability are observed and recorded.

Project 5503A—"A Fundamental Study of the Destruction of Wave Energy by Vertical Walls"

—Per Bruun, Leader

Project 5511—"Field Research: Investigations of Beach Profiles and Configurations of Shoreline on Protected and Unprotected Coasts of Florida"

—Per Bruun, Leader

Project 5525—"Investigation of Existing Data on Tidal Entrances"

—Per Bruun, Leader

This project is an analysis of existing data on tidal inlets, including estuaries, with the aim of relating tidal prism, inlet area, littoral drift, and their pertinent factors to the controlling depth and shoaling tendencies of tidal inlets.

Project 5533—"Application of Shallow Shell Theory to Analysis of Buckling Phenomena"

—W. A. Nash, Leader

An investigation of new methods of determining buckling loads of thin shells.

Project 5535—"Construction of a Wave Tank"

—Per Bruun, Leader

Project 5542—"Atomization of a Liquid by an Air Stream"

—H. F. Hrubecky, Leader

Project 5547—"Engineering Information on the Behavior of Lake Worth Inlet Resulting from the Proposed Deepening of the Inlet to Accommodate Seagoing Vessels of Greater Draft"

—Per Bruun, Leader

Field studies have been underway for several months, complete data on the contours of the ocean bottom assembled, and a scale model of the harbor is now being constructed near the Engineering & Industries Building for detailed investigation of the behavior of waves and currents in the Inlet.

Project 5553—"Investigation of Beach Erosion of Fernandina Beach"

—Per Bruun, Leader

Project 5554—"Coastal Engineering Investigation at Longboat Pass"

—Per Bruun, Leader

The development of Longboat Pass with adjacent shorelines have been investigated, soundings taken, and recommendations will be made on the basis of the study for proper coastal protection for the proposed bridge connection between Anna Maria and Longboat Keys.

Project 5555—"Investigation at the Sunshine Skyway and at the Campbell Causeway, Tampa Bay"

—Per Bruun, Leader

These studies are aimed at eventual improvement of an already constructed sea wall.

Project 5608—"Maintenance of Wave Recorders"

—Per Bruun, Leader

With the Corps of Engineers, three wave recorders installed at Daytona Pier, Clearwater Pier, and Palm Beach Pier are being maintained and supervised for the Beach Erosion Board.

Project 5614—"Beach Erosion Investigation at Jupiter Island"

—Per Bruun, Leader

Project 5615—"Tide Level Generator"

—Per Bruun, Leader

A tide level generator is being constructed. It will be used with a model basin to simulate tides in reduced scale models of harbors and channels. The data thus assembled will be used as a basis for determining the probable effects of similar actual tides on the originals.

INDUSTRIAL ENGINEERING

E. P. Martinson, M.A.

Department Head

Project 5136—"An Exploratory Research Program with Reference to the Human, Natural and Material Potentialities of the Bahama Islands"

—R. C. Kephart, Leader

This project has been extended in order to bring it up to date and record accomplishment up till June 30. The final report is completed and will be submitted to the Bahamas during the year 1956-57.

Project 5202—"An Engineering Study of Retirement Village Planning"

—C. M. Kromp, Leader

This project has been successful in that it has produced two theses for Master's candidates and has created much favorable publicity in the public press. Feature articles have appeared in the *Christian Science Monitor*, *The Banker's Monthly*, *The Atlanta Constitution* and several Florida dailies. Inquiries from builders, organizations, promoters, and Chambers of Commerce, indicate that action has been taken to establish Retirement Villages on the basis of this project. The final report on this project has been written and is now ready for printing.

Project 5341—"Annual Conference on Accident Prevention Engineering"

—D. B. Wilcox, Leader

Project 5415—"Methods-Time-Measurement Clinic-Training Program for Florida Industry"

—A. C. Kleinschmidt, Leader

Project 5448—"Methods of Financing New Industrial Plants in Florida in Recent Years"

—F. Muehlner, BEBR, Leader

Study completed and bulletin reporting results in process of publication.

Project 5513—"The Marketing and Shipping of Lightweight Aggregate in Florida"

—E. P. Martinson, Leader

This project is about completed and should be published early in 1956-57.

Project 5530—"Aluminum Industry in Florida"

—E. P. Martinson, Leader

This study has been completed and copies have been presented to the Florida Industrial Commission for use of Governor Collins in assisting in the development of this industry.

MECHANICAL ENGINEERING

John C. Reed, M.E.
Department Head

Project 4802—"Periodic Heat Transmission"

—F. M. Flanigan, Leader

Project 4932—"Air Entrainment in Hot Water Systems"

—J. D. Simonds, Leader

Project 4934—"Annual Air Conditioning Conference"

—J. D. Simonds, Leader

Project 5233—"Comparative Study of the Operation of a Heat Pump and an Oil Fired Furnace"

—F. M. Flanigan, Leader

Project 5334—"Spectroscopy Seminar and Annual Meeting of the Southeastern Association of Spectrographers"

—W. T. Tiffin, Leader

Project 5345—"Design and Construction of Housing for Hot-Humid and Hot-Dry Climatic Conditions"

—J. C. Reed, Leader

Project 5405—"Temperature Measurement in Aircraft Guns"

—J. M. O'Byrne, Leader

Project 5421—"Journal Bearing Temperature"

—Norman Bourke, Leader

Reactivated on March 7, 1956.

Project 5433—"Shelter Entrance Investigations"

—F. M. Flanigan, Leader

Classified.

Project 5438—"Unsteady State Heating of Hollow Cylinders"

—W. H. Bussell, Leader

Project 5440—"Possible Uses of Ultrasonics in the Demineralization of Saline Waters"

—W. T. Tiffin, Leader

Project 5449—"Development of a Titanium Alloy"

—O. Zmeskal, Leader

Project 5450—"Study and Development of Temperature Measuring Devices"

—E. A. Farber, Leader

Project 5454—"The Metallurgy of the Rare Earth Elements"

—O. Zmeskal, Leader

Rich deposits of monazite, containing such rare earth elements as thorium, cerium, samarium, and lanthanum, are found on the Florida East Coast. The properties of these rare earth elements are being investigated so that they may be used more widely in industry.

Project 5456—"Design and Construction of an Inert-Atmosphere Non-Consumable-Electrode Arc Melting Furnace for Highly Reactive Metals"

—O. Zmeskal, Leader

Project 5501—"A Study of Solar Energy Absorbers"

—E. A. Farber, Leader

A Solar Energy Laboratory has been set up with work going on in the fields of solar water heating, solar air heating, solar power generation, solar refrigeration, solar cooking, and solar distillation. Different low, as well as high, temperature solar absorbers are studied, improved and designed. Their performance is studied and improved and their respective advantages taken and combined in the designs for their specific purposes.

Project 5504—"Liquid Petroleum Gas Conference"

—F. M. Flanigan, Leader

Project 5526—"Transient Temperature Sensing Equipment"

—J. M. O'Byrne, Leader

Five basic methods of measuring transient temperatures in gas streams are being investigated. These are by the use of: (1) ultrasonic frequencies; (2) magnetostriction characteristics; (3) attenuation of electromagnetic waves; (4) optical methods; and (5) electrical conductivity methods.

Project 5541—"The Effect of Foreign Substances on the Strength of Powder-Metal Aggregates"

—O. Zmeskal, Leader

Project 5543—"Shrinkage in Weld Joints"

—W. T. Tiffin, Leader

Project 5545—"A Study of the Procedures and Techniques Necessary for the Successful Brazing of Materials used in Nuclear Apparatus"

—W. T. Tiffin, Leader

Project 5550—"Spectrochemical Analysis of Florida Ores and Sands"

—W. T. Tiffin, Leader

Spectrographic and chromatographic analyses are being applied in the detection and separation of the metals occurring in the beach and dune sands and other deposits in Florida.

Chromatograms of inorganic mixtures will be produced in columns of alumina (Al_2O_3) and on filter paper. These will be developed with reagents which are capable of producing color reactions or fluorescence to locate zones or spots, otherwise only faintly visible.

The objective of this project is to develop an accurate, rapid, and simple method of separation of cations and for the qualitative and quantitative analyses applicable to our problem.

Project 5551—"A Study of the Embrittlement in Commercially Pure Titanium"

—O. Zmeskal, Leader

Project 5601—"Diffusion of Boron and Silicon with Nickel"

—W. T. Tiffin, Leader

The diffusion of boron into nickel results in a eutectic with a lower melting point than either, which may be useful, among other things, for welding nickel alloys. A similar study of silicon is being made.

GENERAL

Project 5411—"Trajectory Error Analysis"

—H. A. Meyer, Statistical Laboratory, Leader

Project 5537—"Research on Visibility Studies for Photographic Definition"

—A. G. Smith, Physics Department, Leader

REPORT OF THE GRADUATE SCHOOL, 1954-56

L. E. Grinter, Dean

This biennial report for the years 1954-55 and 1955-56 contains considerable data on the quantitative and statistically measurable features of graduate study at the University of Florida. Also given are details of changes in regulations regarding admission, etc., that are necessary to the balanced operation of a large institution engaged in graduate study. However, no statistics can be brought to bear upon the central problem of graduate work at the University which is the quality of the work performed by the students under the stimulation, imaginative teaching and research influence of the faculty.

It is fortunately possible to report that the routine features of graduate work are being handled rather well; class offerings are generally adequate and classes are small enough in a fair percentage of cases to permit close contacts between students and teachers. Students are well advised, records are maintained and supervision is provided for thesis and dissertation work in a more orderly manner than is true in many graduate institutions. Improvement is doubtless possible in these routine functions of a graduate school, but the quality of graduate work cannot be further enhanced in this manner. The next step in improvement of graduate study can only come from a basic strengthening of the graduate faculty. However, this accomplishment is not within the immediate power of the Graduate School since the necessary improvement of graduate faculty can not be accomplished merely by selection from the existing total faculty.

If the University of Florida is to stand forth above the general level required for mass education as envisioned more or less uniformly for all state institutions in the Brumbaugh Report, it will only do so by developing an exceptional graduate faculty. The *graduate faculty* of the University of Florida at this time can be described as good but not exceptional. The reasons are readily located. The total faculty has been built upon the theory that a large number of new people must be employed largely at the lower levels, that the best ones will be retained and that these persons moving into the upper ranks will produce an adequate faculty. During certain periods of history, this theory would have produced a strong undergraduate faculty, but it has never been successful at the graduate level. Under present competitive conditions regarding faculty recruitment it must be questioned even for the development of the upper division faculty.

As times change, it is necessary to revise educational procedures and concepts.

The next decade will see a period in which college teachers will be at a great premium. It has already been necessary to reduce standards for employment of teachers in the lower division. An even more drastic reduction will be inevitable as the teacher shortage increases. Hence the concept that the upper division teachers in basic fields may be developed by advancement from the lower division will be less tenable. To assume that this procedure could adequately staff any graduate school is unrealistic. As a matter of fact, none of the quality graduate schools have ever been staffed in this manner even during more favorable times.

The policy in staffing graduate schools has always been to select individuals both from the undergraduate faculty and from other institutions, government and industry who have the special aptitude of imagination as applied to teaching and research. Such a specification inevitably requires that an institution draw a considerable percentage of its graduate faculty from outside. If one adopts the opposite assumption, it follows that all undergraduate institutions could produce strong graduate faculties from their own ranks which is a *reductio ad absurdum*. Instead, there is the strongest possible competition which will become much more keen to retain the brightest and most imaginative minds from the undergraduate faculty and to draw stimulating graduate teachers from industry, government and other educational institutions.

In this competitive struggle of the next decade, no more than one institution in five or ten can hope to maintain a position of distinction in the graduate field. Those institutions that remain to claim some distinction at the graduate level will have been fortunate if they have been able to produce even one-half of their senior graduate faculty from within the institution. The competition and resulting transfer of professors from institution to institution and to government and industry is likely to become so active that in many institutions only a small percentage of the senior graduate faculty at a given time will have been developed from within the institution itself.

Much evidence to support the viewpoints given above is already available. Department heads express the view that it has consistently been impossible to replace strongly qualified persons who have resigned with equivalent talent even in many cases at considerable increase in salary. In one specialty, four resignations in two years have as yet led to no replacements even though offering salaries have been increased twenty per cent or more for this particular field. The competition of industry for brainpower, which until recently was restricted to science and engineering, is beginning to reach into many other fields of endeavor. One reads of institutions such as Louisiana State University and the University of Illinois that are still placing improved salary scale at the top priority of institutional need despite three or four heavy salary increases in as many years. The Faculty Salary Committee of the University of Florida has just shown that the basic salary level limiting the Senior Graduate Faculty is \$3,136 below the average upper level of eighteen universities with which the University of Florida must be able to compete. Our upper salary level is \$10,000 below that of the strongest graduate institutions.

Since the University of Florida, like all other graduate institutions, must face the fact that the competitive situation will force the selection of a continually increasing percentage of the senior graduate faculty from outside its ranks, it must be prepared to match salaries offered elsewhere. When its entire salary scale has been increased about fifty per cent, it will be able to select excellent young persons with the reasonable assurance that they will remain long enough

with the institution to advance into the senior graduate faculty. In the interim, which will probably last for at least a decade, it will be necessary to employ a considerable fraction of the senior graduate faculty from outside the institution. To accomplish this will require competitive salaries which it is well recognized range from \$12,000 in the liberal arts to above \$15,000 in the sciences and applied fields. The solution of this problem is of first priority to the Graduate School of the University.

It is important in connection with graduate faculty development to note that present procedures give the Graduate School no direct control over faculty selection. It is therefore inevitable that a large percentage of faculty upon which the Graduate School must later depend will have been selected upon the basis of criteria established for lower-division instruction and widely at variance with criteria for selection of imaginative leaders of graduate work. A graduate school cannot effectively carry a responsibility without commensurate influence to achieve its objectives. In a university such influence is exercised through budgetary control. Hence it is recommended that in the next biennium the Graduate School be given a considerable supplementary salary budget with which to encourage departments to bring in instructors of the highest quality at all levels but particularly at the levels of assistant research professor and research professor or scholar of established reputation which are appointments not widely used in the university today.

It is most significant that a mere thirty appointments of graduate professors of top salary rank would be sufficient to change the entire reputation of the university by establishing it as one of the small group of distinguished graduate schools among state universities. Such appointments should be made over a period of perhaps five years upon the basis of a national survey of the most qualified available personnel. It is evident that some members of the present faculty of the University would qualify for such appointments and they should be given every consideration. However, as in the strongest graduate schools, appointments to the highest paid professorships at the University of Florida should not be made merely upon the basis of tenure and good teaching since the objective is stimulation of high level scholarship and research as well as strong undergraduate teaching.

Changes in Standards of Admission to the Graduate School. During the 1954-56 period, the Graduate School has operated on a dual standard of admission based essentially upon the undergraduate grade-point average. For students in all colleges other than Education and Physical Education and Health, a grade-point average of about 3.0 for the last sixty hours of undergraduate work has been the common standard required of at least eighty per cent of the students admitted.

For students in Education, the grade-point standard used has been 2.5 with several alternative channels that reduced rejections to a negligible factor. This discrepancy between standards of admission was not encouraged by the Graduate School which has held to the concept that graduate study should be a strong intellectual experience reserved to those who have demonstrated through previous studies capacity for intellectual achievement above the average of college graduates.

In March, 1956, the Board of Control adopted new standards of admission to the Graduate School based upon the Graduate Record Examinations. After due deliberation, the majority of colleges of the University adopted an admission

standard of 500 average score on the aptitude sections of the Graduate Record Examinations in addition to a B-average undergraduate record for upper division studies. The College of Education and the College of Physical Education and Health asked for a lower admission standard based upon an average GRE score of 400 and a 2.5 undergraduate grade-point average. Hence it may be noted that approximately twice as large a percentage of college graduates can meet the graduate admission standards for the study of Education as for the subject matter fields. A justification for this difference must be found in the professional purposes behind the M.Ed. and Ed.D. degrees as contrasted to the more strongly academic objectives associated with much of the M.A. and M.S. study and Ph.D. work. In general, it may be said that the action of the Board of Control should result in improved selection of graduate students in all divisions of the University although the Board's concept of a single admission standard has not as yet proved practical.

Graduate School Statistics

For the purpose of maintaining a permanent record the following statistical information is included in this report:

New Graduate Programs. Approval was obtained during the biennium for the following new or revised programs:

The Master of Arts degree with a major in Communications

The Master of Rehabilitation Counseling degree

The Ph.D. degree in Bacteriology

The Ph.D. degree in Civil Engineering, including

Sanitary Engineering

Structural Engineering

The Ph.D. degree in Geography

Extension of the Ph.D. degree in Animal Husbandry to include the fields of Animal Breeding and Physiology

Publications Related to the Graduate School

1. Graduate School Announcement Concerning Available Fellowships, Assistantships and Scholarships for 1955-56 and 1956-57.

2. "Publications and Theses, July 1, 1953-June 30, 1955", edited by Margaret Enid Knox and published by the Research Council, 1956.

3. "Abstracts of Doctoral Studies in Education in 1954", published by the College of Education, University of Florida.

4. "Abstracts of Doctoral Studies in Education in 1955", published by the College of Education, University of Florida.

5. One hundred thirty-one microfilm publications of doctoral dissertations.

6. Five book publications of doctoral dissertations.

7. Fourteen journal articles derived from doctoral dissertations.

8. "Research at the University of Florida", a Report from the Office of Contract Research and the Graduate School, Gainesville, Florida, 1955.

9. "Graduate Student and Faculty Handbook for Planning Advanced Degree Programs", published by the Graduate School, 1954-55 and 1955-56.

Memoranda of the Graduate School. From time to time the Graduate School issues official memoranda clarifying the application of its regulations or an-

nouncing new regulations adopted by the Graduate Council. These memoranda form a numbered sequence for easy reference. In due time, such changes in regulations appear either in the Official Catalog or in the Handbook for Planning Advanced Degree Programs. During the biennium 1954-56, Memoranda 28 to 38 were issued.

Memo No. 28—Copyrighted Material Used in Doctoral Dissertations.

Memo No. 29—Revised Statement of Language Requirements for the Ph.D. Degree.

Memo No. 30—Appointment of Teaching Groups From the Graduate Faculty as Special Graduate Faculties.

Memo No. 31—Revision of Page 20 of the Graduate Student and Faculty Handbook for Planning Advanced Degree Programs to Add Clarification of the Process of Transfer of Credit.

Memo No. 32—Registration Fees for Graduate Students.

Memo No. 33—Non-Resident Tuition Scholarships.

Memo No. 34—Editorial Services for Faculty Publications.

Memo No. 35—Policy Governing Graduate School Awards.

Memo No. 36—Statement Adopted by the Graduate Council on December 8, 1955 Concerning Admission from Non-Accredited Institutions.

Memo No. 37—Revision of Foreign Language Examination Procedures.

Memo No. 38—Policy Regarding Use of Scores of Graduate Record Examinations for Admission of Graduate Students.

COMPARATIVE DATA ON ENROLLMENT OF GRADUATE STUDENTS BY COLLEGES, BY FISCAL YEAR, 1954-55 AND 1955-56

	SS 1954		1st Sem. 1954-55		2nd Sem. 1954-55		SS 1955		1st Sem. 1955-56		2nd Sem. 1955-56	
College or School	M*	W*	M	W	M	W	M	W	M	W	M	W
Agriculture	118	3	154	3	139	4	127	8	139	7	139	7
Architecture & Allied Art	6	4	10	5	11	6	6	3	15	2	16	4
Arts & Sciences	210	40	272	74	259	76	190	51	249	73	255	70
Business Administration	36	0	52	2	43	3	37	1	50	1	52	2
Education	429	345	248	231	259	317	399	379	209	256	201	236
Engineering	30	1	39	1	48	1	36	0	56	0	57	0
Forestry	4	0	3	0	4	0	2	0	4	0	3	0
Journalism	10	0	9	0	5	0	4	0	5	0	6	0
Pharmacy	12	1	20	1	20	1	15	1	23	0	19	1
Physical Education	18	12	9	6	13	5	19	14	22	10	24	8
Total	873	406	816	323	801	413	835	457	772	349	772	328
Total Men and Women												
By Term	1279	1139		1214		1292		1121		1100		

*The letters M and W refer to men and women registrants.

COMPARATIVE DATA ON UNDUPLICATED* GRADUATE SCHOOL
ENROLLMENT BY ACADEMIC YEAR AND SUMMER TERM

School or College	1952-53	1953 SS	1953-54	1954 SS	1954-55	1955 SS	1955-56
Agriculture	150	107	161	121	185	135	181
Architecture & Allied Arts	27	15	22	10	21	9	22
Arts & Sciences	382	223	398	250	399	241	372
Business Administration	66	35	59	36	60	38	64
Education	781	812	731	774	725	778	622
Engineering	57	32	49	31	54	36	68
Forestry	4	5	5	4	5	2	6
Journalism	6	2	11	10	9	4	6
Pharmacy	31	23	25	13	22	16	24
Physical Education	24	25	29	30	24	33	49
Total	1528	1279	1490	1279	1504	1292	1414

*A Student enrolled for one or more terms within the academic years or summer session is counted as one enrollee only.

TABLE 3
NUMBER AND DISTRIBUTION OF MASTER'S DEGREES, 1954-56

Major Department	Fiscal Year, 1954-55		Fiscal Year, 1955-56	
	Thesis	Non-Thesis	Thesis	Non-Thesis
Accounting	5	1	1	0
Aeronautical Engineering	0	0	0	1
Agricultural Economics	1	0	2	2
Agricultural Education	2	12	1	12
Agricultural Engineering	1	2	1	0
Agricultural Extension	0	1	0	1
Agronomy	3	0	2	1
Animal Husbandry	5	0	7	0
Architecture	2	0	2	0
Art	5	0	3	0
Bacteriology	4	0	3	0
Biology (Zoology)	2	0	1	0
Botany	0	0	1	0
Building Construction	0	0	0	0
Business Administration	1	3	2	2
Business Education	0	5	1	7
Cancer Research	1	0	0	0
Chemical Engineering	4	0	4	0
Chemistry	5	0	7	0
Civil Engineering	4	0	5	0
Communications	--	--	--	0
Community Planning	0	0	1	0
Dairy Science	0	0	1	1

TABLE 3 (Continued)

Major Department	Thesis Fiscal Year, 1954-55	Non-Thesis	Thesis Fiscal Year, 1955-56	Non-Thesis
Economics	0	1	4	0
Education	11	195	7	190
Electrical Engineering	5	0	6	0
Engineering Mechanics	0	0	0	0
English	10	0	7	0
Entomology	2	0	3	2
Forestry	2	0	1	0
French	1	0	0	0
General Agriculture	0	2	0	1
Geography	0	0	2	0
German	0	0	0	0
History	3	0	4	0
Horticulture	2	1	4	5
Industrial Arts Education	7	7	1	8
Industrial Engineering	0	0	1	0
Inter-American Area Studies	1	0	0	0
Journalism	6	0	3	0
Latin	0	0	0	0
Mathematics	8	0	3	0
Mechanical Engineering	0	0	6	0
Pharmaceutical Chemistry	1	0	4	0
Pharmacognosy	0	0	0	0
Pharmacology	0	0	0	0
Pharmacy	0	0	0	0
Philosophy	1	0	1	0
Physical Education	0	15	0	18
Physics	3	0	6	0
Plant Pathology	0	0	1	0
Political Science	6	0	8	0
Poultry Husbandry	1	0	0	0
Psychology	11	0	8	0
Real Estate	1	1	0	0
Sociology	3	0	1	0
Soils	2	2	0	0
Spanish	3	0	3	0
Speech	6	0	5	0
Totals	141	248	134	251

TABLE 4

NUMBER AND DISTRIBUTION OF DOCTORAL DEGREES, 1950-56

Department	1951	1952	1953	1954	1955	1956*
Education	8	5	9	21	21	12
Agricultural Economics	**	0	0	1	0	2
Agronomy	--	--	--	--	--	--
Animal Husbandry	2	1	2	0	2	2
Bacteriology	--	--	--	--	--	--
Biology (Zoology)	4	2	4	3	6	2
Cancer Research	--	2	1	0	1	0
Chemical Engineering	1	1	0	2	3	0
Chemistry	6	6	10	7	15	8
Civil Engineering, including						
Sanitary Engineering	--	--	--	--	--	--
Structural Engineering	--	--	--	--	--	--
Economics	0	0	3	1	2	1
Electrical Engineering	--	0	1	1	0	1
English	5	3	2	6	6	2
Geography	--	--	--	--	--	--
History	0	2	1	1	3	0
Horticulture	1	3	4	3	2	0
Inter-American						
Area Studies	--	0	1	1	1	2
Mathematics	1	6	5	5	1	1
Pharmacy, including						
Pharmacy	3	1	6	5	6	2
Pharmacognosy	0	0	2	0	0	0
Pharmacology	1	3	3	3	0	1
Pharmaceutical						
Chemistry	--	2	0	0	2	0
Physics	--	0	2	4	1	0
Plant Pathology	--	0	0	0	0	0
Political Science	0	0	1	0	1	0
Psychology	0	1	2	5	6	2
Sociology (Latin						
American)	--	--	0	1	2	0
Soils	--	--	--	0	2	0
Spanish	--	0	0	0	0	0
Speech	0	0	1	2	3	0
Total degrees awarded						
by year	32	38	60	72	86	38

Total Doctor of Education degrees awarded during period 76

Total Doctor of Philosophy degrees awarded during period 250

Total Doctoral degrees awarded during period 326

*Includes January and June degrees only, since August figures are not available.

**The dash indicates degree not offered.

TABLE 5
NUMBER OF FELLOWSHIPS HELD BY GRADUATE STUDENTS

Source	Fiscal Year	
	1954-55	1955-56
University of Florida	55	88
American Plant Food Council	1	1
Minnesota Mining and Manufacturing Company	1	
National Science Foundation	1	2
Parke-Davis	4	3
Naval Stores	4	3
General Motors	2	1
H. Harold Hume	1	2
Dudley Beaumont	1	1
Oak Ridge	1	2
American Foundation for Pharmaceutical Education	8	7
Southern Fellowships Fund		1
Sperry Fellowship		2
Science Teachers Scholarship		3
Dupont		1
Tennessee Eastman		1
Firestone		1
Fulbright		1
General Chemistry Grant-in-Aid		3
United States Government Grant		1
Florida Home Builders		1
TOTALS	79	125

TABLE 6
POSITIONS HELD BY GRADUATE STUDENTS

Category	Fiscal Year	
	1954-55	1955-56
Graduate Assistants	270	304
Research Assistants	50	34
Teaching Assistants	37	40
TOTALS	357	378

Special Activities

Graduate Faculty Meetings.

December 9, 1954: Annual Meeting of the Graduate Faculty. The agenda was

as follows:

Graduate Study and Research Report

- I. The Graduate School and Research as a Faculty Activity.....L. E. Grinter
 - II. The Support of Agricultural Research.....R. W. Bledsoe
 - III. The Support of Engineering Research.....Joseph Weil
 - IV. The Support of Cancer Research.....Francis E. Ray
 - V. The Support of Individual Research.....Paul Tarrant
- February 15, 1956: Special meeting of the Graduate Faculty. Pitirim A. Sorokin, internationally famous scholar and Director of the Harvard Research Center in Creative Altruism, spoke on "Research and Reconstruction of Man."
- March 15, 1956: Annual meeting of the Graduate Faculty. Roger P. McCutcheon spoke on "Preparation of College Teachers Within the Framework of the Ph.D. Degree." Dr. McCutcheon, formerly professor and Graduate Dean at Tulane University, for the past several years has been in charge of an experimental Ph.D. program at Vanderbilt University set up with foundation aid for the training of college teachers in subject-matter fields. Recently, Dr. McCutcheon was a member of the "Committee of Fifteen" which produced the bulletin "The Graduate School Today and Tomorrow" that comments on the college teacher training programs at Vanderbilt, Stanford, and for a group of seven California colleges.

Annual Reports from the Special Graduate Faculties. Copies of the Annual Reports of the Special Graduate Faculties in Inter-American Studies and in Community Planning show bi-monthly meetings of these faculties.

Editorial Services for Faculty Publications. Beginning with September, 1955, the Graduate School has provided limited editorial and secretarial service for members of the faculty in connection with the publication of scholarly papers. Editorial service was restricted to preparation of the final draft of manuscripts with priorities as follows:

- (1) Preparation of proposals to foundations, government, or industry for research projects or scholarly investigations requesting financial sponsorship.
- (2) Editing and final typing of papers of a research or scholarly nature where publication is assured. Typing for direct reproduction without typesetting will be possible.
- (3) Editing and final typing of papers of a research or scholarly nature to be submitted to publishers for consideration.
- (4) Editing and final typing of semi-popular articles for publication.
- (5) The Graduate School hopes in the future to aid the faculty in the preparation of book-length manuscripts for publication, but it is doubted that any time of that available will be left for this purpose during the current academic year.

Special Summer Session in Statistics. The second Regional Graduate Summer Session in Statistics was held at the University of Florida during the summer of 1955. It was attended by 96 students from 24 states and eight foreign countries. Among this group were thirty individuals with Ph.D. degrees, all in fields other than statistics.

The session, which offered courses in methods, theory, and special advanced topics, attracted students from such diverse fields as soils, chemistry, psychology, demography, and animal nutrition, and was considered by all to be very successful. Dr. Herbert Meyer acted as Director.

Classroom, offices, living quarters and research facilities for the session were isolated from the rest of the campus deliberately, and students found this to be a help. A computing room was provided, and machines were loaned by several manufacturers.

Nine courses and a seminar were offered at the session, taught by an exceptionally distinguished slate of ten faculty members, including heads of statistics departments of four universities. Staffing the school were Professors Richard L. Anderson of North Carolina State College; Glenn L. Burrows of Michigan State College; David B. Duncan of the University of Florida; Boyd Harshbarger of the Virginia Polytechnic Institute; Carl E. Marshall of the University of Florida; Herbert A. Meyer of the University of Florida; George E. Nicholson, Jr., of the University of North Carolina; Phillip J. Rulon of Harvard University; Walter L. Smith of the University of North Carolina; and Dudley E. South of the University of Florida.

The Summer Session was sponsored jointly by the University of Florida, North Carolina State College, Virginia Polytechnic Institute, and the Southern Regional Education Board.

Publications of L. E. Grinter, Dean of the Graduate School and Director of Contract Research

- "Resume of Evaluation of Engineering Education, Part I," *Virginia Engineer*, Fall, 1955, No. 5
- "Resume of Evaluation of Engineering Education, Part II," *Virginia Engineer*, Winter, 1956, No. 1, p. 11
- "Report of the Committee on Evaluation of Engineering Education," *Combustion*, August, 1955, pp. 57-61
- "Evaluation of Engineering Education," *Mechanical Engineering*, October, 1955, pp. 879-882
- "The Research Frontier," *Saturday Review*, April 21, 1956, p. 42
- "Education of Civil Engineers: Need for Reconsideration," *Proceedings of American Society of Civil Engineers*, Vol. 81, p. 858-1
- "Summary of the Report on Evaluation of Engineering Education," *The Journal of Engineering Education*, September, 1955, Volume 46, No. 1, p. 25
- "Russia Can View With Satisfaction Our Dilemma in Technical Education," *Journal, Florida Engineering Society*, Vol. X, No. 1, pp. 21-26

UNIVERSITY OF FLORIDA PARTICIPATION IN OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

Research Participants: (Starting Date)

1950-51	1952-53
A. B. Grobman	M. M. Gordon
H. C. Harris	1954-55
W. E. Lear	L. A. Scott

W. E. Millett
W. T. Tiffin
M. Tynes, Jr.
1951-52

H. E. Schweyer
H. B. Williams

Under Contract for Research Participation:

1950-51

G. B. Butler
G. K. Davis
A. B. Grobman
H. C. Harris

1951-52

G. B. Butler
G. K. Davis
J. H. Gregg
A. B. Grobman

H. C. Harris
W. E. Lear
W. E. Millett
M. Tynes, Jr.

1952-53

J. F. Baxter, Jr.
G. K. Davis
J. H. Gregg
H. C. Harris
W. M. Lauter
W. E. Lear
M. Tynes, Jr.

Graduate Fellows:

1950-51

B. M. Benjamin
R. Kulwich

1951-52

T. L. Meade
1952-53

T. L. Meade

H. J. Shaeffer
1953-54 and 1954-55

H. J. Shaeffer
1955-56

L. W. Kendrick, Jr.

T. A. Gens

A.E.C. Fellowship:

1950-51-52

H. Letaw, Jr.

(Work done here under supervision of A. H. Gropp)

Serving on Graduate Committees: (For our students on fellowships.)

1950-51 and 1951-52

G. B. Butler

1953-54

G. K. Davis
M. M. Gordon
J. H. Gregg
H. C. Harris
W. M. Lauter
W. E. Lear
M. Tynes, Jr.
H. B. Williams

1954-55

M. M. Gordon
J. H. Gregg
H. C. Harris
W. M. Lauter
W. E. Lear
M. Tynes, Jr.
H. B. Williams

G. K. Davis
1952-53 and 1953-54
W. M. Lauter
G. K. Davis

1955-56
J. A. Wethington
J. H. Simons
W. M. Lauter
C. B. Pollard

Isotope Use in Bio-Chemistry Course:

1952

H. C. Harris

Applied Instrumentation Course:

1953-54

Mary F. Argus

Consultants to Medical Division:

1952-53

D. Ellis

F. C. Ray

1953-54

D. Ellis

F. C. Ray

1954-55

D. Ellis

F. C. Ray

Medical Advisor's Panel:

1953-54

G. T. Harrell

Oak Ridge Institute of Nuclear Studies Board of Directors:

1954- for a 3-Year Term

G. T. Harrell

Oak Ridge Institute of Nuclear Studies Council Representative:

1948-

R. B. Eutsler

ANNUAL REPORT OF THE SPECIAL GRADUATE FACULTY OF
THE SCHOOL OF INTER-AMERICAN STUDIES TO THE
DEAN OF THE GRADUATE SCHOOL FOR THE
ACADEMIC YEAR 1955-1956

The Special Graduate Faculty of the School of Inter-American Studies held its first meeting of the academic year 1955-1956 on October 31, 1955. This was a lecture meeting; the guest speaker was the distinguished Brazilian novelist, Érico Veríssimo, Director of the Department of Cultural Affairs of Pan American Union, who said he was visiting various leading universities in the South in order to evaluate the recent developments in the inter-American field in the academic circles of the area. He also spoke on his career as a novelist. Minutes of this meeting were prepared and distributed to the Graduate School and the members of the group.

The second meeting of the members of this faculty was held on January 26, 1956, at which time the topic for the seventh Caribbean Conference was decided as "Contemporary International Relations" of the Caribbean area, and the roundtable themes as Diplomacy, Confederation Movements, Trade and Busi-

ness, Travel and Migration, and Cultural Cooperation. The new "Survey of Research and Investigations in Progress and Contemplated in the Field of Latin American Subjects in Colleges and Universities in the United States and Canada during the Academic Year 1955-56," which is to be carried out in cooperation with the Pan American Union, was discussed as a valuable contribution to be undertaken by the School; the project was placed in charge of Mr. Frederick E. Kidder, the Interim Assistant Director of the School. Minutes of this meeting were duly distributed.

The third meeting of the Special Graduate Faculty was held on April 10, 1956, and was on the subject of Latin American library material needs. Miss Irene Zimmerman and Miss Annette Liles, of the Library staff, spoke to the members of this special graduate faculty. It was announced at this meeting that Mr. Frederick E. Kidder and Dr. Harry Kantor would represent the School and the University at the Round Table on Strengthening Understanding Among the Countries of the Americas, San Juan, Puerto Rico, April 23-28, sponsored by the Pan American Union in collaboration with the Department of State of the Commonwealth of Puerto Rico.

Respectfully submitted,
A. Curtis Wilgus,
Director

ANNUAL REPORT OF THE SPECIAL GRADUATE FACULTY OF THE SCHOOL OF INTER-AMERICAN STUDIES TO THE DEAN OF THE GRADUATE SCHOOL FOR THE ACADEMIC YEAR 1954-1955

The Special Graduate Faculty of the School of Inter-American Studies was created when a committee appointed by Dean L. E. Grinter on May 14, 1954, recommended its establishment. The members of this committee were: Dean C. F. Byers, Chairman, and Doctors R. B. Eutsler and R. L. Johns. Doctor A. Curtis Wilgus, Director of the School, prepared a list of professors to form the Special Graduate Faculty after receiving the approval of the Deans of the respective colleges and divisions from which members had been selected. This list was submitted to Dean Grinter on July 20, 1954, and in due course it was presented to the Graduate Council and the University Senate. On December 8, 1954, Acting President John S. Allen addressed a memorandum to Professors R. W. Bradbury, Archie F. Carr, R. E. Crist, M. J. Dauer, John H. Davis, S. deR. Dietrich, Donald R. Dyer, P. V. Fernandez, John M. Goggin, Frances C. Hayes, Harry Kantor, Lyle H. McAlister, William H. Pierson, Albert Muller, T. Lynn Smith, I. R. Wershow, D. E. Worcester, and A. Curtis Wilgus (Chairman) advising them that they constituted the Special Graduate Faculty of the School of Inter-American Studies.

Guided by the instructions of Dean L. E. Grinter outlined in his memorandum and statement of August 5, 1954, the first meeting of this special graduate faculty was held on October 4, 1954, before final appointment of this body. The functions proposed for this group and its responsibilities were stated by the Chairman. Then the process to be followed in electing a supervisory committee for the graduate candidates and the steps to be taken by the graduate admitted to the program were talked over in detail. At this time the responsi-

bilities of the Graduate Advisory Committee of the School were discussed in relation to the Special Graduate Faculty, and it was agreed that the former would be considered the "executive body" of the faculty group. The relation of the Inter-American Committee of the School to the other two directing bodies was also discussed. The Caribbean Conference program for the 1954 year was distributed among the members; and the theme for the 1955 Conference, political problems of the area, was presented by the Chairman, and the suggestions of the members noted. The minutes of that meeting were submitted to the Graduate School and copies were sent to each member of the group.

The second meeting of the Special Graduate Faculty was held on February 10, 1955; minutes of this meeting were prepared and distributed as for the first. At this time Dean Grinter's memorandum of February 4, 1955, requesting recommendations on the needs for new Ph.D. programs for the Council for the Study of Higher Education was read; suggestions were made following the reading. The consensus of opinion established that there were six areas in which course-work in Latin American subjects could be strengthened. The recommendations made were as follows: (1) *Music*, recommended initiation of talks with department to present Latin American music; (2) *Anthropology and Archaeology*, recommended increasing courses and initiating graduate work; (3) *Journalism*, recommended a course in communications in Latin America; (4) *Architecture and Art*, recommended expansion of their present active program; (5) *Philosophy*, recommended the offering of a course on the philosophy of Latin American education by the Departments of Philosophy, History, or Spanish, in the College of Arts and Sciences. The activities of the various members of the Special Graduate Faculty were talked over at this meeting.

The third meeting of this group was held on April 26, 1955, for the purpose of considering recommendations for the undergraduate programs in Arts and Sciences and in Business Administration in inter-American studies. Professor D. E. Worcester (as Chairman), and Professors Bradbury and Dietrich were appointed as a steering committee of three to study the ideas presented at this meeting to the end that concrete suggestions could be given to the Special Graduate Faculty for its recommendations at a future date. Minutes were prepared and distributed giving details of these discussions.

The fourth meeting of the Special Graduate Faculty was held on May 13, 1955, and was a lecture meeting. The guest speaker was Mr. William C. Atkinson, head of the Department of Hispanic Studies of the University of Glasgow, Scotland. Mr. Atkinson's interesting talk was taped and transcribed and formed a part of the minutes of that meeting.

The fifth and final meeting of the Special Graduate Faculty of the School of Inter-American Studies took place on May 17, 1955. The graduate candidates' work in the major and minor programs of the School was discussed, as well as the final result of the awarding of grants-in-aid to advanced students for the following summer session and regular school year. It was brought out that three master's candidates and one doctoral candidate, with either a major or a minor in the Latin American field, were scheduled to graduate in June, and two master's candidates and three doctoral candidates in the same area of work would present themselves for the August Commencement. Two students in the Inter-American program were granted College of Arts and Sci-

ences fellowships, while a Graduate School fellowship was presented to a third student who was a doctoral candidate majoring in Latin American History. The distribution of the graduate assistantships of the school was also considered. The recommendations presented by the steering committee created at a previous meeting for the study of undergraduate programs in Arts and Sciences and in Business Administration were discussed and it was decided to postpone the formulation of a definite statement of recommendations although there was general approval by the members present of the proposals, particularly the need for implementation of the language instruction in Spanish and Portuguese.

Respectfully submitted,
A. Curtis Wilgus,
Director

REPORT OF THE GRADUATE FACULTY IN COMMUNITY PLANNING For the Year Ending June 30, 1955

1. This report of the inter-departmental Graduate Faculty in Community Planning for the year ending June 30, 1955 is submitted to the Dean of the Graduate School and to the colleges concerned in compliance with the provisions of Graduate School Memo No. 30, dated December 3, 1954.

Since this is the initial report of the Faculty, a mimeographed leaflet which tells something of the background of the work of the group is attached. Contained in the leaflet is a roster of the Faculty as of 1955-56.

2. *Meetings.* During the academic year 1954-55, the Graduate Faculty held formal meetings on October 27, 1954, and on January 20, January 26, February 8, March 14, and June 30, 1955. Mr. Newton C. Farr, Past President of the Urban Land Institute, was guest at the dinner meeting on February 8, and Mr. James C. Downs, Planning Coordinator for Chicago and Cook County, was guest at a similar meeting on March 14.

3. *Students.* The first students in the broadened graduate program in Community Planning were enrolled in September 1954. Candidates for the degree Master of Science in Community Planning include Mrs. Vivian Kantor, Mr. Eliahu Romanoff, and Mr. Charles Shepherd.

4. *Courses.* CPG. 501 was offered both fall and spring semesters. The work dealt with the history and theory of planning in discussions centering around a core of basic planning publications. Five students were enrolled during the fall semester and seven during the spring.

CPG. 502-503 was offered during the fall semester. The work concerned a comprehensive plan for the community of Starke, Florida. The study involved data collection in Starke, analysis of the problems presented, and the proposal of two preliminary solutions accompanied by reports and models. Students from six departments cooperated in the study: Community Planning, Civil Engineering, Geography, Landscape Architecture, Political Science, and Real Estate.

CPG. 504-505 was offered during the spring semester. The work involved studies of the urban core, neighborhoods and housing, and special projects. Advanced students in Architecture cooperated in the study with students in Community Planning.

5. *Library.* Through the cooperation of the Graduate School, funds have been made available to purchase additional books and library materials for the augmented graduate program in Community Planning. For this generous assistance, the Graduate Faculty expresses its sincere thanks.

6. *Community Planning.* Since its establishment as a teaching department in 1953, the Department of Community Planning has shared a departmental budget with the Department of Architecture. But beginning on July 1, 1955, funds have been provided which will permit Community Planning to be established as a budgetary department. In this arrangement, the University is following the recommendations of the advisory group of consultants brought to the campus in 1954 under the auspices of the Southern Regional Education Board.

7. *Service.* The study of the community of Starke has already been mentioned. In addition to serving as a laboratory for students, certain values have undoubtedly accrued in the town, for the citizens of Starke are certainly better informed about their community, about its problems, and about some of the possibilities for development than they were before the project was undertaken. As a result of the project, the University has established cordial relations in Starke with civic groups, city officials, and citizens in general.

8. *Future Program.* Since the need for graduate planners far exceeds the supply it would be desirable to step the program upward until the output of graduates is at least five each year. The problem of securing qualified candidates and of finding adequate financial assistance to enable them to complete a two-year graduate program is a continuing one, not only on this campus but elsewhere.

There is great need for research in all phases of community development. In a growing state like Florida which is fast becoming urbanized as well as industrialized, there is opportunity to avoid some of the serious and costly mistakes which have characterized the growth of other sections of the country. But to do so requires research to uncover the facts essential for an understanding of the changes that are taking place and study to evaluate the significance of these changes for our communities. It is only through such research and study that the serious and costly consequences of unguided growth and development may be avoided.

William T. Arnett, Chairman
Graduate Faculty in
Community Planning

REPORT OF THE GRADUATE FACULTY IN COMMUNITY PLANNING For the Year Ending June 30, 1956

1. This second annual report of the inter-departmental Graduate Faculty in Community Planning is submitted to the Dean of the Graduate School and to the colleges concerned in compliance with the provisions of Graduate School Memo No. 30, dated December 3, 1954.

The Graduate Faculty consists of 18 members representing 17 teaching departments. There have been no changes in membership during the year.

2. *Meetings.* During the academic year 1955-56, the Graduate Faculty held formal meetings on October 20, 1955, and on January 13, January 23, April 30, May 25, and May 31, 1956. These meetings dealt variously with academic matters

and the presentation of student work. Copies of the minutes have been distributed to all concerned.

3. *Students.* Candidates for the degree Master of Science in Community Planning include Mr. Edward McClure, Mr. David Passmore, Mr. Eliahu Romanoff, and Mr. Charles Shepherd. Mr. Shepherd was graduated in June 1956, the first student to complete the degree program. His initial employment is with the Arlington County (Virginia) Planning Commission.

4. *Courses.* CPG. 501 was offered both semesters. The work dealt with the history and theory of planning in a seminar centering around a core of basic planning publications. Five students were enrolled during the fall semester and three during the spring semester.

CPG. 502-503-505-601-603 were offered during the fall semester. The work concerned an urban redevelopment project for Gainesville, and a metropolitan study of St. Petersburg and Pinellas County. Both problems have research, analysis and proposals phases. Two models were constructed showing alternative ways of handling the site in the Gainesville study. Plans and charts for the metropolitan study were presented in Clearwater and St. Petersburg at the invitation of groups in that area after having been presented to the Graduate Faculty here.

CPG. 502-503-603-604 were offered during the spring semester. The work involved the development of a new town for Pinellas County and a regional study of the Central and South Florida Flood Control District.

Mr. Shepherd enrolled in CPG. 699 for his thesis and Mr. McClure did a subdivision development and recreation study under similar enrollment.

5. *Library.* The Library at Georgia Institute of Technology has given the University Library its cataloging cards for vertical file material. With the help of a student assistant, the filing of a large amount of planning material is moving forward. File cases and map cases have been purchased during the year from departmental funds. A collection of planning slides is on order from the University of Pennsylvania.

6. *Community Planning.* The course offerings, faculty, and budgetary provisions for Community Planning were examined by a distinguished group of consultants who at the end of January counseled with President Reitz concerning the programs of the College of Architecture and Allied Arts. It will be recalled that a similar group from the Southern Regional Education Board had previously recommended the addition of an experienced faculty member who could devote his full time and energies to the important work in Community Planning. Such a person would serve as head of the Department of Community Planning.

7. *Service.* The metropolitan study in Pinellas County is a good example of student endeavor helping to spur local interest. The many contacts with individuals and groups were valuable both to the student and the local communities. Similarly, the brief regional study is an example of profitable cooperation between the University and state and local agencies.

There is urgent need for local planning assistance in Florida communities. The growing volume of requests which have come from communities and the mounting insistency of such requests ought no longer to be ignored. The University is a logical place for such an assistance program to be centered.

8. *Short Courses.* The first of a series of Cooperative Training Short Courses in Urban Planning was held in Atlanta, Georgia, September 6-17, 1955. The

series is sponsored jointly by the Southern Regional Education Board, the University of Florida, and Georgia Institute of Technology. The second course is scheduled at the University of Florida July 9-20, 1956. Programs for the two courses are attached.

9. FPZA. Members of the Graduate Faculty have been active in the Florida Planning and Zoning Association since its organization in 1951. The annual conferences sponsored by the Association have provided a means whereby planning board members throughout the state could learn of recent developments in the field of planning and share the results of experience gained in the various communities. At the present two members of the Graduate Faculty are serving on the executive board of the Association: Karl Krastin as Director, and William T. Arnett as Vice-President.

10. *Future Program.* A future program for the University in the field of Community Planning was outlined in the first report of the Graduate Faculty and need not be restated here.

Perhaps no better summary could be made than that contained in the program for the coming short course: "The rapid expansion of population and the continuing industrial growth of the Southeastern United States are creating opportunity—and problems. Communities never before faced with the necessity of planning for orderly growth, and communities that are finding their carefully prepared plans rapidly becoming outdated, need urgently to take a fresh look at the planning process. Proper evaluation of their problems will enable them to take the steps necessary to guide and to take full advantage of their rapidly expanding local economies."

William T. Arnett, Chairman
Graduate Faculty in
Community Planning

REPORT OF THE OFFICE OF CONTRACT RESEARCH 1954-1956 L. E. Grinter, Director of Research

The attached statistical material gives a reasonably clear picture of the contract research work of the University. The volume of contract research today is almost wholly dependent upon the number of faculty members with research interests in the fields of science and technology including the health science fields. The volume of contract research is certain to increase as the faculties in these fields expand. The rapid build-up of contract research in the Health Center, for example, is merely a reflection of the fact that a number of professors with research interests have been added to the staff in the medical sciences. Several departments not now holding research contracts could do so if the criteria for selection of personnel could be revised to increase the value attached to research ability and imagination rather than teaching alone. Such are the criteria being applied in the medical sciences and in other areas of the University where fundamental research contracts are common.

At the present time the Office of Contract Research is functioning as a coordinating agency to achieve uniformity of the form of contracts, to protect the over-all interests of the University in the negotiation of contracts, and to maintain a reasonable check upon the quality of contracts held by various units

of the institution. The office also collects statistics and prepares a semi-annual report.

A function strongly envisioned in the establishment of the Office of Contract Research has not developed effectively. In most institutions a percentage of the overhead is retained by the office of contract research or by a research foundation and is used for the support and encouragement of fundamental research within the institution. The legal situation which turns all overhead into the Incidental Fund militates against this normal support for fundamental research at the University of Florida.

In each of the past four years plans have been developed for establishment either by court action or by legislative decree of a Research Foundation for the University of Florida. It becomes more and more evident that this is the only real solution to the present awkward procedures for obtaining approval of contracts as well as for the problem of supporting fundamental research. The delays in obtaining approval of contracts continue to hold down the number of contracts of the most attractive types that are negotiated. The flexibility of operation of a Research Foundation in regard to such controversial subjects as patents and overhead, as well as its contribution to the solution of the problem of initiation of a contract before formal approval, along with its freedom to make binding agreements when necessary on short notice are advantages that cannot ultimately be overlooked. In our competitive situation it is not reasonable for the University of Florida to be the only major research institution that appears to be so handicapped.

As an interim procedure, until a Research Foundation can be established, it seems highly desirable to work out a formula for return of a percentage of overhead, either to the Office of Contract Research or directly to the productive departments as an incentive for encouraging research. The University of Florida should double its total research program in the next biennium, particularly in fundamental fields. Every device for possible encouragement and support of research needs to be used effectively.

During the past several years the Office of Contract Research has been provided with funds to support research in special situations in the University. Such funds have made possible the purchase of reasonably large pieces of equipment or of scholarly research material that departmental or college funds could not encompass. Such major equipment as an electron microscope or a mass spectrograph can hardly be taken from a college budget since the purchase of one such piece of equipment would require the entire annual budget of a college. The other significant service provided by a special research equipment fund is to provide for special situations not envisioned in the planned budget. Since budget planning precedes expenditures by a full year, such changes and development of special needs are inevitable, particularly in that the needs of new staff members cannot be anticipated fully in departmental budgets. The distribution of research funds by the Office of Contract Research for the 1954-1956 biennium is indicated on the following page.

OFFICE OF CONTRACT RESEARCH

June 30, 1956

Analysis of Sources of Contracts and Research Grants

	Amount	Percentage
Supported by Department of Defense.....	\$2,528,848.21	70.87
Supported by other Federal, State, or Local Government	779,361.00	21.94
Supported by Non-Profit Foundations or Societies.....	63,360.00	1.73
Supported by Industry or Industrial Associations.....	196,850.00	5.54
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Total face value of contracts in force.....	\$3,568,419.21	
Face value divided by years in force.....	1,607,160.21	
Research backlog or unexpired value of contracts in force as of June 30, 1956.....	1,334,776.30	
Breakdown by College		
Agriculture and Forestry.....	\$ 415,345.00	
Arts and Sciences.....	275,554.00	
Cancer Research.....	189,031.00	
Engineering	2,588,890.21	
Medicine	33,699.00	
Museum	5,200.00	
Pharmacy	50,000.00	
Statistical Laboratory.....	10,700.00	
<hr/>		
Total.....	\$3,568,419.21	
Categories of Service Performed		
Direct Probable Benefit to Industry.....	\$2,861,140.21	80.54
Contribution to Human Health.....	521,096.00	14.66
Direct Probable Benefit to Agriculture & Forestry.....	270,695.00	7.62
Contribution to the National Safety (Defense).....	2,351,509.00	66.19
Basic Research and Educational Contracts.....	1,630,615.21	45.90
* No Total		

* Many projects contribute to more than one service objective, hence a total of this group would be meaningless.

OFFICE OF RESEARCH CONTRACTS

June 30, 1955

Analysis of Source of Contracts and Research Grants*

	Amount	Percentage
Supported by Department of Defense.....	\$1,896,261.04	70.681
Supported by other Federal, State or Local Government	522,414.80	19.472
Supported by Non-Profit Foundations or Societies.....	55,736.57	2.078
Supported by Industry or Industrial Associations.....	208,437.50	7.769
<hr/>		
Total face value of contracts in force.....	\$2,682,849.91	100.
Face value of contracts divided by years in force.....	\$1,571,007.00	
Break-down by College*		
Agriculture	\$ 279,579.30	
Arts and Sciences.....	544,850.57	
Business Administration	5,000.00	
Cancer Research.....	169,305.00	

Engineering	1,647,648.24	
Museum	5,200.00	
Statistical Laboratory	31,266.80	
	<hr/>	
Total	\$2,682,849.91	
Categories of Service Performed by Contracts and Research Grants		
Direct Probable Benefit to Industry	\$2,099,121.81	78.242
Contribution to Human Health	361,842.00	13.487
Direct Probable Benefit to Agriculture or Forestry	407,882.50	15.203
Contribution to the National Safety (defense)	1,560,904.40	58.181
Basic Research and Educational Contracts	1,239,445.21	46.199
** No Total		

* Contracts with beginning date of July 1, 1955 or after, although listed on report, are not included in these figures.

** Note many projects contribute to more than one service objective. Hence the total of these columns would be meaningless.

CURRENT CONTRACTS
OFFICE OF CONTRACT RESEARCH
UNIVERSITY OF FLORIDA
JUNE 30, 1956

UF Contract No.	Sponsor and No.	Period			Leader	Subject of Research
		Amount	Begin	End		
56-C70(54-P80)	AF, Cambridge Res. Ctr. AF 19(604)-876	\$244,600.00	6-30-53	9-30-57	Eng Sullivan	To conduct investigations of atmospheric radio noise
55-C14(55-P171)	AF, Wright Air Dev. Ctr. AF 33(616)-3293	183,900.00	12-1-55	11-30-57	Eng Sampson	Research and reports on development program on multiple work coils for simulation of aerodynamic heating
55-C104(55-P107)	AF, Wright Air Dev. Ctr. AF 33(616)-2491	27,147.00	5-31-54	6-30-56	Eng Richart	Evaluation of fatigue damage theories
56-C71(56-P101)	AF, Arm. Ctr., Eglin AF 08(616)-36	229,519.00	6-15-55	5-27-57	Eng O'Byrne Eng Bennett Eng Nash Eng Meyer	Research and studies into problems concerning aid armament and ground instrumentation
55-C102(55-P93)	AF, Arm. Ctr., Eglin AF 08(616)-38	32,000.00	9-15-55	3-15-57	Ag Rodgers	Vegetative growth control
55-C59(55-P31)	Armed Services Med. Procurement Agency MPA-30-287-md-25283	50,000.00	6-1-55	5-31-57	Phy Becker	Development and stabilization of pharmaceutical products
56-C76(56-P97)	Atomic Energy Commission At-(40-1)-2004	25,425.00	7-1-55	10-31-57	Ag Wallace & Hull	Research involving the recovery of radiation induced micromutations in oats by recurrent selections
56-C-84(56-P84)	Atomic Energy Commission At-(40-1)-1321	81,244.00	7-1-55	10-31-57	Ag Davis	A study of concentration of mineral elements in the fetus and the relationship to placental transfer of these elements
56-C49(54-P40)	Atomic Energy Commission At-(40-1)-231	24,132.00	7-1-54	6-30-56	Ps Swanson	Completion of the Van de Graaf electrostatic generator under construction at the University of Florida
55-C73(55-P75)	Atomic Energy Commission At-(40-1)-1353	27,639.00	7-1-55	9-30-56	Cy Butler & Gropp	Studies in the preparation and properties of quaternary ammonium ion exchange resins

CURRENT CONTRACTS
OFFICE OF CONTRACT RESEARCH
UNIVERSITY OF FLORIDA
JUNE 30, 1956

UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Amount	Begin				
55-C135(55-P147)	Atomic Energy Commission Union Carbide Nuclear Co. Subcontract no. 863	12,970.00	10-1-55	9-30-56	M1	Eng	Zmeskal A study of embrittlement in commercially pure titanium
56-C3(56-P5)	Subcontract No. 878	12,600.00	1-1-56	12-11-56	M1	Eng	Tiffin Diffusion of boron and silicon with nickel
56-C44(55-P172)	Dept. of Agriculture	5,000.00	1-1-56	Indef.	Ey	Ag	Creighton Research on the biology and control of insects of medical importance, particularly eye gnats
56-C14(56-P17)	Dept. of the Army DA-49-055-CivEng-56-9	900.00	4-1-56	3-31-57	Em	Eng	Bruun Annual maintenance of Beach Erosion Board wage gage installations at Daytona Beach, Palm Beach, and Clearwater
55-C46(55-P25)	Dept. of the Army DA-18-064-404-Cml-70	34,000.00	6-1-55	6-30-56	Bcy	Ag	Tyler Research in aerosol technology
55-C62(55-P66)	Dept. of the Army DA-49-055-eng-55	3,600.00	6-30-55	9-30-56	Em	Eng	Bruun Research on investigation of existing data on tidal entrances
54-C13(54-P14)	Dept. of the Army DA-01-009-Ord-357		2-26-54		EIES		
55-C22(55-P20)	Dept. of the Army DA-01-009-Ord-422	18,000.00	2-27-55	8-31-56	EI	Eng	Tedder Lease of facilities Study of the neutralization of gaseous ions and the significance of such processes for certain types of reaction
55-C132(55-P108)	Dept. of the Army DA-01-009-Ord-462	8,400.21	1-1-56	12-31-56	Em	Eng	Nash Basic research on torsional buckling of thin cylindrical shells
56-C72(56-P100)	Dept. of the Army Aa-01-009-Ord-439	15,950.00	10-1-55	9-30-57	M1	Eng	Zmeskal Research on the effect of foreign substances on the strength of powder-metal aggregates

CURRENT CONTRACTS
OFFICE OF CONTRACT RESEARCH
UNIVERSITY OF FLORIDA
JUNE 30, 1956

UF Contract No.	Sponsor and No.	Period			Leader	Subject of Research
		Amount	Begin	End		
56-C62(56-P95)	Dept. of the Army DAI-49-186-502-Ord (P)-168	425,000.00	5-1-54	6-30-57	Walker	Research on power supply
56-C63(56-P96)	Dept. of the Army DAI-49-186-502-Ord (P)-196	483,000.00	1-1-55	6-30-57	Tedder	Research and development on new fuzing systems
56-C5(56-P167)	Dept. of the Army DA-01-009-Ord-469	9,649.00	2-1-56	1-31-57	A. G. Smith	Phase contrast studies of optical paths including correlation with photographic resolution
55-C103(55-P103)	Dept. of the Army QM Res. & Dev. Command DA-19-129-Qm-500	16,000.00	9-14-55	7-13-56	Tarrant	Synthesis of special fluorinated monomers
56-C37(56-P56)	Dept. of the Interior 14-01-001-71	32,100.00	11-16-54	1-31-57	Reid	For process development of a desalting method using synthetic osmotic membranes
56-C61(55-P61)	Dept. of the Interior 14-01-001-79	14,061.00	6-1-55	6-30-57	Reid	Research on water and ion flow through imperfect osmotic membranes
56-C79(56-P53)	Dept. of the Navy Bur. Yards and Docks NBy-5821	2,500.00	4-30-56	2-15-57	Ozell	Studies on transfer of stresses in cover plates
56-C64(56-P98)	Office of Naval Research NONr-580(00) ONR:Nonr-580(01)	107,750.00	8-15-51	—Indef.	Eng	To perform services set forth in succeeding task orders
56-C43(55-P152)	ONR: Nonr-580(03)	381,933.00	8-15-51	8-14-58	Eng	Research in low velocity ion scattering in gases at low pressures
56-C66(55-P70)	ONR: Nonr-580(04)	225,000.00	3-1-53	1-31-58	Eng	Pilot plant production of fluorine-containing compounds
			7-1-55	4-30-57	Eng	Investigation of the propagation of UHF and SHF frequencies over a long sea path

CURRENT CONTRACTS
OFFICE OF CONTRACT RESEARCH
UNIVERSITY OF FLORIDA
JUNE 30, 1956

UF Contract No.	Sponsor and No.	Amount	Begin Period	End Period	Dept.	Col.	Leader	Subject of Research
54-C85(54-P102)	ONR: Nonr-1017	30,000.00	6-1-53	6-30-56	Cy	A&S	Tarrant	Research in the preparation of fluorocarbons from free radicals
56-C42(56-P52)	National Insts. Health S-13(R)	24,815.00	5-1-56	4-30-57	Cl	Eng	Hendrickson	Dispersion and effects of airborne industrial wastes
56-C80(56-P117)	National Insts. Health RG-4001(C2)	44,251.00	1-1-54	12-31-57	Cl	Eng	Lackey	The purification of citrus wastes
55-C122(55-P105)	National Insts. Health A-317(C3)	34,550.00	1-1-53	12-31-56	Al	Ag	Davis	Effect of varying copper, molybdenum and phosphorus ratios on male and female sterility
55-C125(55-P104)	National Insts. Health H-1318(C3)	52,706.00	1-1-53	12-31-56	Al	Ag	Davis	Dietary trace elements and heart muscle degeneration
55-C75(55-P47)	National Insts. Health RG-4058(C2)	17,769.00	9-1-53	8-31-56	Bly	A&S	Berner	An investigation of the mayflies of the southeastern U. S.
56-C41(55-P162)	National Insts. Health C-1885(C)	4,473.00	4-1-56	3-31-57	Bly	A&S	Wallbrunn	Inheritance of color and enzymes controlling pigment formation in the fighting fish <i>Betta splendens</i>
55-C96(55-P58)	National Insts. Health D-183(C)	11,150.00	8-1-54	7-31-56	Cy	A&S	Black	Development of ion exchange resins for the removal of fluoride ion from drinking water
55-C120(55-P85)	National Insts. Health RG-4516	21,850.00	2-1-56	1-31-57	Cy	A&S	Black	A comprehensive study of water coagulation
55-C112(55-P34)	National Insts. Health E-1019	8,855.00	10-1-55	9-30-56	Bly	A&S	DeWitt	Morphological - physiological factors of adaptation in snails of amphibious habit
56-C74(56-P65)	National Insts. Health M-1326	1,926.00	6-15-56	7-31-56	Psy	A&S	Dixon	The emergence of reality testing in children
53-C87(53-P13)	National Insts. Health 2M-5762-C1	24,000.00	7-1-53	6-30-56	Psy	A&S	Dixon	Training in clinical psychology

CURRENT CONTRACTS
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UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Begin	End				
55-C33(55-P86)	National Insts. Health C-1066(C6)	9-1-49	11-30-56	CR		Ray	Synthesis of radioactive and other derivatives of the carcinogen 2-acetylaminofluorene
55-C95(55-P72)	National Insts. Health C-1709(C3)	9-1-52	8-31-56	CR		Ray	Induction and physiology of gastric cancer
56-C49(55-P150)	National Insts. Health C-1356(C5)	6-1-55	5-31-57	CR		Ray	The localization of radioactive compounds in tumors
55-C94(55-P11)	National Insts. Health C-2629	10-1-55	9-30-56	CR		Ray	The mechanism of initiation and promotion of skin tumorigenesis in the mouse
56-C45(55-P119)	National Insts. Health C-2803 Hema.	6-1-56	5-31-57	By	Med	Putnam	Origin and nature of abnormal proteins in multiple myeloma
55-C33(55-P18)	National Science Founda. G-1623	7-1-55	6-30-57	Cl	Eng	Simons & Muschlitz	Molecular collisions at low pressures
56-C81(56-P118)	National Science Founda. G-1108	9-15-54	1-31-57	Cl	Eng	Richard	Stress transfer in granular elastic media
56-C78(56-P119)	National Science Founda. G-1652	4-15-55	12-31-56	Em	Eng	Nash	Application of shallow-shell theory to analysis of buckling phenomena
56-C56(54-P2)	National Science Founda. G-1684	6-15-55	6-15-58	Bly	A&S	Carr	Ecology, migration and population levels of <i>Chelonia m. mydas</i> in the Atlantic and Caribbean
55-C2(54-P22)	National Science Founda. G-942	6-15-54	6-15-57	Msm		Dickinson	Biological survey of Flint-Chattahoochee-Apalachicola drainage basins
55-C38(55-P42)	U.S. Weather Bureau	7-1-55	6-30-56	El	Eng	Latour	Study of weather phenomena in Florida
56-C56	Allied Chem. & Dye Corp. Gen. Chem. Division	7-1-55	6-30-56	Cy	A&S	Tarrant	Preparation and study of the properties of organic fluorine compounds containing carbon-to-oxygen linkage

CURRENT CONTRACTS
OFFICE OF CONTRACT RESEARCH
UNIVERSITY OF FLORIDA
JUNE 30, 1956

UF Contract No.	Sponsor and No.	Amount	Period		Dept.	Col.	Leader	Subject of Research
			Begin	End				
56-C38	Allied Chem. & Dye Corp. Nitrogen Division	4,500.00	3-17-55	3-17-58	SlS	Ag		Research on the economic value of feran and uran for pasture grasses with respect to forage yields and protein production as affected by rates, etc.
56-C39	Allied Chem. & Dye Corp. Nitrogen Division	1,000.00	5-9-56	5-9-57	SlS	Ag		Same as above
55-C87	American Cancer Society	12,305.00	7-1-55	6-30-56	CR		Ray	Preparation of compounds of possible therapeutic value
56-C36	American Cyanamid Co.	2,400.00	1-1-56	12-31-56	CES	Ag		Use of parathion for fruits in Florida
56-C53	American Cyanamid Co.	3,000.00	5-1-56	4-30-57	Al	Ag	Cunha & Wallace	Continuing research on role of folic acid and animal protein factor in the nutrition of pigs
55-C-30	Assoc. of American RR	1,800.00	1-1-56	12-31-56	Ay	Ag	Rodgers	Chemical control of vegetation on railroad roads
56-C33	Avocado Admin. Committee	2,500.00	1-1-56	12-31-56	As	Ag		To support research dealing with the marketing problems confronting Florida avocado producers
55-C80	Belle Glade Celery Growers Committee	10,000.00	8-1-55	7-31-57	EES	Ag		Research on breeding and varietal selection of celery
56-C35	California Spray-Chem. Corp.	3,000.00	1-1-56	12-31-56	He	Ag		To investigate the influence of n-trichloromethylthio tetra-hydrophthalimide (captan) and derivatives on the physiology of higher plants
55-C42	Carbide and Carbon Chem. Co.	500.00	4-1-56	3-31-57	GCS	Ag		Investigations on the use of Crag fly repellent and related materials for the control of external parasites of livestock

CURRENT CONTRACTS
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UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Amount	End				
55-C99	Chas. Pfizer & Co.	500.00	7-1-55—6-30-56	AES	Ag		For supporting investigations on the stimulatory effects of agri-mycin and terramycin on field tomatoes
55-C101	Chas. Pfizer & Co.	1,000.00	10-22-55—10-21-56	EES	Ag		Study of antibiotics for control of bacterial spot disease of vegetables grown in Florida
55-C100	Climax Molybdenum Co.	1,000.00	10-1-55—9-30-56	EES	Ag		Continuing study of occurrence of and conditions contributing to possible molybdenum deficiencies in the organic soils of the South Florida area & methods of correcting deficiencies
55-C63	Columbia Southern Chemical Corp.	500.00	7-1-55—6-30-56	EES	Ag		Furthering research on weed control in sugar cane and vegetable crops
55-C65	Commercial Solvents Corp.	1,500.00	5-1-56—4-30-57	Sls	Ag		To conduct investigations on the use of anhydrous ammonia in Florida soils
56-C32	Coronet Phosphate Co.	3,000.00	4-16-56—4-30-58	AI	Ag		To support investigations on the availability of defluorinated phosphate for livestock
56-C47	Damon Runyon Mem. Fund	15,000.00	2-1-56—1-31-57		Med	Putnam	Pathological proteins in multiple myeloma
56-C48	Damon Runyon Mem. Fund	11,000.00	4-1-56—3-31-57	CR		Ray	Chemotherapeutics: Localization of compounds
56-C30	Dow Chemical Co.	500.00	3-1-56—2-28-57	AES	Ag		(Over residue studies of bromine in vegetables as a result of fumigation with EDB on muck soils
55-C19	Ferro Corporation	2,500.00	2-31-56—2-1-57	Sls	Ag		To conduct investigations on the availability of minor elements in FN-501, FN-502, and RL-95

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UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Begin	End				
55-C123	Firestone Plantations Co.	2,500.00	9-30-55—9-30-56	Pt	Ag	Weber	A laboratory study of the biology of <i>dottia della ulei</i>
56-C11	Florida Consumer Finance Corp.	2,000.00	Duration of Project	St Lab		Meyer	To tabulate and analyze small loan company data for Florida for 1955
55-C118	Florida Santa Gertrudis Association	2,200.00	Year 1955-56	Al	Ag		To provide for experimental feeding and other research use of limited numbers of bulls
55-C119	Eastern States Brangus Breeders	1,320.00	Year 1955-56	Al	Ag		To provide for experimental feeding and other research use of limited numbers of bulls
55-C126	Eastern Charolaise & Charbray Assoc.	1,100.00	Year 1955-56	Al	Ag		To provide for experimental feeding and other research use of limited numbers of bulls
55-C140	Eastern Brahman Assoc.	550.00	Year 1955-56	Al	Ag		To provide for experimental feeding and other research use of limited numbers of bulls
56-C52	Florida Shorthorn Breeders Association	550.00	Year 1955-56	Al	Ag		To provide for experimental feeding and other research use of limited numbers of bulls
56-C59	Florida-Georgia Cigar Leaf Tobacco Association	1,000.00	5-20-56—8-15-56	AES	Ag		To provide meteorological service for shade tobacco growers
56-C6	Florida State Horticultural Society	3,600.00	9-1-55—8-31-57	He	Ag		To finance a graduate fellowship in virology
55-C142	Florida Tomato Committee	4,000.00	Duration of Project	St Lab		Meyer	Make weekly, monthly, and seasonal analyses of tomato grade and size manifest data for the 1955-56 shipping season
55-C91	General Motors Corp.	2,300.00	7-1-55—6-30-56	Cy	A&S	Gropp	Research fellowship in chemistry

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UF Contract No.	Sponsor and No.	Amount	Period		Dept.	Col.	Leader	Subject of Research
			Begin	End				
55-C86	B. F. Goodrich Chem. Co.	800.00	8-1-55	7-31-56	Ay	Ag		Furthering investigations on the biology, cultural relationship and control of parasitic nematodes on turf grass in Florida
54-C24	Grace Chemical Co.	7,500.00	3-1-54	3-1-57	AES	Ag		Factors determining the efficiency of urea as a nitrogen fertilizer material
56-C54	Hercules Powder Co.	1,500.00	1-1-56	12-31-56	Vy	Ag	Sanders	Investigations on the use of toxaphene and related materials for the control of insects attacking Florida agricultural crops
55-C89	Hooker Electrochemical Co.	6,800.00	9-23-55	9-23-56	Cg	Eng	Block	Evaluation of compounds as fungicides and preservatives
55-C107	Int'l Minerals & Chem. Corp.	5,000.00	7-1-55	6-30-56		Ag		The quality of citrus fruits as related to the mineral composition of the whole and subtending leaves
56-C17	Jackson & Church Co.	1,200.00	Duration of Project		Cg	Eng	Nolan	High density peroxide bleaching of ground-wood
56-C60	Johnston, Mrs. Ruth	200.00	Gift				Mase	For research in the Florida Center of Clinical Services
56-C34	Lime Admin. Committee	2,500.00	Year 1956		As	Ag		To support research dealing with the marketing problems confronting Florida lime producers
56-C20	Merc & Co., Inc.	3,000.00	Year 1956		AES	Ag		To study the action of antibiotics in controlling certain plant diseases
55-C25	Minn. Mining & Mfgl Co.	9,000.00	3-17-55	3-17-58	Sls	Ag		Investigations on the availability of minor elements in 3M agricultural granules

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UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Amount	Begin End				
56-C68	Moore Dry Kiln Co. Koppers Company, Inc. Atlantic Coast Lime & Seaboard Air Line RR	2,500.00	Duration of Project		Fy	Kaufman	To conduct a research study on kiln-drying of crossties
56-C23	National Association of Artificial Breeders	500.00	9-1-55—8-31-56	Dy	Ag	Becker	Furthering studies on the life span and usefulness of bulls
55-C70	National Cottonseed Products Assoc., Inc.	1,500.00	7-1-55—6-30-56	Al	Ag	Warnick	Effects of protein supplement on fertility and production of beef cattle
55-C98	National Plant Food Inst.	2,000.00	7-1-55—6-30-56	Ay	Ag		Effects of fertilizer management in main- taining higher levels of grazing value in Florida pastures
56-C23	National Project in Ag. Communications (Michigan State University)	100.00	Duration of Project		Ag		Assistance for master's research study in agricultural communications
56-C2	Nutrition Foundation, Inc.	5,000.00	1-1-56—12-31-57	Al	Ag		Quantitative relationships of the mineral elements in crop production and animal nutrition
56-C82	Pardee, Elsa U.	4,830.00	12-1-55—11-30-56	CR		Ray	Research on antibody response
55-C53	Parke, Davis & Co.	3,800.00	9-1-55—8-31-56	Cy	A&S	Pollard	Research in the field of synthetic drugs
55-C106	Phillips Petroleum Co.	6,000.00	7-55—7-58	Sls	Ag		For conducting investigations on methods of predicting nitrogen fertilizer needs of Florida soils
55-C131	Port of Palm Beach Dist.	20,000.00	10-1-55—5-31-57	Em	Eng	Bruun	To obtain engineering information on the behavior of Lake Worth Inlet resulting from the proposed deepening of the Inlet
55-C77	Prestressed Concrete Inst.	8,000.00	7-1-55—6-30-57	Cl	Eng	Ozell	Further studies on prestressed concrete

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UF Contract No.	Sponsor and No.	Period		Dept.	Col.	Leader	Subject of Research
		Amount	End				
56-C73	Research Corporation	2,600.00	6-16-56—6-15-57	Cy	A&S	Brey	Research on catalytic properties of aluminum oxide
55-C113	Ruskin-Bradenton Gladiolus Growers	1,000.00	9-55—8-56	As	Ag		To determine differences in relative grade composition of gladiolus spikes produced in local areas
56-C7	Shell Chemical Corp.	1,000.00	1-1-56—12-31-56	Ay	Ag	Ruprecht	To support research on use and adaptability of certain chemicals developed by the donor for control of weeds, nematodes and plant diseases in Florida
56-C8	Shell Chemical Corp.	500.00	1-1-56—12-31-56	EES	Ag	Ruehle	To continue research on use of insecticidal chemicals developed by donor as related to Florida agriculture
56-C9	Shell Chemical Corp.	500.00	1-1-56—12-31-56	SES	Ag		Same as above conducted at another station
56-C24	Shell Chemical Corp.	600.00	1-1-56—12-31-56	CES	Ag		To continue research on use and adaptability of certain chemicals developed by the donor
56-C12	Soft Phosphate Research Institute	3,000.00	1-1-56—12-31-56	An	Ag		Continuance of investigations on the availability of phosphorus in soft phosphate with colloidal clay for livestock
55-C105	Spencer Chemical Co.	4,500.00	8-10-55—8-9-58	SlS	Ag		For conducting investigations on factors affecting comparative mobility of ammonium nitrate in soils
56-C13	Sperry Electronic Tube	4,000.00	10-1-55—9-30-56		Eng		Graduate fellowship in the physical sciences
55-C136	Sperry Rand Corp.	11,680.00	10-1-55—9-30-56	El	Eng	Lear	Carrier shift in frequency-modulated reflex klystrone
56-C22	State Dept. of Agriculture	2,500.00	2-16-56—	SlS	Ag		Grant to assist in the development of a fertilizer control research project

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		Amount	End				
55-C114	State of Florida Military Department		7-18-55—7-17-57	Em	Eng	Bruun	Permit to conduct experiments at Camp Blanding
55-C109	State Plant Board	3,500.00	Duration of Project	St Lab		Meyer	Provides for additional work under previous contract
55-C110	State Plant Board	1,200.00	Duration of Project	St Lab		Meyer	To analyze insect pest survey data
55-C90	State Road Department	20,000.00	7-1-55—6-30-56	Cl	Eng	Kluge	Research program affecting the design, construction, and maintenance of roads, bridges, and other highway structures
55-C4	State Road Department	3,800.00	1-1-56—6-30-56	Em	Eng	Bruun	Coastal engineering investigation at Longboat Pass
55-C130	State Road Department	6,000.00	10-1-55—6-30-57	Cl	Eng	Kluge	A field study of the effects of plastic flow and shrinkage on change in stress in reinforcement of prestressed girders
55-C78	Sugar Research Founda.	8,000.00	7-1-55—6-30-57	Al	Ag		Investigation of the value of sugar cane pulp with and without molasses as an animal feed
54-C21	Swift & Company	8,000.00	1-1-54—12-31-56	Al	Ag	Warnick	Reproductive efficiency in beef cattle
55-C55	Jno. H. Swisher & Son	13,000.00	7-1-55—6-30-56	El	Eng	Danis	Research in processing shade tobacco
55-C82	Tennessee Eastman Co.	3,250.00	7-1-55—6-30-56	Cy	A&S	Gropp	Research fellowship in chemistry
55-C108	Tennessee Corp.	1,000.00	7-1-55—6-30-56	EES	Ag		Research on trace elements and Tennessee copper fungicides
56-C57	Town of Jupiter Island	3,800.00	5-17-56—10-17-56	Em	Eng	Bruun	Beach erosion investigation at Jupiter Island
56-C60	United Cerebral Palsy Association	1,450.00				Mase	Grant in aid for research in the Florida Center of Clinical Services

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			Begin	End				
56-C61	U. S. Sugar Corp.	5,000.00	1-1-56	12-31-56	EES	Ag		For studying chemical weed control in sugar cane and vegetable fields
54-C90	Various Wood Using Industries in Florida and Adjoining States	15,100.00	7-15-55	7-15-56		Fy	Kaufman	Support of tree improvement program of the School of Forestry
56-C50	Virginia-Carolina Chemical Company	800.00	4-1-56	3-31-57	Ay	Ag		Use and adaptability of certain chemicals developed by donor for control of weeds, nematodes, and plant diseases in Florida turf
56-C88(55-P38)	Welding Research Council	2,875.00	11-1-55	10-31-57	Cl	Eng	Ozell	Transfer of stresses in cover plates

REPORT BY THE DIRECTOR OF THE SCHOOL OF INTER-AMERICAN STUDIES TO THE PRESIDENT OF THE UNIVERSITY FOR THE BIENNIAL REPORT, 1954-1956

I. Organization and Objectives

The School of Inter-American Studies, an instructional service unit established in 1951, combines the functions previously exercised by the Institute of Inter-American Affairs (dating from 1930) and the Graduate School of Inter-American Studies (created in 1950). It represents the highest development to date of the interest in Latin America which the University has shown almost from its founding a century ago.

A Director and an Assistant Director, nominated by the President and appointed by the Board of Control, administer the School. Each is responsible directly to the President. Assisting in the administration of the School and the development of its activities are a University-wide Inter-American Committee concerned with general policy, and a Graduate Advisory Committee and a Special Graduate Faculty concerned with the general supervision of master's and doctor's degree candidates. A United States Advisory Committee and a Latin American Advisory Committee cooperate with the School in off-campus activities.

The faculty of the School is drawn from all University departments which offer courses having subject matter related to inter-American topics. The School administers an Inter-American Area Studies program leading to the M.A. and the Ph.D. degrees. Students registered in the several undergraduate departments and divisions of the University who are taking courses dealing with inter-American subjects may also receive advice from the School.

As provided in the University Constitution, the program of the School

shall aim to foster intelligent understanding and appreciation among the peoples of the Western Hemisphere. The School also shall stimulate specific studies and surveys on subjects common to the Americas; hold conferences and institutes on inter-American affairs; encourage research projects and publications dealing with Latin America; stimulate interchange among the Americas of lecturers, professors, and other specialists; and advance inter-American interest in all fields of human endeavor.

In a word, the School attempts to coordinate all of the inter-American activities of the University, whether on or off the campus. This involves close cooperation with the Adviser to Foreign Students, the Counselor for Latin American Agricultural Students, the Committee on Foreign Students, the English Language Institute, the University Press, and the University Extension Division, as well as the regular academic departments concerned.

The School is empowered to solicit, receive, and administer such funds as are given to the University for its program of inter-American activities, subject to State and University regulations. The Director recommends to the President ways to employ such funds and grants for research, for travel in conjunction with research or other official School business, for publications, scholarships, exchange professorships, and conferences, and for other activities and functions designed to foster inter-American understanding and amity. During the years 1954-1956 the following special income was received: \$2,000 from former State Senator Walter B. Fraser for the "Walter B. Fraser Publication Fund" which

was used to aid the publication of the volumes of the 1954 and 1955 Conferences on the Caribbean; \$6,000 from the Aluminum Company of America (through the Alcoa Steamship Company) to help finance the 1954 and 1955 Conferences on the Caribbean; \$1,000 granted in June 1956 by the United States Information Agency, Washington, D. C., to promote educational relations between the University of Florida and the University of Sao Paulo, Brazil, including the exchange of student publications and possibly of students.

II. The Inter-American Area Studies Program

"Area study" as contrasted with the conventional departmental discipline has been defined as "the scientific study of a region presenting a certain politico-social unity with a view to understanding and explaining its place and its role in international society." This result can only be obtained by the systematic use of all branches of knowledge that may provide valid explanations. Thus during the 1954-1956 biennium, 81 officers of instruction, research and administration were involved in the Inter-American Area Studies program, and 164 courses in 34 departments were recognized as having inter-American content or application. This is to be compared with 56 officers, 106 courses and 23 departments reported in 1952-1954. The University of Florida is one of only five universities in the United States which offer the Ph.D. in Latin American area studies.

As developed by the School of Inter-American Studies, the area studies program aims; (1) to provide knowledge of practical value about Latin America in general; (2) to give students an awareness of cultural relativity in the area; (3) to make clear an understanding of social and cultural units as they exist in the countries to the south; and (4) to prepare students, through the knowledge acquired in Inter-American Area Studies (a) for better teaching and research about Latin America, (b) for more intelligent service with government agencies in these countries, and (c) for successful careers with business organizations engaged in developing, improving, and promoting the economic life of the Latin American peoples.

On the undergraduate level an Inter-American Area Studies group major leading to the baccalaureate degree is offered in both the College of Arts and Sciences and the College of Business Administration. At the graduate level, Inter-American Area Studies programs are offered leading to the Master of Arts and the Doctor of Philosophy degrees. During the 1954-1956 biennium 24 students were enrolled in the graduate program; 5 completed work for the M.A.; and 7 received the Ph.D. The comparable figures for 1952-1954 were 20 graduate students; 2 M.A. degrees; and 3 Ph.D. degrees.

The two graduate assistantships filled annually by the School assisted four students to carry on their research. Other fellowships and assistantships offered by the Graduate School were also open to graduate students in the School. These awards brought to the University several promising young scholars.

III. Activities of the School

Annual Conference on the Caribbean

An annual three-day Conference on the Caribbean is held in the month of December on the campus of the University of Florida. Visiting delegates from the United States, Latin America, and the British West Indies include scholars,

government officials, diplomats, and representatives of business and industry. Some twenty speakers express their ideas on pertinent phases of Caribbean life, and the conference group participates in panel and roundtable discussions related to the talks. From 1951 through 1955 the School enjoyed the cooperation of the Aluminum Company of America through the Alcoa Steamship Company, Inc., in helping finance the conferences, the only activity of its kind in the hemisphere.

Papers were read at the Fifth Conference in December 1954 on Caribbean culture by Florence Arquin, Painter, Photographer, and Lecturer; Dr. Jaime Benítez, Chancellor, University of Puerto Rico; Dr. Benjamin A. Cohen, Assistant Secretary-General, United Nations; Dr. Federico de Onis, Director, Department of Hispanic Studies, University of Puerto Rico; Dr. Jorge Fidel Durón, Rector, University of Honduras; Mr. David K. Easton, Librarian, Caribbean Commission; Dr. José Gómez-Sicre, Chief, Visual Arts Section, Pan American Union; Dr. Kenneth Holland, President, Institute of International Education; Dr. Marjorie C. Johnston, Specialist Comparative Education, Department of Health, Education, and Welfare; Dr. Lisa Lekis, Dancer, Writer, and Lecturer; Dr. Paul S. Lietz, Professor of History, Loyola University; Prof. Joaquín Nin-Culmell, Department of Music, University of California; Mr. Andrew C. Pearse, Director, Local Studies Program, University College of the West Indies; Dr. Adrián Recinos, Writer, Lecturer, and Diplomat, Guatemala; Dr. W. Stanley Rycroft, Secretary for Latin America, Board of Foreign Missions of the Presbyterian Church; Dr. Anibal Sanchez-Reulet, Chief, Division of Philosophy, Letters and Sciences, Pan American Union; Mr. Scott Seegers, Editor, Writer, and Lecturer; Dean S. S. Steinberg, Dean, College of Engineering, University of Maryland; Mr. Luis Vera, Assistant Chief, Division of Housing and Planning, Pan American Union; and, Mr. William A. Weber, Manager, Gulf Division, Alcoa Steamship Company, Inc. At the Sixth Caribbean Conference in 1955 on current political problems papers were presented by Dr. Robert J. Alexander, Assistant Professor of Economics, Rutgers University; Dr. José A. Baquero, Professor of Economics, The Catholic University of Ecuador; Dr. Harry Bernstein, Associate Professor of History, Brooklyn College; Dr. George I. Blanksten, Associate Professor of Political Science, Northwestern University; Miss Anita Brenner, Author, Editor, and Lecturer; Dr. Charles C. Cumberland, Associate Professor of History, Michigan State College; Dr. Russell H. Fitzgibbon, Professor of Political Science, University of California at Los Angeles; Mr. Albert Gomes, Minister for Labor, Industry and Commerce, Trinidad, B.W.I.; Mr. Edward Heiliger, Director, University of Illinois Library; Professor Hubert Herring, Department of Latin American Civilization, Claremont Graduate School; Dr. Samuel Guy Inman, Specialist in Inter-American Relations; Dr. Gerhard Masur, Professor of History, Sweet Briar College; Mrs. Elena Mederos de González, Cultural, Political, and Social Welfare Leader, Havana, Cuba; Dr. Dana Munro, Director, Woodrow Wilson School of Public and International Affairs; Mr. William M. Pepper, Jr., Editor, The Gainesville Daily Sun; Dr. Herminio Portell-Vilá, Professor of History, University of Havana; Dr. Stanley R. Ross, Assistant Professor of History, University of Nebraska; Dr. Robert E. Scott, Assistant Professor of Political Science, University of Illinois; Dr. William S. Stokes, Professor of Political Science, University of Wisconsin; Dr. Alfred B. Thomas, Professor of History, University of Alabama; and, Dr. Ione Stuessy Wright, Associate Professor of History, University of Miami.

The University of Florida Press publishes and distributes the proceedings

of each of the annual Conferences on the Caribbean. *The Caribbean: Its Culture* is the title of the fifth volume published in 1955. The sixth volume, *The Caribbean: Current Political Problems* is in the press at the present time.

Latin American Commemorations and Festivals

The School acts as host at fiestas, special commemorative programs, and other events in connection with Columbus Day, Pan American Day, and outstanding dates on the inter-American calendar of events in which Latin American students participate. During the 1954-1956 biennium an average of 115 Latin American students from eighteen countries attended the University of Florida, the Latin Americans accounting for about one half of all the foreign students in attendance at the University.

Citations Awarded

Individuals and organizations who have made outstanding contributions to the cause of inter-American amity are, from time to time, recommended by the School for citation by the University. At the Fifth Conference in 1954 citations were presented to Miss Florence Arquin, Dr. Jaime Benítez, Dr. Federico de Onís, Dr. Jorge Fidel Durón, former State Senator Walter B. Fraser, Dr. Kenneth Holland, Dr. Adrián Recinos, and Dr. S. S. Steinberg. At the Sixth Conference in 1955 citations were awarded to Miss Anita Brenner, Mrs. Elena Mederos de González, and Dr. Dana Munro.

Distinguished Visitors

One of the special activities of the School is to invite to the campus distinguished visitors from the countries of the Americas, including artists, musicians, special lecturers, government officials and businessmen. In this connection the School maintains a file of several thousand names of individuals and organizations interested and active in the inter-American field.

Publications of the School

As noted above, the School, with the cooperation of the University Press, each year publishes the proceedings of its annual Conference on the Caribbean. During the 1954-1956 biennium the School also published two descriptive brochures containing current information relating to the over-all inter-American program of the University. Three mimeographed studies were issued: "Financial Assistance Available to Social Scientists for Study and Research in Latin America," by Harry Kantor, Elizabeth W. Taylor, and Ola Belle Tillman; "Academic and Other Connections with Latin America," by A. Curtis Wilgus; and "Latin American Area Studies and the British Universities," by William C. Atkinson of the University of Glasgow, Scotland.

Center of Latin American Philately

This activity was initiated in 1951 as an extracurricular activity for interested members of the student body and the teaching staff. Exhibits of Latin American stamps usually form part of the library displays in connection with the commemoration of the Latin American calendar of events. The School is a member of the Pan American Philatelic Federation.

Inter-American Speakers Bureau

As a service to schools, fraternal and business organizations, and other groups, the School maintains a file of names of experts from its faculty and advanced students who are available as speakers on inter-American topics. Applications for the services of a speaker may be made to the School.

Summer School in Mexico

For six weeks during the summer of 1955 the School of Inter-American Studies in cooperation with the Instituto Tecnológico y de Estudios Superiores de Monterrey conducted a students' seminar in Mexico. About twenty students, including fourteen from the department of geography, took advantage of this arrangement for study and travel.

IV. Cooperation With Outside Organizations

Inter-American Bibliographical and Library Association

The School cooperates closely with the Inter-American Bibliographical and Library Association, of which the Director of the School is also President. The main purpose of the Association is to furnish investigators, research workers, students, writers, and others with information on bibliographical sources for the study of Latin America. During 1954-1956 the Association published a quarterly bibliography entitled *Doors to Latin America* which was edited by the Director of the School.

Inter-American Center of Florida

In cooperation with the Inter-American Center of Florida, whose chairman is Walter B. Fraser, the School sponsors the "Grove of Educators of the Americas," located in historic St. Augustine, oldest city in continental United States. In this grove, busts or statues of famed American educators are being dedicated—one for each of the republics in this hemisphere. To date, busts or statues have been presented by Argentina, Ecuador, Cuba, Honduras, Panama, Peru, Venezuela, and the United States. The bust of Ramón Castilla, Peruvian educator, was dedicated in April 1956.

Colonial St. Augustine, Incorporated

This nonprofit corporation was created in June, 1952, for the purpose of promoting the historical restoration of St. Augustine. Another function of the organization is to give financial assistance to the School of Inter-American Studies. The headquarters of the corporation is located in the Governor Salazar Mansion in St. Augustine.

Eloy Alfaro International Foundation

Captain Colón Eloy Alfaro, in the name of the Foundation honoring his father, provides a bronze medal to be awarded each year to the undergraduate or graduate student in the University who writes the best essay on some aspect of the life and activities of Eloy Alfaro, martyred president of Ecuador. In 1955 Miss Ethel Marshall, a doctoral candidate in the School of Inter-American Studies, received the award. No award was granted in 1956.

U. S. Information Agency

In 1955, at the invitation of the United States Information Agency, the School prepared a three-tape radio program in the form of a salute to the University of Sao Paulo, Brazil, followed by an exchange of books for the respective libraries.

Voice of America

At the Southeastern Conference on Latin American Studies and at the dedication of the Peruvian bust in the "Grove of Educators" (both mentioned elsewhere) the Voice of America made moving pictures for later TV news broadcasts in Latin America. This is an association which is expected to continue.

Pan American Union

In 1954 under the stimulus of the Department of Cultural Affairs of the Pan American Union, the Southeastern Conference on Latin American Studies was organized to enable Latin Americanists in the area to come together and discuss their common problems. Seven representatives of the University of Florida attended the conference in Athens, Georgia, in April, 1955. The 1956 Conference was held in April at the University of Florida, with A. Curtis Wilgus as general chairman and Harry Kantor as secretary general.

The Interim Assistant Director represented the School at the inauguration of Dr. José A. Mora as the new Secretary General of the Pan American Union in Washington, in April, 1956.

The School was represented by Harry Kantor and Frederick E. Kidder at the Round Table to Discuss Means for Increasing Mutual Knowledge and Understanding Among the Nations of the Western Hemisphere, held in San Juan, Puerto Rico, in April, 1956, jointly sponsored by the Pan American Union and the Government of Puerto Rico.

The Seminar on the Acquisition of Latin American Library Materials, jointly sponsored with the Pan American Union, was held at the Chinsegut Hill Library of the University of Florida in June 1956. Both the Director and the Interim Assistant Director participated at the invitation of the University Library staff.

A Survey of Investigations in Progress in the Field of Latin American Studies was conducted in the Spring of 1956. The results are being compiled and edited by Frederick E. Kidder, and will be published by the Pan American Union in September, 1956.

V. Staff Changes

Beginning January 1, 1956, Dr. Walter A. Payne, Assistant Director, received a leave of absence to become lecturer in the Department of Hispanic Studies of the University of Glasgow, Scotland. Frederick E. Kidder was appointed interim assistant director on that same date. Mr. Kidder was formerly assistant librarian and lecturer in political science at the Polytechnic Institute of Puerto Rico (San Germán), and holds graduate degrees from the University of California (Berkeley) where he was on the staff of the Bancroft Library.

VI. Staff Activities

During the 1954-1956 biennium several staff members from the various schools, divisions and departments of the University visited Latin America as lecturers and consultants, especially in the Caribbean countries. The Director of the School continued his visits to New York and Washington to consult with businessmen, government officials, and scholars about various activities of the School, and especially for the purpose of promoting good will toward, and interest in, the program. To this extent his off campus activities were largely in the field of public relations.

The Director also served on the International Relations Commission of the Southern Regional Education Board which met several times during the biennium. The Secretary of the School completed a book on Cuba and several encyclopedia and quarterly articles, as the result of her off campus dedication to the field of writing. The Assistant Director and the Interim Assistant Director made con-

tributions to periodicals and encyclopedias. The Director continued to serve as Latin American advisor to the *Encyclopedia Americana* and the *Grolier Encyclopedia*; he prepared periodical articles, book chapters, book reviews and encyclopedia articles; he edited the two volumes of the Caribbean Conference published during the biennium by the University of Florida Press; and he continued to work on a college textbook on Latin America. Details of these publications have been reported annually to the President's office.

VII. Needs and Recommendations

The expansion of the School's activities necessitates the continued growth of our office staff. As requested in the last biennial report, we wish again to call attention to the need for a typist to relieve our Secretary (grade III) from a great volume of straight typing, which includes addressing envelopes and other material which now amounts to probably 12,000 pieces yearly. This typist would also be used for cutting stencils, running the mimeograph machine and helping to maintain our rapidly growing file of approximately 5,000 names of individuals and organizations whom we circularize from time to time.

A second need is for at least one more graduate assistant. This would make three assistants which though inadequate would enable one more student to do graduate work in our area studies program.

A third need is for a quarterly or semiannual publication of a scholarly nature to be issued by the School of Inter-American Studies and printed by the University of Florida Press which would serve as a medium for students and staff members to make an increasingly significant contribution to the scholarly objectives of our inter-American program and which would have considerable public relations value both for the School and for the University.

Respectfully submitted,

A. Curtis Wilgus, Director

Frederick E. Kidder, Interim

Assistant Director

School of Inter-American Studies

REPORT OF THE DEAN OF THE COLLEGE OF LAW

June 30, 1956

To the President of the University:

Sir: I have the honor to submit to you the following report for the College of Law covering the biennium ending June 30, 1956.

The biennium brought the College outstanding national recognition by the establishment of a chapter of the Order of the Coif at the College. The Order of the Coif is a national legal scholastic society founded in 1902, and ours is the forty-sixth chapter to be established in the one hundred and twenty-nine law schools approved by the American Bar Association. Establishment of a new chapter requires:

1. Approval by the Order's Executive Committee of a petition for an inspection of the school;
2. A detailed inspection by a representative of the Order;
3. Acceptance by the Executive Committee of a formal petition to the active

chapters for a charter. Acceptance is based largely upon the inspector's report; and

4. Approval of the petition by at least eighty per cent of the active chapters.

The inspector for Coif, Professor Hardy C. Dillard, of the faculty of the College of Law, University of Virginia, visited the school during the middle of March, 1955, for two and a half days. His inspection covered not only the formal program and statistical data which reveal the operation of the school, but many intangible items such as student and faculty morale and the overall spirit of the College. To obtain information concerning these matters he talked informally and confidentially with members of the student body, faculty and Bar. The University, its alumni, and people of the State as a whole may be proud of Professor Dillard's evaluation of the College and his praise of the ability of the faculty to instill in its students a sense of high integrity, competence and professional pride.

Student Personnel

Enrollment: Enrollment in the College has increased 21.5% during the biennium—278 students enrolled in the fall of 1955 as compared to 218 students in the fall of 1953. Every indication points to a similar annual increase for several years to come and the necessity of planning for a student body of approximately four hundred students during the next biennium.

Admissions: The number, academic training, residence and out-of-state college representation of new students entering each semester were as follows:

Year	New Students		New Students		Non-Resident Students	Out-of-State Colleges Represented
	Fall	Spring	No.	%		
1954	93	---	81	86	15	38
1955	---	46	39	85	7	15
1955	103	---	96	93	2	30
1956	---	27	19	70	3	5

Exclusions: Exclusions and voluntary withdrawals with deficient grades before or at the end of the first year continue to be approximately twenty-five per cent of the entering students.

Bar Examination Results: Fifty-nine graduates of this school took the Florida Bar Examination in 1954 and 1955. Fifty-three, or 89.8 per cent, passed it the first time. During the same period approximately sixty-five per cent of all the candidates passed the first time. On the March, 1956, Bar Examination thirty-four out of thirty-five, or 97.14 per cent, passed it the first time. These figures indicate that the scholarship standards and exclusion policies of the College are no more than adequate to give our graduates reasonable assurance of prompt admission to the Bar.

Placement of Graduates: Requests for our graduates continue to exceed the available supply by a considerable margin.

Curriculum

The revised curriculum introduced during the preceding biennium, has proved its effectiveness during the last two years.

The faculty of the College has long been concerned with alleviating the problems of beginning students. The usual student entering law school encounters for the first time in his scholastic career a professional atmosphere. Little that he experiences up to his initial law class adequately prepares him for the materials and methods of study, the classroom technique, the necessity for long and arduous preparation for class and other aspects of law school life. In addition, most beginning law students have only vague notions of the work done by lawyers and the traditions guiding them in their profession.

In February, 1955, the College instituted on an experimental basis a three-day program prior to the commencement of regular classes designed to help the student overcome these difficulties. The results were so gratifying that the program was expanded to five full days in the fall. Students beginning the study of law reported to school one week prior to the commencement of regular classes. During this week, in addition to the normal process of registration, they participated in a two-phase program.

The first phase introduced students to the traditions, ethics and activities of the legal profession. Students were asked to read the portions of *The American Lawyer*, by Blaustein and Porter, which summarize the findings of *The Survey of the Legal Profession* concerning legal education, the professional services by lawyers and the status of the legal profession in modern society. The Florida Bar participated in the program. Members outlined the purposes and activities of the Organized Bar, the mechanics and theory of bar admissions and examinations, and the concepts of professional responsibility and public leadership by lawyers. Those participating in the program during the past year were Donald K. Carroll, President; J. Lance Lazonby, President-Elect; Kenneth B. Sherouse, Jr., Executive Director; J. Thomas Gurney and Giles J. Patterson, Past Presidents of the Florida Bar Association, and Olin E. Watts, Chairman of the Florida Board of Bar Examiners. We are deeply grateful to these gentlemen for the contribution they made to the program.

The second phase acquainted students with the materials and methods of legal study, the traditions and rules of the College and the opportunities for participation in student activities. Student leaders discussed student activities, the honor system and traditions of the College. The faculty explained the objectives and techniques of the case system of teaching and our study and class methods. The techniques were then illustrated by analyses and syntheses of assigned cases and statutes.

Instructors reported favorably on the program in terms of broadened understanding and improved preparation by beginning students during regular classes. Faculty reports were supported by student response to a questionnaire distributed three weeks after the program closed. Students were urged to give their frank opinion anonymously in order that the faculty might better evaluate the program. Approximately 83% of the students replied that the program was either "excellent" or "good"; 17% labelled the program "fair." No student labelled the program "poor" or "no good."

The immediate results of the program are encouraging. No less important is the long range impact of the program as an integral part of our overall effort to provide a program of study in a professional atmosphere which will result in our graduates taking their places as worthy members of a proud profession.

Faculty

Personnel: I regret that I must report a decrease in the size of the faculty during the past biennium.

A very real loss to the College was occasioned by the resignation of Professor George John Miller in February, 1955, to enter private practice. In the fall of 1954 John N. Dighton resigned as Assistant Professor of Law.

In the fall of 1954, Ernest M. Jones was appointed Associate Professor of Law; Professor Jones came to the College from George Washington University Law School and has added strength to our faculty in the commercial law area.

During the spring and summer terms of 1955, Professor Peter B. Carter, Dean of Wadham College, Oxford, England, served as a Visiting Professor, and Professor Addison A. Mueller, of Yale University, was Visiting Professor for the spring semester of 1956. The visits of Dean Carter and Professor Mueller pointed up the desirability of bringing visiting professors to the College from time to time. Such professors give us the benefit of a different perspective and new ideas and, from their comments and criticism, assure us of a continued evaluation of our program, materials and methods.

The reduction in the number of our faculty during the past biennium concurrently with an increase in the enrollment, has placed an additional strain upon our faculty. However, our program of individualized instruction has been constricted only in details and the main features have been continued.

During the biennium the faculty has continued with the production and revision of teaching materials, the publication of articles in legal periodicals and further work on their doctoral theses.

Professor Karl Krastin was awarded the J.S.D. by Yale University in June, 1955. Professor Eugene F. Scoles was awarded the J.S.D. by Columbia University in September, 1955. Professor W. D. Macdonald was awarded the J.S.D. by the University of Michigan in June, 1956. The College takes pride in these achievements and this tangible evidence of the continued internal strengthening of the faculty.

Salaries: In past reports I have mentioned the difficult problems posed by the low salaries paid in this College. Salary questionnaires recently completed and returned to us point up these problems graphically:

AVERAGE SALARIES ACADEMIC YEAR DURING 1955-56 TEACHING	ASSUMED 10% INCREASE IN NEXT BIENNIUM	EST'D AVERAGE SALARIES FOR ACADEMIC YEAR TEACHING DURING NEXT TWO YEARS	2/3 OF 20% FOR SUMMER TEACHING	EST'D AVERAGE SALARIES DURING NEXT TWO YEARS INCLUDING TEACHING 2 OUT OF 3 SUMMERS	
2 Far West State Universities	\$12,076.00	\$ 1,207.00	\$13,283.00	\$ 1,766.00	\$15,050.00
2 Midwest State Universities	11,273.00	1,127.00	12,400.00	1,650.00	14,050.00

Professors Salaries

2 Far West State Universities	\$12,076.00	\$ 1,207.00	\$13,283.00	\$ 1,766.00	\$15,050.00
2 Midwest State Universities	11,273.00	1,127.00	12,400.00	1,650.00	14,050.00

2 Southern State					
Universities	9,765.00	975.00	10,740.00	1,428.00	12,168.00
<i>University of Florida</i>					
1956-57 Average Annual Salary (including teaching two summers out of three).....					\$ 9,223.00
Raises needed during the next biennium to meet estimated average salaries in other southern state law schools.....					2,927.00
					<hr/> \$12,150.00

The above figures show that an average raise of \$2,900 is needed to place us in a competitive position with the southern law schools mentioned. This would seem to be a minimum requirement for a continued growth and strengthening of the College. I firmly believe we should be competitive not only with other southern law schools, but with mid-west state university law schools as well.

Law Library: During the biennium 2,645 volumes were added to our library, bringing the total collection to 48,707 volumes. The library stands forty-sixth in size among the 129 law schools approved by the American Bar Association. There are few law schools with which we feel we should be upon a competitive basis that have as small a library as ours. Most of the mid-west state university law schools have libraries double the size of ours. Before steps can be taken to remedy this situation, it will be necessary to greatly increase our accessions budget and also provide additional space for library expansion during the next biennium.

On September 1, 1955, Mrs. Ila R. Pridgen, our beloved law librarian, retired. We wish to record the College's sincere and affectionate appreciation of her faithful services and unstinting efforts on behalf of the Law Library and the program of the College. Professor Mandell Glicksberg became acting librarian for the academic year 1955-56, and Frank T. McCoy was appointed assistant law librarian. Mr. McCoy has been appointed librarian and assistant professor of law effective July 1, 1956.

Student Activities

I have previously reported the activities of our Law Review. It continues to be edited, managed, and largely written by our students and is firmly established as part of the important legal literature of the State. Another student activity merits comment as indicating the intellectual caliber of our student body and its interest in legal scholarship. A committee of the John Marshall Bar Association has represented the College in the National Appellate Moot Court Competition during the past two years. This National Competition is sponsored by the Association of the Bar of the City of New York. Regional elimination contests are held in fifteen districts throughout the country. Twelve law colleges compete in the Southeastern district. As a result of their showing in regional trials, teams representing various colleges are selected for the final arguments held in New York. In December, 1954, the team representing the University of Florida in the regional contest was selected to compete in the national tournament in New York. In the fall of 1955 the brief submitted by our team was awarded second place in the region. To stimulate interest in this important activity, the John Marshall Bar Association in the spring of 1956 organized a

state-wide competition for appellate moot arguments. Members of the Florida Supreme Court sat as judges on the case, which was argued in the College courtroom. First place was awarded to the University of Florida. We expect the other law colleges in the State to join this College in making the State competition an annual event.

Extra University Activities

The close cooperation between The Florida Bar and the College of Law continued during the past biennium. In addition to participation by the Bar in the Introductory Program for Beginning Students, previously mentioned, it was necessary to ask for additional assistance in our Legal Ethics Program.

To maintain the informal atmosphere in the face of the larger enrollment, and the physical limitations of my living room, a second section of the Legal Ethics seminar was added, meeting at the home of Assistant Dean Mautz. This second section doubled the number of participating lawyers and means that approximately seventy lawyers are required for the program during the year. Again I wish to emphasize that the success of our Legal Ethics program is due in large part to the unstinting manner in which members of the profession have contributed their time and efforts.

Another interesting and highly successful cooperative program was *Law for Women* sponsored jointly by The Florida Bar, the Eighth Judicial Circuit Bar Association, the College of Law and the General Extension Division of the University of Florida. A joint committee of members of the local Bar and of the faculty planned the program, and the speakers and members of the panels were drawn from both sources. The program attracted over three hundred women for each of the seven meetings and, because of the interest it aroused, was outlined for use in other bar groups in an article printed in *The Florida Bar Journal* co-authored by a member of the local Bar and a member of the faculty.

The Bar and the College also cooperated in jointly sponsoring three major institutes during the biennium. The Institute on the 1954 Internal Revenue Act took place in the fall of 1954, the Traffic Institute was held in the spring of 1955, and the first institute sponsored by the Real Property Section of The Florida Bar was held last fall. The three institutes attracted over a thousand people, of whom approximately eight hundred were members of the Bar.

In spite of the demands upon faculty time caused by the increased enrollment, faculty participation in Bar activities continues at a high level. During the past biennium the faculty has continued actively to participate in Bar Association meetings and legal institutes throughout the State. For example, the faculty occupied forty-six advisory positions to committees of The Florida Bar in 1955-56.

Needs

The needs of the College have not changed since the submission of my last biennial report in which I said:

"The biennium has seen the establishment of the basic program of the College and its enthusiastic acceptance by the Bar of the State. The future of the College depends on the continuation and enrichment of this basic program. To continue the program of orderly progression through the curriculum, to provide supplementary individual work by each stu-

dent in at least one course a semester, and to avoid enrollments in excess of forty in each class or section, it is necessary in the face of a prospective student body of from three to four hundred during the next biennium to take the following steps: (1) enlarge our faculty to at least twenty-five full-time members; (2) increase substantially faculty salaries; (3) complete the balance of the new wing to provide additional space for classrooms, library and faculty offices.

"In previous reports I have emphasized the necessity for air-conditioning the entire building before our program can operate at full effectiveness. Complaints about the heat by attorneys attending the institutes late in February emphasize the effect of the prolonged warm weather upon the intellectual activity of both faculty and students.

"Our law library budget continues to be insufficient to build up the library for the expected increased enrollment and for the long range plan leading to the establishment of graduate study in the College.

"By the end of the next biennium plans should be completed for the remaining two sides of the law quadrangle to provide additional office space for the faculty members who will have to be added as the size of the student body increases, and to make available a student lounge room and a more efficiently arranged administration suite."

Respectfully submitted,
Henry A. Fenn
Dean

REPORT OF THE PROVOST OF THE J. HILLIS MILLER HEALTH CENTER

To the President of the University:

Sir: I have the honor to submit the biennial report of the J. Hillis Miller Health Center for the period July 1, 1954 through June 30, 1956.

Herewith are the biennial reports for the several units of the J. Hillis Miller Health Center for the subject period or such portion of that period as is applicable to the unit concerned.

The Office of the Provost provided administrative assistance to establishment on campus of the College of Medicine and the College of Nursing during this period.

Dean Dorothy M. Smith was selected to head the new College of Nursing. Experienced in all levels of nursing, a graduate of Columbia and Harvard Universities, sometime member of the accreditation committee of the National League for Nursing, and formerly Assistant Dean of Nursing at Duke University, Dean Smith moved into her new duties with energy, assurance and skillful grace. Her coming has been acclaimed by many in authority in nursing.

Mr. Michael J. Wood was appointed Director of the Teaching Hospital and Clinics. Selected because of his background in the liberal arts and experience in various business and university situations, Mr. Wood brings a sympathetic understanding of the needs of patients and a basic philosophy not unlike that upon which the Colleges of Medicine and Nursing were established.

Dean George T. Harrell of the College of Medicine (joined the University staff in January 1954), Dean Smith and Mr. Wood as chief administrators of the

three new units in the Health Center collectively assure the State of Florida an era of outstanding service in these three significant areas.

In addition to the above personnel appointments, the Provost attended fifteen meetings of state and national committees, gave talks before nineteen civic groups, eleven medical groups, one medical school and one nursing group. He also gave five papers before scientific groups, served as consultant to eight groups and appeared before legislative groups on ten occasions.

Respectfully submitted,
Russell S. Poor, Provost

REPORT OF THE DEAN OF THE COLLEGE OF MEDICINE

To the President of the University:

The Biennial Report for the College of Medicine covering the 1954-56 biennium is attached.

Because of the rather unusual nature of his activities during the past year, I thought you might be interested in scanning the enclosed complete report of Dr. Frank Putnam of our Department of Biochemistry. An abbreviation will appear in our biennial report but will not do justice to his activities.

A copy of the itinerary covering the trip of Dr. Thomas Maren, of our Department of Pharmacology, to visit European medical schools and to attend the International Physiological Congress in Brussels, Belgium, is enclosed.

I am also attaching a list indicating the date, place and group before which I gave formal talks during the past biennium.

Cordially,
George T. Harrell, M.D.
Dean

REPORT OF THE DEAN OF THE COLLEGE OF MEDICINE

To the President of the University:

Sir: I have the honor of submitting the first biennial report for the College of Medicine.

Educational Objectives

The College of Medicine is being organized as an integral part of the University of Florida to provide the best possible education of practicing physicians and medical scientists. The faculty has been selected because of its interest in the preprofessional training and guidance of students in any unit of the University, as well as in the more traditional role of teaching and research in the professional school. The College is being organized with its primary objective as education. Service to the state in the form of patient care will be rendered in the discharge of teaching duties, and individual faculty members will be available for consultation with practicing physicians.

Physical Plant

The Medical Sciences Building is rapidly nearing completion and will be occupied early in the next biennium. Teaching of the first two years of the medical curriculum will be largely conducted in this building. Many unique facilities have been designed for the efficient teaching of medical students. The individual study cubicle or "thinking office" for each student is unique.

Classrooms and laboratories are designed to achieve the greatest possible flexibility in use and to permit evolution of the curriculum and course content through the years. Facilities have been provided for the initiation of faculty research. The inspired contribution of the Consulting Architect, Jefferson M. Hamilton, concerning the location and design of the building is most gratefully acknowledged. The planning for the Teaching Hospital has been completed.

Equipment

Major items of fixed laboratory furniture for teaching are being installed as part of the construction contract. Limited amounts of movable scientific equipment for teaching have been ordered out of the building appropriation and operation budget for delivery early in the next biennium. A number of specialized pieces of scientific equipment have been ordered from funds provided by teaching and research grants; these are listed below.

Library

An adequate library for the initiation of teaching has already been collected by the University. A number of physicians have generously donated portions of their professional libraries. Particularly gratifying are gifts of historical collections, including many autographed early editions of classic works. Gifts from other universities and professional organizations are included in the librarian's report.

Faculty

A young and enthusiastic faculty is being recruited. A nation-wide search was conducted for each department head, and an average of six candidates were interviewed for each post. The faculty for the teaching of courses in the basic medical sciences will be in residence early in the next biennium. Teaching grants have permitted the early addition of other faculty members for educational planning and exploration of teaching techniques as well as early initiation of research. The help of the Commonwealth Fund has been invaluable in the planning and "tooling up." Individual faculty members have given lectures and participated in conferences in other colleges of the University, and have served on University-wide committees in several fields.

Students

The first class of 50 students has been largely selected and instruction will begin in September 1956. For this class, 424 applications were received, 240 from Florida and the remainder from 26 states, Puerto Rico and Hawaii. Of these applicants, 124 were invited for personal interviews. Most interviews were conducted on the campus by at least three members of the Medical Selection Committee. Six students were interviewed in other states by members of our faculty, and 2 students were interviewed at a great distance by faculty members of other universities. Dr. Benjamin Leavitt, preprofessional counsellor in the College of Arts and Sciences, served admirably as Secretary of the Selection Committee. The College of Medicine wishes to express its appreciation for his loan and for the help of other units of the University in the recruitment and selection of students. Three students were awarded State Scholarships and another grant was made to a student by the Joseph Collins Foundation.

Professional Relations

The excellent postgraduate program conducted for many years by the Graduate School in conjunction with the Florida Medical Association and the Florida State Board of Health has been continued. Under the devoted direction of Dr. T. Z.

Cason, Jacksonville, 13 courses have been given to approximately 1,233 participants.

The Medical Advisory Committee, composed of practicing physicians from all parts of the state, has continued to give regular invaluable counsel.

Members of the faculty have given talks before county and district medical societies and before professional groups in widely scattered states and in six foreign countries. Members of the faculty have served on national and regional boards of directors and advisory panels of scientific organizations including The Oak Ridge Institute of Nuclear Studies, American Cancer Society, American Chemical Society and the National Institutes of Health and as editors of national scientific journals.

Public Relations

Faculty members have given talks before lay groups over the entire state including alumni associations, civic clubs, and have appeared on many radio and television programs both in and out of the state. The newspapers and local magazines within the state have given excellent, sympathetic coverage to the progress of the College.

Publications

Professional and technical publications of the staff are listed at the end of this report. Additional publications on research done before appointment to this faculty have appeared during this period but are credited to other institutions and have been omitted from the list.

Gifts

In addition to gifts of books and journals, contributions have been received from practicing physicians in the state. Particularly noteworthy were unrestricted contributions by Dr. J. G. DuPuis, (deceased) Miami, totaling \$3,250.

Pathologic material for teaching has been collected and sent to the College by various physicians in the state and by Florida physicians in military service overseas. This cooperation has permitted us to begin our microscopic teaching collections early.

Grants

Teaching grants have been received from the National Heart Institute \$25,000, National Institute of Mental Health \$15,000, John and Mary R. Markle Foundation \$4,500, as well as \$143,650 from the Commonwealth Fund which is discussed in detail elsewhere.

A research grant of \$15,000 for the purchase of special research equipment was received from the Damon Runyon Memorial Fund. Other research grants were made by the National Cancer Institute, \$17,049 for Dr. Putnam and National Institutes of Health, \$11,436 for Dr. Wilson. Additional grants for research by these and other faculty members have been approved to begin during the next biennium.

Needs

Scholarships and loan funds for medical and graduate students in the College of Medicine are urgently needed.

Housing specifically designed for single graduate and professional students, both men and women, is urgently needed. Additional married housing near the College of Medicine is urgently needed.

Scientific equipment for both teaching and research will be needed by the clinical departments during the next biennium.

No reservoir of medically trained personnel at technical, secretarial, and other levels exists in the community. Staffing of the departments will be increasingly difficult as industry continues to move into the community, particularly when research laboratories are established in conjunction with production facilities. This problem will become particularly acute when the Teaching Hospital is opened and instruction begins in the clinical years of the medical curriculum.

Reports of the various departments of the College of Medicine follow:

Anatomy

Dr. James G. Wilson, Professor of Anatomy, formerly with the University of Cincinnati began operation of the department August 1, 1955. Dr. D. Louise Odor, formerly with the University of Washington, began her duties as Assistant Professor May 7, 1956. The following staff have been appointed and will assume their duties during the next biennium: Dr. Donald C. Goodman, Assistant Professor from the University of Pennsylvania, Dr. Joseph F. Gennaro, Assistant Professor from the State University of New York, and Dr. Allan R. Beaudoin, Assistant in Research from Vassar College.

Considerable progress has been made in the procurement of technical and service staffs, in the selection of materials and equipment for teaching and research and in the preparation of class material. A histological preparation laboratory was put into operation October 1955, and has completed several thousand slides for use in student loan collections for the teaching of microscopic anatomy and neuroanatomy. The first Head Technician, Miss Isuelt V. Finley, died suddenly on February 20, 1956.

Three scientific lectures were given by Dr. Wilson in Jacksonville, Cincinnati and Gainesville; more general talks were given before two premedical societies on campus and the St. Petersburg Alumni Club. As co-chairman, Dr. Wilson organized the First Teratology Conference in Cincinnati, Ohio, and participated in the Teaching Institute on Anatomy of the Association of American Medical Colleges at Swampscott and the meeting of the American Association of Anatomists at Milwaukee.

Research on the project "Effects on the offspring of maternal physiologic alterations during pregnancy in the rat," which was begun at the University of Cincinnati, was concluded here in January 1956.

Dr. Wilson is serving as Executive Secretary of the Anatomical Board of the State of Florida.

Biochemistry

Dr. Frank W. Putnam, Professor of Biochemistry, formerly with the University of Chicago, began operation of the department on September 1, 1955. The following faculty have been appointed to assume duties in the next biennium: Dr. James Allen Olson, Assistant Professor from Harvard Medical School, Dr. Arthur Koch, Assistant Professor from the University of Chicago and Dr. Melvin Fried, Interim Assistant Professor from Washington University, St. Louis.

Invited lectures were given by Dr. Putnam at the Gordon Conference on Cancer Research at New London, American Chemical Society at Minneapolis and at Tallahassee, Duval Medical Center at Jacksonville, and Columbia University College of Physicians and Surgeons, New York. At the request of the United States Department of State, a South American trip was made as a specialist educator under the auspices of the International Educational Exchange Service;

22 formal lectures, 4 informal talks and 19 visits were given at medical schools and research institutes in Venezuela, Chile, Argentina, Uruguay and Brazil. All of the formal lectures and a greater part of the informal talks, including television programs in Caracas, were given in Spanish.

Under the sponsorship of the John and Mary R. Markle Foundation the following medical schools were visited to discuss curriculum: Western Reserve, University of Pittsburgh, Albert Einstein, Columbia, Yale and Harvard. In addition, the Johns Hopkins University and the University of Chicago were visited for observation of teaching methods. Dr. Putnam served on the Panel on General Biochemistry of the Committee on Growth of the National Research Council, Medical Evaluation Committee of the Oak Ridge Institute of Nuclear Studies, Executive Committee of the Division of Biological Chemistry of the American Chemical Society, and as a consultant for the Metabolism and Biophysics Study Groups of the National Institutes of Health and as an editor of the *Archives of Biochemistry and Biophysics*.

Research was continued at the University of Chicago during the interim.

During the year, in addition to selection of the staff, research laboratories were designed, course content planned, and supplies and equipment for teaching and research selected. A number of technical papers have been written and accepted for publication.

Medicine

Dr. Samuel P. Martin, Professor of Medicine, formerly of Duke University assumed his duties March 1, 1956. Visits were made and the curriculum discussed at the University of Pittsburgh, University of West Virginia, American Federation for Clinical Research and American Society for Clinical Investigation, Atlantic City. Scientific lectures were given at Morgantown, West Virginia and at the International Symposium on Leukemia and Allied Disorders, Detroit.

Dr. Martin is serving as Coordinator of the Commonwealth Study. Areas for cooperation between the College and other units of the University are under study.

Research has continued at Duke University.

Several technical papers have been accepted for publication.

Medical Illustration

Mr. Robert Hay, Medical Photographer, began operation of the Department April 15, 1956. Preparation of teaching materials and selection of the equipment has been under way. Mr. Robert Beach, Director of the Department, formerly of Duke University has been appointed and will arrive July 1.

Microbiology

Dr. Emanuel Suter, Professor of Microbiology, has been appointed. The department will be activated July 1, 1956.

Pathology

Dr. Joshua L. Edwards, Professor of Pathology, formerly with the Rockefeller Institute for Medical Research, began operation of the department December 1, 1955. The following members of the staff have been appointed to assume duties during the next biennium: Dr. Charles F. Crampton, Assistant Professor from Rockefeller Institute for Medical Research and Dr. Claude Ian Hood, Instructor from Cornell University. Dr. Crampton has been selected as a Markle Scholar in Medicine, a signal honor for a school which has not yet matriculated its first students.

A histological laboratory began operation January 1956, and approximately a thousand slides have been prepared for the teaching of microscopic pathology.

Dr. Edwards has given a scientific lecture to the Duval County Medical Society, Jacksonville, and a general talk to the Florida Division of the American Cancer Society.

Pharmacology

Dr. Thomas H. Maren, Professor of Pharmacology, began operation of the department December 1, 1955. The following staff have been appointed to assume duties in the next biennium: Dr. Aaron H. Anton, Instructor from Yale, Dr. Lucy Birzis, Instructor from the University of California at Los Angeles and Dr. Kenneth C. Leibman, Instructor from the University of Wisconsin.

Scientific lectures were given by Dr. Maren before the Alachua County Medical Society and the staff of the Duval Medical Center.

Physiology

Dr. Arthur B. Otis has been appointed Professor of Physiology. The Department will be activated July 1, 1956.

Administration

The Dean gave 33 scientific lectures to state and local medical societies and scientific organizations throughout Florida, Georgia, North Carolina, and at Tulsa, St. Louis, Buffalo and Washington. In 1954 county medical societies from Miami to Pensacola were visited, as well as in 1955 each of the five district medical societies in the state, at which formal talks on the educational program of the College were given. Invited lectures were also given before the American Medical Association, American Association of Colleges of Pharmacy, Cardiovascular Teaching Conference, American Therapeutic Society, Armed Forces Institute of Pathology, American Society for Human Genetics. During the biennium 18 out-of-state and 32 in-state lectures were given before professional groups which included veterinarians, dietitians, hospital administrators and medical technologists. Nineteen talks were made before lay groups in the state on the educational program.

The Dean has served on boards of directors of the Oak Ridge Institute of Nuclear Studies, Florida Heart Association, Medical Scientific Advisory Board of Mound Park Hospital, committees on Training and Research in Mental Health, Indigent Hospitalization, State Medical Scholarships, and Scientific Work of the Florida Medical Association.

In addition to applicants for admissions, over 200 other students in this and other colleges were interviewed and advised by the Dean. Whenever practical, all wives and many parents of prospective students were interviewed separately. Other interviews included 42 possible department heads, 104 junior academic personnel, 110 foreign and out-of-state professional visitors, as well as many professional and lay visitors from Florida. Four television programs were given in addition to many radio programs in conjunction with meetings throughout the state.

Several scientific articles were published.

Publications 1954-1956

1. Harrell, George T.: Cellular Changes of Sodium and Potassium in Man, Abstracts of the Sixth Annual Scientific Assembly. American Academy of General Practice, Cleveland, 1954.

2. Harrell, George T.: Panel: Diet in Hypertension, Hypertensive Heart

Disease and Rheumatic Heart Disease. Transactions of the American College of Cardiology, Vol. IV—Nov. 1954.

3. Harrell, George T.: A New Approach to Health Education. The Florida Alumnus, June, Sept., Dec. 1954.

4. Harrell, George T.: Trichinosis. TEXTBOOK OF MEDICINE, 9th Edition. W. B. Saunders & Co., Philadelphia, pp. 434-437, 1955.

5. Harrell, George T.: Rocky Mountain Spotted Fever. CURRENT THERAPY—1955. W. B. Saunders & Co., Philadelphia, pp. 49-52, 1955.

6. Harrell, George T.: The J. Hillis Miller Health Center. Florida Journal of General Practice, Oct. 1955.

7. Harrell, George T.: Infection and Allergy. PATHOLOGIC PHYSIOLOGY, Mechanisms of Disease, 2nd Edition, Chapters 7-10. Edited by William A. Sode-man, W. B. Saunders & Co., Philadelphia, pp. 153-214, 1956.

8. Harrell, George T.: Trichinosis. CURRENT THERAPY—1956. W. B. Saunders & Co., Philadelphia, pp. 51-52, 1956.

9. Harrell, George T.: The University in Medicine; Concept of the New Program at the University of Florida. Journal of the American Medical Association, 161:700, June 23, 1956.

10. Wilson, J. G.: Teratogenic Activity of Several Azo Dyes Chemically Related to Trypan Blue. Anatomical Record, 123:313, 1955.

Respectfully submitted,
George T. Harrell, M.D.
Dean

REPORT FROM THE DEPARTMENT OF BIOCHEMISTRY

During the first year of organization, no teaching or experimental research was undertaken within the Department. During this period, the curriculum was planned, the supplies and equipment for teaching and research were ordered, the layout of the research laboratories was planned, a staff was selected, and grants were obtained for the initiation of research. In addition, the Chairman, Dr. Frank W. Putnam, continued the supervision of research at the University of Chicago by four of his associates, which required several return visits to Chicago. A number of papers describing this work were written and accepted for publication, and also a review chapter on the biochemistry of viruses was written for the *Annual Review of Biochemistry*. In connection with the Markle Foundation program, Dr. Putnam visited a number of northeastern medical schools and also lectured on this tour. Fulfilling a previous but now abbreviated commitment, Dr. Putnam toured six countries in South America, lecturing in Spanish and visiting medical schools and scientific institutions. Frequent opportunity arose to describe the plan for medical education at Florida. This tour involved both radio and television appearances. A number of honors were accorded, such as the award of Corresponding Membership in the Peruvian Society of Pathology. Several of these lectures will be published in Latin American journals.

In addition to regular departmental duties, Dr. Putnam had a number of scholastic duties to perform, such as being an editor of *Archives of Biochemistry and Biophysics*, a member of the Panel on General Biochemistry of the Com-

mittee on Growth of the American Cancer Society, a member of the Executive Committee of the Division of Biological Chemistry of the American Chemical Society, a member of the Visiting Committee for the Medical Division of the Oak Ridge National Laboratory, a consultant (unpaid) for the Study Groups of the National Institutes of Health, etc.

LIST OF GRANTS RECEIVED

GRANTOR	GRANTEE	Amount of Grant	Beginning Date	Concluding Date	TYPE OF GRANT
Markle Foundation	Dr. Frank W. Putnam	\$ 4,500.00	12-1-55	Indefinite	Support of Principal Investigator
Damon Runyon Memorial Fund	Dr. Frank W. Putnam	15,000.00	2-1-56	1-31-57	Grant for Research apparatus and equipping laboratory
American Cancer Society, Inc.	Dr. Frank W. Putnam	16,950.00	7-1-56	6-30-57	Research Grant
*National Institutes of Health	Dr. Frank W. Putnam	17,049.00	6-1-56	5-31-57	Research Grant
* Plus a commitment for future support of \$11,800 per annum for four years ending May 31, 1961.					
<i>APPLICATIONS PENDING:</i>					
National Institutes of Health	Dr. James A. Olson	\$10,224.00	9-1-56	8-31-27	Research Grant

REPORT OF THE DEAN OF THE COLLEGE OF NURSING

To the President of the University:

Sir: I have the honor to submit the first report of the College of Nursing for the period of February 1, 1956 through June 30, 1956.

During this five months a curriculum plan for the four academic years program leading to a Bachelor of Science in Nursing degree has been developed. The plan has been approved by the Florida State Board of Nurse Registration and Nursing Education. This Board has legal responsibility for approving programs in nursing in the State of Florida, as well as legal responsibility for licensing nurses. Two nursing courses have been approved by the University Curriculum Committee. One of these is a freshman nursing course and the other is a course for graduate nurses to be given on an extension basis.

Considerable time has been spent in corresponding with and interviewing prospective students and faculty members. The first students will be enrolled in September 1956 and the first faculty member is to be appointed on the same date. Most of the nursing faculty will not be appointed until July 1957 and thereafter, since the bulk of the teaching in the first two years of the program is in the area of general education.

Considerable time has also been spent in speaking to various groups throughout the state on nursing and nursing education. Some of these meetings have been one session affairs and some have been in the nature of two-day institutes.

The tremendous interest, enthusiasm and support which has been evidenced thus far on the part of University personnel and other persons, both professional and nonprofessional, throughout the local community and the state in regard to the new College of Nursing has been greatly appreciated and bodes well for the future of the college.

Respectfully submitted,
Dorothy M. Smith, Dean

REPORT OF THE DEAN OF THE COLLEGE OF PHARMACY

To the President of the University:

Sir: I have the honor to submit the following report on the College of Pharmacy for the biennium ending June 30, 1956, and recommendations for the coming biennium.

In September, 1954, the College became a unit administratively in the J. Hillis Miller Health Center. This forward step is significant in bringing about a closer relationship between pharmacy and its kindred professions of medicine and nursing. The avenues of beneficial co-operation are many and include teaching, research, pharmaceutical service to the Teaching Hospital, and budgetary matters. Inter-professional relations should be benefitted. Much time and thought have been given to planning for these objectives. To reach these goals in the most effective manner, it will be necessary to erect an adequate building as a wing in the Health Center to house the College of Pharmacy. Space requirements and justifications were submitted to the President in January, 1956.

The curriculum is being studied by the faculty for the purpose of changing it to two years of pre-pharmacy plus three years of professional courses to become effective no later than September, 1960. In so doing, the College is

planning to meet the new requirements of the American Association of Colleges of Pharmacy and will explore the possibility of devising some courses which will be common to students of pharmacy and medicine.

Although enrollments during the biennium are somewhat lower, physical facilities continue to be taxed, requiring the use of temporary lockers in the hall. In September, 1954, the College enrolled 250 undergraduate and 21 graduate students. In September, 1955, there were 262 undergraduate and 21 graduate students.

Fewer degrees were granted during this biennium than in the previous one: 109 B. S. in Pharmacy; 4 M. S. in Pharmacy; 11 Ph. D. Florida annually needs about 150 graduates. The great demand for them continues to exceed the supply. Therefore, it is heartening to note that the sophomore class (127) as of September, 1955, is larger than in September, 1954 (95). The number of course students being taught by the College in the summer of 1956 is 43% greater than in the summer of 1955.

New annual scholarship funds were made available in amounts of \$700 from the Florida State Pharmaceutical Association, and \$400 from the American Foundation for Pharmaceutical Education.

Faculty changes caused by resignations in the Department of Pharmacy include Dr. J. H. Kern replacing Assistant Professor F. A. Duckworth, and Dr. L. D. Beltz replacing J. M. Siragusa as Assistant Professor. In March, 1956, Dr. S. W. Freyburger, Instructor in the Department of Pharmacognosy and Pharmacology, accidentally lost his life. It was impossible to replace him immediately.

Although faculty members have become very much concerned about inadequate salaries and appointments to the University faculty at a higher salary scale, they have continued to do good teaching, excellent research, and publishing of many research and professional papers. The Dean was elected Chairman for the Colleges of the Southeastern District of the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy for 1955-1956. Dr. J. H. Kern was elected Vice-President of the Teachers Conference on Pharmacy Administration of the American Association of Colleges of Pharmacy for 1956-57.

The graduate program was carried on in an excellent manner. The American Foundation for Pharmaceutical Education granted \$15,535 for 10 graduate fellows. By a co-operative arrangement for research for doctoral dissertations, the Oak Ridge Institute of Nuclear Studies granted two fellowships of \$2,588 each. The Armed Services Medical Procurement Agency honored the College by choosing it as one of two colleges in the United States for a research contract in the amount of \$50,000 for a two-year period. Additional personnel was employed for this purpose.

Research studies included antidotes, tissue culturing, electronic blood pressure recording, extraction of crude drugs, new and improved dosage forms, packaging, flavors, essential oils, and ultrasonics. By invitation, three graduate students reported on their research before the American Association for the Advancement of Science in Atlanta, December, 1955.

The National Plant Science Seminar, which is composed of pharmacognocists, held their 1955 meeting at the College in August with about 50 in attendance.

There have been no major changes in the Medicinal Plant Garden with the exception that an arrangement has been made for pumping water out of

Lake Alice for sprinkling the experimental plots.

Student organizations were very active and demonstrated a fine spirit. On April 14, 1956, Sigma Chapter of Rho Pi Phi, international pharmaceutical fraternity, was installed with 15 charter members. It is felt that this organization will be beneficial to the College. Junior and senior students were very helpful in a Florida prescription survey directed by Dr. L. G. Gramling and financed by the Abbott Laboratories.

The biennial industrial trip for juniors and seniors was made in March, 1956, with 43 students visiting Parke, Davis and Company in Detroit and the Upjohn Company in Kalamazoo, Michigan.

The Ladies Auxiliary of the Florida State Pharmaceutical Association and the different branches continues to be actively interested in the College. The State Auxiliary gave the sum of \$100 for books and journals and financially assisted the Alachua County Auxiliary in giving two dances for students and two buffet suppers for graduating students and friends. On March 9, 1956, members of the Alachua, Dade and Duval Auxiliaries visited the College for the formal opening of the Seminar Room which was furnished by the Dade Auxiliary at a cost of \$1,000.

Bureau of Professional Relations

The Bureau of Professional Relations completed 16 years of service to Florida State Board of Pharmacy. The mailing list for the monthly bulletins has increased to 4,600 drugstores and physicians. The work of the Bureau has included hundreds of personal contacts with the professions, exhibits and talks before meetings, answers to inquiries on professional problems, two refresher courses, preparation of professional articles for the press and a placement service for graduates.

Because of the shortage of pharmacists in Florida, the Bureau has recently become active in recruiting students. In this connection an Open House was held each year with estimated attendance of 4,000 in 1955 and 6,000 in 1956.

To assist pharmacists in public relations, leaflets for distribution by drugstores were prepared and sold to them during the past year at a rate of approximately 210,000 per month.

Needs and Recommendations

1. Substantial salary increases are urgently needed: a) to maintain equity within the College and within the University; b) to compete with other institutions; c) to offset more inflation; d) to improve morale.

2. An adequate building for the College should be erected as a wing in the J. Hillis Miller Health Center. It is urged that this request be made to the 1957 Legislature.

3. An additional assistant professor is needed for expanding enrollments.

4. The position of Secretary II should be raised to Secretary III because of the duties involved and the difficulty in finding a capable Secretary II. To do this will be more economical than other arrangements.

5. The expense and current operating capital outlay budgets should be increased to care for increased enrollments and prices and additional research needs.

Respectfully submitted,
P. A. Foote, Dean

BIENNIAL REPORT OF THE DIRECTOR
THE TEACHING HOSPITAL AND CLINICS
J. HILLIS MILLER HEALTH CENTER
UNIVERSITY OF FLORIDA

The Teaching Hospital and Clinics of the J. Hillis Miller Health Center has gone through various planning stages during the past two years. Ellerbe and Company, hospital architectural consultants, had one of their representatives in residence at the Health Center for the past 12 months. He worked closely with members of the Health Center Staff and the architects and engineers while the physical plant planning was in progress. Numerous meetings with hospital consultants, architects and engineers were held with the Health Center medical, nursing, and hospital administrative staff as well as with many other University personnel.

From these meetings emerged plans for the Teaching Hospital and Clinics. Because of similar soil conditions to those encountered in the Medical Sciences Building, it was decided to build the substructure of the hospital in a separate contract from the superstructure contract. The firm of Ruscon and Company of Charleston, South Carolina were the successful bidders for the foundation contract and ground was broken for the hospital foundations on April 17, 1956. Ruscon expects to complete the foundations in the late fall of 1956. Meanwhile, plans for the superstructure were completed and bids were taken on June 14, 1956. The firm of Arnold and Company of West Palm Beach were apparent low bidders. They will begin work on the hospital superstructure buildings in September of this year and a completion date has been set for October 1958. At that time patients are to be admitted and clinical instruction will begin for the Junior medical students, as well as the first class of the College of Nursing.

It should be pointed out here that certain portions of the originally planned building were omitted from plans put out for bid. These omissions were made at the advice of the Architect to the Board of Control to insure the Health Center getting within the amount appropriated for the hospital. The psychiatric floor, the 4th, 5th and 6th floors of the connecting wing, the 1st floor of the specialty outpatient clinics and certain unfinished areas must be restored to this building to give maximum efficiency of operation and to provide for a program of professional education which is complete in all aspects.

The past 12 months has seen operational planning for the organization, staffing, equipping, and opening of the 400-bed hospital with outpatient clinics, emergency room and other clinics, together with a large rehabilitation and readjustment center has been going on. It is noteworthy that South Carolina and Mississippi transferred Hill-Burton funds to Florida to help build and equip the rehabilitation unit. The hospital director, appointed in April 1955, has visited many of the outstanding teaching hospitals from California to Washington and from Georgia to Minnesota. He consulted with hospital experts from more than 50 outstanding institutions in order to formulate constructive planning for patient care in the University of Florida Teaching Hospital.

Detailed planning for the first biennial operating budget request has occupied the hospital director and his secretary for the past several months. At the present time, the hospital staff consists of the director and his secretary. Money

is budgeted for the immediate appointment of the nursing service director and the medical records librarian and their secretaries. These persons are needed to help plan the procedure manuals and the operational flow of records. They are necessary for the basic planning of patient services. We are presently interviewing a number of applicants for these positions.

Between this date and the second year of the next biennium the staff will exceed 600 persons. It is important that this staff be employed some months prior to the actual opening of the hospital, so that training (which will familiarize the hospital staff with policies and procedures) can be completed before the first patient is admitted.

The next phase of planning will be the specifying, planning, receiving, and placement of a tremendous variety and quantity of equipment and supplies needed to open the hospital. Lists are now being prepared with the help of equipment companies and consultants and will be checked thoroughly with the professional staff who will use the equipment. It is planned to bid the equipment by the summer of 1957, thus, insuring 12 months or more for delivery and installation. Other University departments have been and will be called on for help and advice, keeping in mind that the hospital will demand round-the-clock, daily, high-quality services.

It is anticipated that additional staff to implement the purchasing and personnel procurement will be needed to help the director of the hospital no later than January 1958 and preferably by July 1957. The enormity and scope of the hospital planning and operation probably cannot be absorbed by staffs in other administrative areas of the University.

Progress is being made in all phases of the planning mentioned and construction will soon reach a point where it will consume a considerable portion of the director's time in checking the building as it progresses.

In summary, the past biennium has seen plans for the Teaching Hospital and Clinics completed and construction begun on the buildings. Operational planning has been going on and will continue. The operational planning is phased to complete, as nearly as possible, the procedural and organizational details so that the opening of the hospital can be effected with a minimum of effort. The staff is being planned for, and it is hoped they can be employed early so they can be trained in their duties before the first patients are admitted and the first medical and nurse students are entered upon their clinical work.

M. J. Wood, Director
Hospital and Clinics

REPORT OF THE DIRECTOR OF THE DIVISION OF MUSIC

To the President of the University:

Sir: The Division of Music has continued its three-fold program of teaching, research and extension service.

Enrollment has shown increase. Students enrolled for credit totalled 3,149; and additional 976 participated, without credit, in one or more of the Division's ensemble organizations.

Beyond their full teaching schedules, the 16 faculty members have contributed

generously to the enlargement and the enrichment of the music life of campus and state. A year-round service program has been maintained in cooperation with education and music organizations throughout Florida. Demands in this public service area have grown so heavily during the past few years that it is clearly evident the need was there. Accomplishment herein is evaluated not only in terms of numerical increases; there has been an equally rewarding extension in the taste and literacy lines. Florida's music is well on its way to maturity and the role it will play in our expanding educational structure and community planning (recreational and avocational) begins to take on an entirely new stature. The Division of Music helped lay the groundwork for this new era, and is ready to meet the full responsibilities it brings to our doorstep.

All members of the staff are active in the major professional organizations (state and national) in their respective fields. Leadership posts during this biennium include:

Professor H. B. Bachman—Program Committee, American Bandmasters Association; Consultant to Music Selection Committee, Florida Bandmasters Association; Editor of Reviews of new band publications for *The School Director*; Editorial Advisory Board, *Educational Music Magazine*; Consultant to National Interscholastic Music Activities Commission.

Professor R. S. Bolles—Chairman, Music Facilities of the Florida School Facilities Conference, State of Florida Department of Education; Chairman, Audio-Visual Equipment Committee of the Southern Music Educators Conference.

Associate Professor R. L. Danburg—President, Florida Composers League.

Professor C. L. Murphree—Regional Chairman, American Guild of Organists.

Instructor Samuel Nachenberg—President, Gainesville Philharmonic Society (1956).

Assistant Professor O. F. Paul—State Chairman of Student Chapters of Music Educators National Conference.

Associate Professor D. T. Schmidt—Chairman, Music Education Committee, Florida State Music Teachers Association.

Assistant Professor A. E. Wirtala—President, Gainesville Philharmonic Society (1955).

In creative work staff members list for the biennium: articles published in professional magazines, 6; compositions published, 4; compositions performed in manuscript, 7.

Professional advancement leaves of absence included: Assistant Professor O. F. Paul, 1955-56, for study toward the Ed. D. degree at Teachers College, Columbia University; Assistant Professor D. E. Sterret, 1954-55, for study toward the Ed. D. degree at George Peabody College for Teachers; Assistant Professor A. E. Wirtala, 1951-52, for study resulting in Ed. D. degree granted by the University of Florida in January, 1954—Dissertation, "Taste in the Arts: A Problem in Aesthetic Values."

Honors of national interest were conferred upon Professor H. B. Bachman and student Jack Jarrett. Professor Bachman was invited by the Music Educators National Conference to conduct the All-American High School Band at

the 50th Anniversary Convention, St. Louis, Missouri, April, 1956. Student Jarrett, a 1956 senior in the Division of Music, was presented with the Phi Beta Kappa Creative Achievement Award for the year 1955-56 for his prolific and distinctive work in original composition. Foremost among his writings was his opera *Cinderella* which was premiered by an all-student cast in the University Auditorium, May 3, 4 and 5, 1956.

Three important music meets were held on the campus, with the Division of Music playing host: Florida State Music Teachers Association Convention, November 6, 7 and 8, 1955; Florida Composers League Convention, March 2 and 3, 1956; High School Band and Orchestra Festival, Northern Division, May 10 and 11, 1956.

A concert exchange program with our neighbor Cuba was launched in 1956. Professors Preodor and Lawrenson appeared in two violin and piano concerts in Cuba, in return for the concert presented here by Cuban Pianist Rosario Andino. Other exchange concerts are being scheduled for the years ahead.

A recapitulation of the Division of Music's Public Appearance Record for the biennium gives a quick picture of the scope of the work within its public service area:

Faculty appearances

Campus	118
Gainesville community	592
State and national	231
	<hr/>
	941

Student appearances

Campus	191
Gainesville community	18
State and national	110
	<hr/>
	319

Total performances in Florida	229
Florida communities thus served	62
Total recorded audiences	2,649,331

There were six staff changes in the biennium: Instructor C. A. Boatright, appointed, September 16, 1954; Instructor N. E. Abelson, appointed, September 16, 1954; Assistant Professor E. Williams, resigned, June 30, 1955; Instructor T. R. Waldo, appointed, September 16, 1955; E. C. Preodor, promoted in rank from Associate Professor to Professor, July 1, 1955; Reid Poole, promoted in rank from Assistant Professor to Associate Professor, July 1, 1955.

No new needs have arisen in the Division during the closing biennium. The needs listed in the last two reports are still sharply and restrictively with us:

1. Large auditorium
2. Outdoor theatre
3. A permanent home
4. Authority to grant degrees in music education on all levels

Respectfully submitted,
A. A. Beecher, Director
Division of Music

REPORT OF THE DEAN OF THE COLLEGE OF PHYSICAL EDUCATION AND HEALTH

To the President of the University:

Sir: The biennial period 1954-56 has been one of sound and substantial progress.

Some highlights of the activities were:

The program of Student Health has been aided by improved facilities, additional staff, and expanded laboratory services. Increased attention to and services in public health such as: immunizations, University personnel health examinations, treatments and follow-up procedures have been noted.

The Intramural and Recreation program has seen much greater activity in club organizations as well as league competitions. Extra-mural off-campus activities have included presentations of a public nature in schools and clubs and via radio and television.

The Teacher Training program has been marked by revision of curricula toward higher standards. Effort toward adult service has been exerted by the presentation of extension classes. Several bulletins have received state and national recognition as have consulting services and periodical writings.

A challenge and problem are presented in the areas of educational television, radio and physiological research.

The programs of Required Physical Education for both men and women continue to serve well. Physical fitness as a national obligation continues to be emphasized as well as the development of sports techniques. The women's program saw much development in modern dance, equitation and aquatics. Special attention was given to training in personal hygiene and effective social living. In both programs much careful and individual attention was given to the physically handicapped student.

Student Health Service

The Department of Student Health comprises a staff of seven full-time physicians, one of whom is a psychiatrist, and two are specialists in Internal Medicine. Other physicians on the staff have had additional training in Ear-Nose-Throat, Orthopedics, and Dermatology. A part-time radiologist is employed on a fee basis for interpretation of all x-rays taken in the department. A graduate pharmacist is in charge of the Pharmacy. Twenty nurses, one physical therapist, three laboratory technicians, two x-ray technicians, and one dietician complete the professional staff. The office staff is headed by an executive assistant and staffed by two stenographers and two receptionists. A full-time accountant directs the financial activities. Housekeeping is headed by the Housekeeper and staffed by maids and orderlies. The kitchen staff is directed by the Dietician. With student assistants employed as ambulance drivers and night receptionists there are 63 employees in the Department.

The Infirmary operated for 700 days during the biennium. During that period, 4,002 inpatients and 114,095 outpatients were cared for. Of this number, 3,267 were interviews with the Psychiatrist. In addition, 2,057 pre-employment physical examinations were done for non-academic employees of the University, and 1,598 Food Handlers' Certificates were completed for the University Food Service.

Twenty-four hour medical service is provided seven days a week during the regular sessions of school and on an abbreviated schedule of clinic hours during vacation periods. This operation has been fiscally self-sustaining for the past eight years.

Capital Outlay improvements during the biennium have consisted of completely refurnishing the reception room, the installation of a central music system with speakers to all bedsides and to public areas of the building, new bedside lighting, addition of office machine, new vacuum sweepers for maintenance, rebuilding of x-ray equipment with installation of a spot film device to allow for improved diagnostic x-rays, and the addition of equipment for the Physical Therapy Department.

The south end of the first floor has been completed with permanent partitions, new floors and woodwork giving one additional office space for the new physician, and office for the Superintendent of Nurses, and a clinic for the Public Health Nurse. All the hospital furniture has been refinished. Physical Therapy has been moved from the first floor to enlarged and far brighter quarters on the third floor.

The Manual of Standing Operating Procedures for the Infirmary was completely revised during the year. Plans for the construction of additional clinic space are being studied.

Intramural Athletics and Recreation

Long a University of Florida tradition and one of the most puissant influences for good on this campus, the program of sport and other recreational activities continue to serve our students with increasing effectiveness. The progressive growth and enthusiasm for co-recreational and extra-mural activities in the program have been developments of note. The program saw 800 students participate in the administration which in turn served 7,165 different playing students. There were 21 sports represented in 5,163 contests. Club and special interest groups numbered 27, and served 2,076 different students. The Soccer Club which includes a large portion of our Latin-American students afforded an opportunity for many of our visiting students to participate, both on and off-campus. The summer program saw 48 teams and 2,240 students participate in 12 sports. The faculty and employee program consisting of 8 sports served 632 over the biennium. There were approximately 350,000 pieces of sports equipment checked out by students for recreational free play from our 3 equipment storerooms, and of this number only 260 articles remain delinquent.

The Professional Curriculum

This department serves the State as follows: in its teaching function it prepares physical education, health education and driver education teachers; and athletic coaches for the secondary schools and colleges. It also prepares community recreation leaders and offers a pre-professional curriculum in physical therapy.

The number of students enrolled in this college together with the total enrollment in all classes has continued to increase during the past two years. In the spring semester of 1956, a total of 215 individual undergraduate students (66 Upper Division and 149 Lower Division) were enrolled in one of the several professional curriculums leading to the Bachelor's Degree. 38 students

were enrolled in graduate courses leading to the Master's Degree. Thus, the department and college was serving a total of 252 individual men and women in the undergraduate and graduate divisions combined.

The total enrollment of students in all undergraduate and graduate courses during the biennium was 3,328. During the past two years 63 students received the Bachelor's Degree appropriate for the curriculum completed. The graduate program has continued to grow and during the biennium 33 students received the degree Master of Physical Education and Health.

Aside from the on-campus instruction, the department offers through the General Extension Division courses for teachers in various centers. During the biennium six professional courses in physical education and health education were conducted in the cities of Orlando, Jacksonville, Tampa, and Leesburg, with a total enrollment of 175 students.

In addition to its teaching functions, the department has served the State in other ways. Some examples of the field service activities are as follows: 1) two of the instructional bulletins currently in use by the State Department of Education were produced in workshops conducted by the college, a third is now being written by members of the faculty and various members have made contributions to other State Department of Education bulletins; 2) the department has cooperated with the General Extension Division in providing non-credit courses in driver training for fleet operators and with the Agricultural Extension Division in the in-service training of 4-H leaders; 3) members of the faculty have served numerous county school systems as consultants to and directors of workshops, and as consultants to pre-school and post-school planning sessions; and 4) consulting services have been rendered to cities, community groups and state institutions in the development of physical facilities and programs. Some of these services have included complete plans for the development of community playgrounds. Classes from the department have planned three community and one institutional playground in the last 18 months.

The department also conducts research. Studies have been made, in cooperation with the Department of Student Health Services, of the relationship of swimming to the incidence of respiratory disturbances and of the effect of Vitamin C upon muscular soreness. In addition, a number of surveys of various aspects of the public school health education and physical education programs in Florida have been conducted by members of the faculty.

Required Physical Education for Men

The physical fitness and sports program of this department served 5,753 different students and a total load of 15,903 students during the biennium. The improvement in physical fitness among entering students continues. This past year only two per cent failed the test at the end of the semester. The ten per cent of the students participating in the adapted phase of the program received counseling and assignment to rehabilitation regimens. A follow-up program for these students during 1955-56 indicated great satisfaction among the physically handicapped.

Equitation and rifle marksmanship, the latter in coordination with the Army ROTC, were added to the program. Advanced golf, bowling and equitation are taught as co-recreational activities, along with the six activities reported previously.

Counseling of all students in the selection of activities was improved. There was a significant increase in the referral counseling accomplished by the instructors.

The faculty of the department has continued its professional accomplishments. Fourteen articles were published; eight faculty members were on programs or held offices in the Southern District of the American Association for Health, Physical Education and Recreation; and the entire faculty has been active in the State Association.

Required Physical Education for Women

The Department of Required Physical Education for Women has grown from an enrollment of 1,053 students at the time of the last biennial report to 1,222 at the present time. Over the biennium a total load of 4,242 women students have been served, representing 1,883 different individual students.

The adapted program for women receiving a B medical rating from the University Health Service has served a total load of 341 students, representing 168 different individuals the average of 84 a year represents slightly less than 7% of the total enrollment of women students in required physical education. Of these, approximately 60% were able to participate in some activities of the regular program; the remaining 40% were unable to do so, and were assigned to a special class or individual work.

Individual and dual sports such as tennis, golf and swimming attract over 90% of the women, and many enroll in coeducational classes. Interest is great in modern, social and square dance, equitation and bowling.

Additional facilities for golf have been established near the Women's housing area and more tennis courts have been provided for women's use. Instruction has been improved through the expansion of dance records, library books, films and film strips.

A survey of women students who have just completed the fourth semester of required physical education at this institution indicates highly favorable attitudes toward the program and services offered by the department; cognizance is taken of the social as well as physical values; students realize that activities are available for all individuals regardless of physical condition or ability and that a wide range of interest is provided for so that present and future recreational needs are being met.

All freshmen women (approximately 800 each fall) participate in a program of health counseling, including orientation, discussion, group lectures, individual conferences, films and demonstrations.

Although the Women's Gymnasium has not been available during the past year, classes have proceeded through coordinated use of Florida Gymnasium and Broward Hall physical education area; activity equipment and outdoor facilities are extremely well supplied and cared for. The main need in the women's department is for additional faculty, since there has been no increase since 1949 when the enrollment stood at approximately 750 and has thereby increased over 50% since that time.

Respectfully submitted,
D. K. Stanley, Dean

REPORT OF THE DEAN OF THE GENERAL EXTENSION DIVISION OF FLORIDA

To the President of the University:

Sir: More than five million dollars have been paid by adult citizens to the General Extension Division of Florida to cover incidental expenses in furnishing educational opportunities and services. This is the answer of the people in accepting the offer of the Board of Control to provide anywhere in Florida the knowledge and experience of the State university faculties in order to aid individuals in meeting personal and occupational educational requirements and in solving problems in their special interest group and community activities.

For thirty-seven years this Division has organized and administered the general extension program. The universities furnish the assistance of faculty members without cost to the Division. State appropriations are made available for extension administrative staff salaries. Although the General Extension Division is the extramural college of the state universities, it alone of all instructional divisions is expected to collect tuition fees sufficient to cover total operating expenses including travel, equipment, supplies, printing, and teaching aids.

Adults will pay these fees only for courses and services they want, at a convenient time and place, to help them meet their needs. Full partners in planning, programming, and financing, the PEOPLE CONTROL the nature and content or size and spread of the extension program. Under the present fiscal policy the university most centrally located and having the largest number of schools and colleges which can produce the greatest variety of self-supporting extension activities will have the greatest participation in the total program regardless of any other factor. Consequently, it is self-evident that institutional consideration could not be and never has been an over-riding concern in the effort to develop a balanced, coordinated, functional, statewide plan of action, and has not influenced the economical use of available resources in all of our state universities.

With the present administrative staff and teaching faculty made available to it, the Division can man only about 50 per cent of the refresher and continuation study short-term courses requested by adults to help them meet occupational requirements and improve their present economic status. At the same time, many extension activities, which would give the individual opportunity for self-improvement and community service, and so advance the welfare and develop the social and cultural life of the State, cannot be conducted at all because they cannot be made self-sustaining.

Everyone must recognize the fact that the adult external student at home and on the job is as important to Florida as the campus student. Fewer than one-fifth of the State's employed persons work in agriculture or in occupations dependent upon agricultural products.* Yet, the General Extension Division, with more than four (4) times as many persons to serve, receives less than one-third as much State money with which to work as Agricultural Extension. Certainly it is not unreasonable for the non-agricultural workers of the State to expect as much assistance through the General Extension Division as the farmers receive through Agricultural Extension, and sufficient State appropriations should be made to achieve this equality and carry out the educational objectives of the Division which are:

- (1) To encourage personal growth and development;

- (2) To help adults to become more proficient and more productive;
- (3) To improve understanding of human relationships for effective social action;

*Bureau of Business and Economic Research

- (4) To stimulate public opinion for enlightened participation in government; and
- (5) To discover potential and active leaders for community betterment and economic development and to help such leaders grow by giving them all the responsibility they can take and by assisting them in every way possible.

In doing its work, the General Extension Division through its seven constitutional departments cooperates with and represents the various colleges, schools, and divisions of our state universities:

- (1) By offering the people at home regular university credit courses through correspondence study and extension classes and workshops;
- (2) By assisting business, professional, civic, cultural, welfare, and other organizations anywhere in the State where individual, group, or public needs can best be served by conducting an extension adult education program of refresher and continuation study short courses, institutes, discussion groups, seminars, and clinics;
- (3) By furnishing individuals and societies, who wish to conduct their own educational efforts, consultant services and many kinds of informational materials and teaching aids;
- (4) By introducing new techniques and better methods as these develop in national and international education;
- (5) By developing new areas of information and service as the need for them in Florida becomes apparent; and
- (6) By administering a Florida Youth Program.

The following statistical tables with comments show the large amount and scope of work accomplished during the biennium 1954-1956.

Extension of University Instruction

During the biennium faculty members from the University of Florida and the Florida State University have taught college credit courses in 424 extension classes and 10 county workshops, A total of 11,323 students were enrolled. This instruction was given in 55 counties.

Further expansion is impossible until the universities are provided with additional teaching faculty who can devote time to extension instruction. In providing for the increasing number of resident students, the off-campus adult extension student must not be neglected.

Faculty members who do extension teaching must be reimbursed for all expenses incidental to this work. It is well known that the present \$9.00 subsistence allowance is not sufficient, especially during the tourist season. Furthermore, the 7½¢ mileage rate will not maintain a car in dependable condition and cover depreciation. In the future instructors assigned to extension teaching cannot be expected to accept these financial penalties in addition to the physical discomforts encountered in their efforts to render public service and maintain good public relations for the universities.

Extension of University Instruction

A. Extension Credit Classes and Workshops	<i>Enrollments</i>
Classes	
University of Florida (189)	4,400
Florida State University (235)	6,066
Workshops	
University of Florida (8)	714
Florida State University (2)	143
	11,323
B. Correspondence Study Courses	
University of Florida Courses (116)	3,732
Florida State University Courses (33)	705
High School Courses (37)	815
Total	16,575

ADULT EDUCATION

*Short Courses, Seminars, and Institutes
Conducted by the General Extension Division*

Participation by Universities in Adult Education

All organizations and groups given refresher or continuation short-term courses have the privilege of indicating preference in university sponsorship, in faculty participation, and in selecting time and place. As a result, some short courses are conducted wholly by the faculty of the Florida State University, others by the University of Florida, and some by the joint efforts of both institutions. When talent desired is not available from the faculty of either university, and the interested group will pay the cost, the Division will engage outside instructors and consultants for special courses.

Business

Florida business people—employers and employees—are realistic concerning problems affecting income. Small businesses and trade organizations have been helped through in-service training programs for employers and employees in management, merchandising, advertising, sales, public relations, and personnel. Due to present limited teaching and Extension staff it has not been possible to do more and some groups have not been served at all.

If the present requests of Florida businessmen for extension assistance are to be met during the next biennial period, it will be necessary to increase the Extension staff available for this purpose 100 per cent in order to organize, plan, and staff a minimum core of 38 new short courses. Even this will not enable the Division to take care of the *known* needs.

Moreover, the increase in demands for university extension assistance will keep pace with the growth in new businesses and industries coming to Florida with management personnel accustomed to receiving aid from their state universities. Certainly they will expect the same or similar help from the University of Florida. It will be necessary to provide a variety of management and other extension courses and services to assist executives and other personnel who cannot come to the campus of the University.

A. For Business

Enrollments

Sales Clinics and Short Courses (8)	745
Southeastern Portrait Photography Clinic	35
Small Business Operation Course	62
Seminar for the National Office Manager's Association of Jacksonville	80
Florida Lumber and Millwork Short Courses (3)	261
Conference on Training University Students for Radio and Television	28
A Pre-Examination Course for Real Estate Brokers and Salesmen	34
Real Estate Appraisal Urban I Program	83
Annual Business Conferences (2)	209
Management Seminar for Middle Management and Staff Personnel	26
Southeastern Advertising Conference	130
Institutes for Secretaries (2)	171
Personnel Practices Seminar	125
Accident Prevention Engineering Conferences (2)	126
Annual Southern Conferences on Gerontology (2)	190
Internal Revenue Code of 1954	285
Conference for Public Relations Personnel	71
Insurance Seminar	14
Preparation for Insurance Licenses (3)	936
Property and Casualty Insurance Short Courses (2)	147
Purchasing Agents Institutes (2)	111
Real Property Institute	550
Medical Technology Workshops (4)	185
Forest Photogrammetry Courses (2)	17
Forest Site Identification by Soil Characteristics	30
Refresher Courses for Pharmacists (2)	59
Kiln Drying of Southern Hardwoods Short Course	10
Plotless Timber Cruising Short Courses (2)	82
A Short Course on Continuous Forest Inventory	31
Magazine Cost Accounting	21
Magazine Market Research	21
Workshop on Government Public Relations	17
Annual Business Education Work Conference	96
Annual Short Course for Motor Vehicle Fleet Supervisors	26
Management Training Institutes (2)	101
Methods-Time Measurement Clinics (6)	88
 Total	 5203

Public Service and Citizenship

The Florida taxpayer is demanding a higher quality of performance and better public relations of all municipal, county, and state employees. To help individuals meet these requirements the Public Service Training Center of the Division offers these opportunities to come together with others doing similar work for instruction in short courses. These programs are designed primarily as refresher work or to upgrade public employees who have considerable job experience.

Since the Florida universities are unable to staff all of the old or new courses requested in a single year, many can be repeated every three or four years only. For this reason the following schedule of work accomplished during the biennium is only a fraction of the total which should have been given.

Preparing aliens for citizenship and local leaders for increased civic and community service responsibilities always have been rewarding chores of the Division.

B. For Public Service and Citizenship

	<i>Enrollments</i>
Annual Short Courses for City Managers (2)	110
Seminars in Arson Detection and Investigation (2)	220
The Florida Civil Defense Staff College Courses (3)	168
Personnel Appraisal and Development in Public Service	80
Annual Park Short Courses (2)	93
Florida and Latin America: Partners for Progress	640
Annual Florida Traffic Court Conference	58
Annual Short Courses for Municipal Finance Officers (2)	138
Annual Short Courses for Building Officials (2)	99
Seminars in Juvenile Delinquency (2)	167
A Short Course in Chemical Tests for Intoxication	17
A Short Course for Police Chiefs	43
Medico-Legal Institute	156
International Association of Personnel in Employment	
Security Short Course	58
Lecture Series on Municipal Government and Planning for the Ridge League of Municipalities (5)	660
Florida Traffic Institutes (2)	148
Law for Women Lecture Series (2)	900
Conferences on Conservation (4)	363
Workshop on Conservation of Natural Resources	34
Florida Science Fair Work Conference	200
Orientation Training Institutes for Rehabilitation Counselors (2)	40
Annual Short Courses for General Sanitarians (2)	214
Short Courses on Water Supply and Sewerage Treatment (2)	377
Regional Science Conferences (5)	360
Probation and Parole Short Course	119
Alien Training	844
 Total	 6306

In addition to the above programs the Division is cooperating with State agencies in an effort to inform the public of the need for long-range intelligent planning on the local level in the proper use and protection of all natural wealth. At the moment Chambers of Commerce and other interested groups are offered instruction in methods and procedures for organizing and administering self-surveys to determine potentialities in local resource utilization and management. State agencies are also being assisted in their program to inform the public of objectives, plans, and accomplishments in statewide projects with their Latin American implications.

Home and School

Women everywhere are primarily interested in home and family. They express themselves and serve their communities largely through their own organizations. To assist them individually or in their group activities, the universities are offering many courses of information and instruction by extension. A pioneer in family life education, the Division has done much to create sympathetic understanding, proper attitudes, and cooperation in the home, factors which have been carried over readily into the community and done much to improve the welfare and life of the people.

Grown in numbers and influence, the State P.T.A. has cooperated most effectively in the statewide school improvement program and has become increasingly interested not only in securing adequate provisions for the normal child, but in providing facilities for the physically handicapped and mentally retarded child as well.

Women have been the leaders in developing a healthy community atmosphere for all youth. They have had much to do with activities designed for the physical and moral protection of the juvenile. The work done in alcohol and narcotics education, driver education, and in community activities for mental and spiritual growth has also been fostered by them.

Believing that children and adults alike are greatly influenced by their environment, Florida women have been interested not only in an understanding family life, good schools, and a proper moral atmosphere, but also in the effects of good civic housekeeping and the preservation and development of the outdoor beauty of their homes and communities. They have not only taken a personal interest in the specific activities of their organizations, but collectively they have been faithful watchdogs in conserving the resources and the natural beauty of the State.

C. Home and School

	<i>Enrollments</i>
Workshops in Home and Family Life (6)	415
Adult Family Life Education Institutes (20)	2023
Youth-Adult Family Life Institutes (15)	4008
Annual Short Courses in Parent-Teacher Leadership (2)	2015
Short Course in Designing the Landscape	85
Garden Club Short Courses (2)	573
Marriage and Family Life Institute	150
Alcohol and Narcotics Education (4)	417
Lecture Series in Housing Your Family	72
Seminar for the Home Relations Club of Jacksonville	48
Driver Education Audio-Visual Aids Clinic	20
Instructional Materials Clinics (7)	1224
Visiting Teacher Conference	259
Conferences on Working Together for Good Schools	
for Children Under Six (7)	767
Workshop for School Principals (6)	52
Social Studies Conferences (6)	429
Guidance Institutes (5)	605
Annual Conferences for Public School Speech Correctionists (2)	117
Film Discussions for Church Schools (2)	66
Refresher Course for Amateur Judges of Flower Shows	37
Clinic of National League of American Pen Women	58

Total 13687

Church and Community

Leadership in the small towns of Florida is centered largely in the churches. For this reason the General Extension Division is working through the churches for community betterment. In many communities all denominations have been brought together in cooperative planning and effective action for elevating the moral tone, the intellectual level, the recreational activities, and the cultural interests of youth and adults.

Clergy and lay workers are given opportunities to improve their ministry through consultation services, short courses, and conferences. Sunday School teachers are offered training and instructional aids. Young people's work is being improved through organization of discussion groups. Inter-faith religious musicals and dramas are being encouraged and members trained for leadership in recreation. Inter-church community relationships are being improved through a program emphasizing ministerial ethics and pastoral counselling. Non-sectarian lectures in series are given for historical and biblical information and a better understanding of national and world problems.

This University of Florida extension program giving churches assistance on an inter-faith and non-sectarian basis is the only one of its kind. It has won favorable comment and created much interest far beyond the borders of the State. The amount of good that may come from the effort is limited only by the resources the University can commit to it

D. For Church and Community

	<i>Enrollments</i>
Short Courses for Church Ushers (15)	1549
Florida Pastors' Conferences (3)	223
Church Music Workshops (6)	242
Religious Radio and Television Institutes (4)	106
Audio-Visual Workshops for Churches (5)	688
Life and Times of Saint Paul (22 Communities)	3846
World Council of Churches and World Christian Youth Conferences (6 Communities)	482
Great Men and Women and Religious and Moral Issues of the Old Testament (18 Communities)	2186
Incidents in the Life and Teachings of Jesus Christ (42 Communities)	8832
Layreaders' Workshop	72
Leadership Training in Recreation (8)	439
Annual Florida Square and Folk Dance Short Coursees (2)	92
Group and Community Leadership Training Workshops (6)	1329
Magazine of the Screen (38 Communities)	5926
"Little Chautauqua" Program Series (2)	350
Great Men and Great Issues in Our American Heritage (12 Communities)	212
Total	26574

Recapitulation—Organized Extension Education External Students

	<i>Enrollments</i>
Extension of University Instruction	
Classes, Workshops, and Correspondence Study	16,575
Adult Education	
Short Courses, Seminars, and Institutes	51,766
Total	68,341

Research and Surveys

The Florida Division is the only one which has a Department of Research and Surveys. An analysis by this Department of enrollment figures reveals that many men and women beyond normal retirement age are still actively interested in intellectual and particularly in creative pursuits. They enroll in every general short course for adults and take part in church and community programs sponsored by the General Extension Division.

Recently trial-programs have been designed exclusively for retired persons. Art courses have been given at Penney Farms and Moosehaven. Creative writing and art classes have been conducted at Olds Halls for residents of Daytona Beach and environs. There was maximum and regular attendance of students from sixty-five to eighty-five years of age. In this experiment, retired citizens demonstrated unusual interest, incentive, and ability. The work should be continued and expanded.

To determine educational levels and the effect of environment and experiences of groups, in order to orient short courses and programs to their backgrounds as well as to their needs, and to find justification in terms of benefits and costs, the Department of Research and Surveys continuously studies all adult education programs.

Youth Activities

Florida youth have become instructors for their elders. In preparation for forensics, they have become better informed for intelligent social judgments. By participating in public debates and family discussions, they have created adult opinion for effective action in affairs of government and community service. By developing their talents and taking part in art, music, and drama, they have increased community interest in cultural programs for all. By eagerly accepting leadership training, they have helped their municipalities develop wholesome recreation and other leisure-time programs. In the Youth Workshops and Teen Clinics, they have studied family relations and found solutions to their personal problems under the direction of nationally-known leaders.

This positive approach, which has helped youth understand themselves and accept their citizenship privileges and obligations, has received the endorsement of school, church, civic, and welfare organizations throughout the State.

Participation in this area of extension has increased by more than 70 per cent during the biennium. This unique program is attracting national attention because it produces not only immediate but long-range permanent results.

library of all kinds of aids for extension students are widely used.

Package libraries containing articles from current periodicals, pamphlets, and bulletins on a great variety of present-day subjects are loaned to civic leaders, club women, ministers, and others, especially in towns without adequate municipal library facilities.

The Children's Library, of the best in juvenile literature, is intended to create an interest in reading with the hope that good reading habits carried into adulthood may produce a more intelligent citizenry. It is the only extension library of its kind, exceeded in number of cataloged titles for youth by only a few large city libraries.

A library of music, drama, and exhibit materials is also maintained.

Extension library materials are used in every one of Florida's sixty-seven counties to supplement public school and community libraries.

Visual Aids and Library Loan Services

A. Florida Film Library

	Showings
Films	51,011
Filmstrips and Slides	4,622
	<hr/>
Total	55,633

B. The State Extension Library

1. Reference Library

Books

	Items	Circulation
Classes and Groups	27,351	683,739
Individuals	9,117	9,117
Package Libraries	39,397	39,397
Vocational Materials	960	960
	<hr/>	<hr/>
	76,825	733,213

2. Florida Children's Library

Books

Schools and Libraries	36,143	542,124
Individuals	22,047	22,047
	<hr/>	<hr/>
	58,190	564,171

3. Music and Drama Library

Recordings	9,912	9,912
Plays	2,432	2,432
Exhibits	30,381	30,381
	<hr/>	<hr/>
	42,725	42,725

Total		1,340,109
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Program Aid to Organizations

Many short courses and programs requested by Florida groups and organizations cannot be organized and administered by the present limited staff of the General Extension Division. However, every effort is made to assist these groups

YOUTH ACTIVITIES

	<i>Enrollments</i>
Recreation Training Institutes for Youth (3)	333
High School Forensics (2)	138
Demonstration Debates for High Schools (36 Schools)	8000
High School Discussion Conferences (2)	370
High School Art Exhibits (2)	169
High School Student Council Conference	450
Local Youth Workshop Programs (132)	44466
Teen Center Clinics (9)	3166
Youth Workshop Conferences with Adult Leaders (2)	733
Lakeland Youth Council	41
Florida Scholastic Press Conferences (2)	1097
Youth Guidance Workshop	121
Total	59084

Visual Aids and Library Services

A. *Visual Instruction and Florida Film Library*

Many Florida State departments and agencies, in carrying on their public information programs and employee training, have long looked to the Division for aid in audience procurement and advice on teaching aids. Since the Visual Instruction Department produces non-commercial film at a tremendous saving to meet these public needs, its service is in demand and the Division has become more essential to State Government. Business and industry are also requesting that similar films be produced for them.

To date the department has completed nine films of professional quality, and four additional films are in production. Nineteen sets of colored filmstrips have been produced. These materials have been produced for the State Board of Health, the State Department of Education, Apalachee Correctional Institution, the Florida Highway Patrol, Central and Southern Florida Flood Control, the Tuberculosis and Health Association, and others including county health departments. Sixteen additional agencies are now on the waiting list. All expenses incidental to production are paid by the agency served.

In addition to production, the Division services film deposited for circulation by public and state organizations for use in putting on their own programs or in conducting cooperative extension programs.

The Division has never invested large sums of money in developing a collection of expendable film for public school use however, it organized, and for a considerable time has serviced, a cooperative Florida film library of all kinds of visual materials purchased and deposited by the public schools.

B. *State Extension Library*

The State Extension Library which belongs to the University of Florida has become a recognized center of information and reference for the greater part of the Southeast. The result of nearly 40 years of gradual and continuous growth, the accumulated resources of this library have resulted in an outstanding circulation which can be understood only with a knowledge of the variety of services rendered.

A good general reference library, a professional library for teachers, and a

in conducting their own programs. Direction in program planning, help in the selection of speakers and consultants is provided and informational and illustrative loan materials are made available through the Florida film libraries and the State Extension Library of the Division.

Programs Conducted by Organizations with Extension Division Assistance

	Participating
Civic Organizations	359,690
Religious Groups	71,650
Women's Groups	27,803
PTA Groups	44,461
Rural Groups	15,145
 Total	 <u>518,749</u>

Relative Standing of the Florida Program

A careful examination of the organizational structure, staff responsibilities, and the variety of general extension activities conducted by the state universities clearly shows that qualitatively the Florida program equals, and in some respects excels other extension programs not only in the South but in the Nation. In spite of the fact that its citizens are scattered over 58,000 square miles, Florida is excelled quantitatively by a very few states such as, Wisconsin and Pennsylvania, which have not only a large and more concentrated population but also a much greater appropriation for extension

A Look Ahead

Florida's new citizens are pressing for an expansion of present extension activities and for new types of instruction and service to meet changing needs.

To achieve a better balanced extension program and to more nearly equalize the responsibilities and the privilege of each university to more fully serve the people of the State, the Division must be able to offer not only self-supporting practical courses but greater opportunities in free liberal education for self-improvement and leadership training to help the individual in his interest group activities for the advancement of the welfare, social, and cultural level of all. To promote, develop, and present such an enlarged extension program, additional resources must be made available to our state universities for extension, and there must be some State subsidy for free continuing education which is as necessary for the working adult population as free public school education is for all youth. This is predicted on the fact that all informed persons now realize that education continues throughout life, and a democratic state cannot terminate its responsibilities by neglecting people who are now beyond high school or college age.

If this demand of the people is met, State appropriations must be made to:

- (1) Enable the universities to secure additional personnel which they can commit to the extension program;
- (2) Provide a subsidy for civic, cultural, welfare, and other areas of public need which cannot be made self-sustaining; and
- (3) Make available additional extension staff to administer an enlarged program.

Then present program expansion and improvement can be accelerated:

- (1) If the state-supported universities of Florida will establish an inter-institutional committee to agree on the number and kind of extension credit courses to be offered by each, establish uniform policy relative to faculty participation in this work, and reconcile rules and regulations governing it. This committee should also determine how the Division may use the available talent and resources in the private institutions of the State in the extension of university courses for credit.
- (2) If each of the universities will appoint an intra-institutional committee to maintain a perpetual inventory of staff and physical facilities available for extension, and assist the General Extension Division in setting up an annual priority list of the non-credit short courses, workshops and institutes which it can staff, and which under present regulations and fiscal policy of the Board of Control can be made self-sustaining, and which it would like to put on as its segment of the total extension adult education program.

To cope with the situation, the Board of Control should immediately reaffirm or redefine the areas of responsibility of the General Extension Division by signifying the scope of the program and naming the services to be rendered. All administrative officers and faculties should be informed of their responsibilities in cooperating with the Division; already too many extension activities are conducted independently, and consequently are not reported by the Division.

B. C. Riney
Dean
General Extension Division
of Florida

REPORT OF THE DIRECTOR OF ALUMNI AFFAIRS FOR THE BIENNIUM ENDING JUNE 30, 1956

To the President of the University of Florida:

Sir: The general nature of the Division of Alumni Affairs is to strive to maintain fellowship, fraternal spirit and to keep alive a sentiment of affection for the Alma Mater; to unite the graduates of successive years by a common tie of fellowship, foster the feelings of friendship and love toward each other, promote the welfare of the University, encourage education, issue magazines, periodicals and other methods of information pertaining to the University of Florida, and in every manner and means promote, foster and encourage the attendance at the University and aid in such attendance financially and in labor.

Continuous progress has been made by the Division of Alumni Affairs during the biennium beginning July 1, 1954, and ending June 30, 1956. Joining with the various colleges and schools, as well as the student body, it has assisted in rendering valuable services on the campus, and in the dissemination of information to our alumni and friends throughout the State and Nation. Working closely with the University of Florida Alumni Association and the University of Florida, the Division of Alumni Affairs has aided in the promotion of many committee activities. A number of them having as chairman and committee members some of the most outstanding leaders in the State and Nation.

The Division of Alumni Affairs has taken a very active part in the promotion of "University of Florida Days" in selected areas of the State. A majority of

the more than 70 local alumni clubs, with several thousand alumni and friends of the University, have been actively participating in meetings of special interest to the University. The Alumni Office assisted in sponsoring special programs, including appearances by faculty, staff and student leaders before civic clubs, high school and alumni groups, as well as presenting interesting programs pertaining to the University of Florida over local radio and TV stations. Films on the University and current football games were routed to all sections of the State for public showings.

During the past biennium the Alumni Association has continued as one of its major projects that of joining with the University in securing funds for worthy projects. They include the Century Tower Fund, the University of Florida Endowment Corporation, scholarship funds and the Alumni Loyalty Fund. The Division of Alumni Affairs has been working closely with all committees in each of these endeavors. All printed material, considerable correspondence and other detail work is handled through this office.

In addition to its many other assignments in cooperation with the University and the Alumni Association, this office handles many thousands of personal letters annually, covering inquiries and special requests of alumni, parents of students and friends of the University. It maintains files containing more than 24,000 correct addresses, with biographical material on a large number of alumni, which play such an important part in providing the required information so necessary in assuring successful operation of the University and the Alumni Association.

The Alumni staff is also contributing to the welfare of the various civic organizations as well as having presented papers before professional organizations. A constant effort is being made to help older alumni become better acquainted with our rapidly growing campus. For them to personally know the faculty and staff through visits on the campus during Homecoming, the annual spring meeting of the Alumni Association, and other special occasions is bringing about a greater unity in the building of a greater University.

Respectfully submitted,
 Leland W. Hiatt
 Director
 Division of Alumni Affairs

REPORT OF THE DIVISION OF INTERCOLLEGIATE ATHLETICS

To the President of the University of Florida:

Sir:

In accordance with your request of April 18, I submit to you the following report of the Division of Intercollegiate Athletics for the period July 1, 1954-June 30, 1956.

The primary objective of the Division has continued to be a well rounded program of Intercollegiate Athletics with the best team possible in each sport recognized by the Southeastern Conference.

The following table shows the record made by our teams in dual competition against all teams during the past two years.

	1954-55			SEC	1955-56			SEC
	Won	Lost	Tied	Standing	Won	Lost	Tied	Standing
Football	5	5	0	3 (Tie)	4	6	0	10

Basketball	12	10	0	10 (Tie)	11	12	0	10 (Tie)
Baseball	10	12	0	7 (Tie)	20	4	0	1
Track	2	1	0	2	4	0	0	1
Swimming	4	4	1	2	9	2	0	1
Golf	5	3	0	1	4	5	0	1
Tennis	16	1	0	2	15	3	0	3
Cross Country	1	1	0	4	2	0	0	1 (Tie)
	55	37	1	69	32	0		

In addition to the above SEC Championships, the Golf Team won Southern Intercollegiate and State Intercollegiate Championships in 1955. The Track Team won the State AAU and the Atlantic Coast Indoor Championships in 1956.

Individual honors won by team members were as follows:

Football—Steve de la Torre—All SEC and 2nd team All American.

Baseball—Jerry Bilyk—All SEC, Dale Willis—All SEC, Bobby Barnes—All SEC.

Track—William Watson—All American.

Swimming—Craig White—All American.

Attendance at home football games as compared to the preceding biennium was as follows:

Biennium Ending June 30, 1954

1952-53	197,134	(7 Games)	Average	28,162
1953-54	182,525	(6 Games)	Average	30,404
TOTAL	379,659			29,205

Biennium Ending June 30, 1956

1954-55	199,801	(6 Games)	Average	33,300
1955-56	188,714	(6 Games)	Average	31,452
TOTAL	388,515			32,376

The Division has continued its efforts to make the University the High School sports center of the state. In each of the past two years the Division has been host to the following State High School Championship Meets and Tournaments: Basketball, Track, Swimming, Tennis and Cross Country.

In addition, the Florida High School Coaches Association has held its annual Coaching Clinic at the University, including the All-Star Football and Basketball games, for the past two years and will do so again this year.

Plans and specifications for a permanent addition to the East side of the stadium have been prepared but construction has been delayed pending legislative approval. In the meantime we will erect portable steel stands to seat 4,100.

We are ready to build a new running Track as soon as land is made available. The steel stands mentioned above will be used at the new Track also.

Future plans include new dressing and equipment rooms for Spring Sports and the completion of the South end of the fourth floor of the stadium.

On April 1, 1955 we were able to retire \$289,000.00 of 1950 Stadium Revenue Certificates ahead of schedule. This leaves \$129,000.00 outstanding as of June 30, 1956.

The past year saw the beginning of Athletic relationships with Florida State University in Swimming, Track, Golf and Tennis. Basketball and Football will

be added as soon as scheduling permits.

Respectfully Submitted,
George R. Woodruff,
Director of Athletics

REPORT OF THE DIRECTOR OF THE UNIVERSITY LIBRARIES

To the President of the University:

I have the honor to present to you the report on the University Libraries for the biennium July 1, 1954, through June 30, 1956.

Again this biennium, the most important single point to be reported about the University Libraries during the past two years is the increase in their use. The total number of books circulated during the previous biennium was 964,250; the number for the two-year period just ending is 1,187,967, an increase of over 23 per cent. As was said in the last report, if we assume that students learn by reading, this large increase in book circulation is a very encouraging sign.

This increased use of the libraries has made increasingly heavy demands on the staff and on the very limited book funds, and we are near the critical point in both regards. In order to provide adequate service for the Library, it has been necessary during peak times of the day to schedule additional people at certain desks, and during the slow hours to leave entire rooms unattended. This is unsatisfactory, not only from the standpoint of service, but because the practice tends to encourage theft and the mutilation of materials in the rooms.

As regards the book collection, there is a constant conflict between the need for new material to support the graduate and research programs and the need for additional copies of books necessary for the increasing number of undergraduates. Many members of the faculty have put their own books on reserve in order to provide enough copies, and members of the Library staff have worked out ingenious ways to keep the relatively few copies in circulation and make them available to as many students as possible. I should like at this time to pay tribute to the remarkably close cooperation between members of the faculty and of the Library staff.

Another area in which the members of the Library staff, especially those in the Reference Department, have had occasion to work closely with the members of the teaching faculty, is in the method of introducing freshmen to the use of the Library. Over the past two years, they have been working together to devise a better method of introducing new students to the use of the Library. All of us who are concerned with this matter realize that the transition from the use of a one-room high school library to a collection of some 700,000 volumes is a difficult one and the problem is one of showing the students how to use this Library in a way which is not too complicated and which is effective. I believe that the work which is being done by the librarians and by the faculty in C-3 has resulted in as effective a program as is being carried on in any large university in the United States.

The staff has shown continued interest in working for advanced degrees and in participating in professional activities both on the state and national levels. During this biennium twenty-one staff members have enrolled here at the University of Florida for a total of forty-two courses selected on the basis of value to their library work. Two have received advanced degrees in this period: Miss Lillian Seaberg a master's degree in anthropology from the University of Florida

in February, 1955, and Miss Irene Zimmerman a doctorate in library science from the University of Michigan in June, 1956.

In addition to the members of the staff who teach regularly in the Department of Library Science, Mr. Roger Krumm, Chemistry Librarian, teaches the course in Chemical Literature, CY 481; and, for the past year, Mr. Lynn Walker, Engineering Librarian, has taught Engineering Drawing, ML 181-182, on a half-time basis. Miss Vivian Prince, Head, Technical Processes Department, taught in the Emory University Library School during the summer of 1955.

At the national convention of the American Library Association in June, 1956, the Library staff had the responsibility for arranging the two-day program for the Association of College and Reference Libraries Section. Mr. Fred Bryant, Health Center Librarian, continues to serve as Executive Secretary to the Florida Library Association and as Editor of its publication, FLORIDA LIBRARIES.

On January 3, 1955, the University formally took possession of the Raymond Robins estate, known as Chinsegut Hill, in accordance with an earlier agreement between the University, Miss Lisa von Borowsky, and the Fish and Wildlife Service of the United States Department of the Interior. The gift of the library and the furnishings at Chinsegut Hill constitute probably the largest single gift by a private donor in the history of the University Libraries. Almost a year was spent in sorting out the collection of some 8,000 volumes, many of which were sent to the University in Gainesville because they did not fit into the proposed collection on labor and religion. Mr. John Sperry, of the University Library staff, was appointed interim librarian at Chinsegut to begin this work of sorting. On July 1 he was replaced by Mr. Bradford Shaw, who left the library staff of the School of Labor and Industrial Relations at Cornell University to accept appointment as permanent librarian. Under Mr. Shaw's direction, the organization of the books has gone forward and the library has been put on the mailing list of some seventy labor organizations. On February 20, 1956, the dedication ceremonies of the Chinsegut Hill Library were held, and, concurrently, the first meeting of the Advisory Council. This group, consisting of John S. Allen, Lisa von Borowsky, Theodore Dreier, Elizabeth Christman, and Frank N. Graham, have agreed to serve in an advisory capacity regarding the long-time program of this library. The first major conference to be held at Chinsegut Hill was on June 13-16, where representatives of some seventeen libraries containing the largest collections in Latin American material met at Chinsegut Hill to discuss acquisition policies of material from this area. Two additional conferences are being planned now for the coming year. I believe that the basic pattern for the operation of this center has been relatively well-established, and we recommend that the University proceed slowly toward the gradual extension of activities in this branch of its campus. Apart from the conference program it is serving a valuable continuing purpose as a source of acquisitions for material in labor, economics, and religion.

As of June 30, 1956, there are 700,274 volumes in the libraries of the University; some 62,758 volumes having been added this last year. This unusually large number of recent additions is a result of the purchases for the Health Center Library. The development of this collection has been one of the major undertakings of the past two years. The \$100,000 which was made available in July, 1955, for the purchase of books and periodicals has made it possible to develop here a major medical library, which will be in operation for the opening of the College of Medicine in September of 1956. In this instance, also, I should like to express my appreciation for the cooperation of all concerned, especially that

of Dr. Russell Poor, Provost for the Health Center, who has been interested in the Library from the very outset.

The most important purchase by the Library during the biennium was the Byrne Hackett collection of Irish material. The collection totals some 4,000 volumes including works on history, art, archaeology, law, literature, music, printing, and religion. It constitutes a major addition to the University's collections and includes a complete file of the papers of the Royal Society of Antiquaries of Ireland, the complete Irish Texts Society publications, and many editions of the works of Goldsmith and Jonathan Swift. The purchase was made possible by Dean Linton Grinter, of the Graduate School, who supplemented regular library funds with funds from the Graduate School.

We are grateful for the release of supplemental funds which enabled us to complete the purchase of ZEITSCHRIFT FUR ANORGANISCHE CHEMIE and ZEITSCHRIFT FUR PSYCHOLOGIE. These sets constitute major additions to the collections in these two fields.

During the biennium, the University of Florida Library was designated as an official depository for the publications of the Atomic Energy Commission, as well as for publications of the Atomic Energy Research Establishment of Harwell, England. As a depository for these two important organizations, we have received some 7,900 printed reports and 7,930 reports on microcards. This material has been placed in the Engineering Sciences Library, and will do much to support the research in atomic energy which the University is planning to carry on there.

In the matter of long-term improvements, perhaps the most significant was the beginning of the inventory of library holdings, made possible with funds made available to us during the spring of 1955. This had not been done for something over ten years, in fact not since before the Library was moved into the new stack area. We were able to inventory something over half of the volumes in the main stack area; many missing volumes were found, we were able to correct the records on many which had been lost or stolen. It is hoped that it will be possible for the Library to proceed on the second half of this project sometime during the coming year.

The action of the University's Space Committee in making the basement of the auditorium available to the Library as a reserve stack area has also been very helpful. We were able to move many bulky newspapers and documents into this area, as well as much of the material which is being stored until the new Health Center Library opens, thus freeing the shelves in the main stack area for material which is relatively frequently used.

This space and the space in the Century Tower, if some of the floors in it should be assigned to the Library, will provide storage for books until about 1959 or 1960, at which time it will be filled to capacity and an addition to the stack area of the University Library building will be needed.

The need for student reading rooms is critical and it is hoped that a large reading room can be provided in the proposed new classroom building, if funds are appropriated for this purpose by the next Legislature.

While it is not possible to enumerate all of the gifts made to the Libraries over the past two years, the most noteworthy are volumes given by Dr. Robert H. Bowers, of the University faculty; books from the library of the late Dr. Kate Wofford, which were donated by her sisters; and gifts of books from Mrs. John Christie Duncan and from Mrs. Clarence Moeckel. Miss Mary Dreier, of New

York City, has made gifts of books and money in support of the program at Chinsegut Hill. The account of the Libraries for this period would not be complete without a special tribute to Miss Lisa von Borowsky, who gave to the University the library and furnishings at Chinsegut Hill and who has been generous in her support of the Chinsegut Hill Library.

In conclusion, I wish to thank you and the other members of the University Administration for your understanding support of the Libraries' program and, also, to express my appreciation to the members of the Committee on University Libraries, a large number of whom have spent many hours on special studies concerned with Library matters.

Respectfully submitted,
Stanley L. West
Director of Libraries

REPORT OF THE MILITARY DEPARTMENTS for Inclusion in the Biennial Report 1954-56 The Military Departments

The Army ROTC Department with its Professor of Military Science and Tactics and the Air Force ROTC Department with its Professor of Air Science collectively are termed the Military Departments. Solely for University administrative purposes, the President designates one of the Professors as "Coordinator of Military Departments."

The Army ROTC

The Army ROTC offers the General Military Science curriculum. Cadets successfully meeting the requirements for appointment are commissioned in the various branches of the Army, as dictated by the needs of the Army, the students' courses of study, and the desires of the students. In 1954-55 the total enrollment was 1102, and 79 Advanced Course students were commissioned in the Army Reserve. Under the Distinguished Military Graduate program, 5 cadets were proffered commissions in the Regular Army. In 1955-56 69 Advanced Course students were commissioned in the Army Reserve. Under the Distinguished Military Graduate program, 5 cadets were proffered commissions in the Regular Army. Department of the Army Annual Formal inspections and Technical inspections resulted in most favorable reports. At the end of the period twelve (12) Army officers and twelve (12) noncommissioned officers were for duty with the department. Enrolled in 1955-56: 942.

The Air Force ROTC

In 1954-55 the Air Force continued the generalized curriculum adopted in 1953-54. The total enrollment was 1,161. Fifty-two (52) Advanced Course students received their commissions in the Air Force Reserve.

In 1955-56 the total enrollment 942. Forty-eight (48) Advanced Course students received their commissions in the Air Force Reserve.

Annual Inspection Reports have classified this unit as comparing most favorably with other Air Force ROTC units.

In 1955-56, the Air Force changed from Uniform Issue-in-kind to Commutation in lieu of uniforms, thereby enabling those Advanced Course cadets who are

commissioned to have a complete uniform when called to active duty.

At the end of the period, sixteen (16) Air Force officers and thirteen (13) non-commissioned officers were on duty with the department. However, five (5) of these officers and three (3) non-commissioned officers will rotate from the unit prior to the next academic year.

FLORIDA STATE MUSEUM BIENNIAL REPORT July 1, 1954-June 30, 1956

This report covers the first complete biennium since the Museum was reorganized by the late President Miller in September, 1952. Administrative procedures have been patterned after those of the most successful American university museums although an unique arrangement, involving decentralization of certain collections and joint sponsorship with the Department of Biology, is being tried. In theory, this cooperative policy should have many advantages and we are gratified to find that, in practice, it is developing in a very encouraging manner.

The Florida State Museum serves as both a university and state museum. Its major functions, as defined by law and tradition, are: (1) to assemble and maintain collections of cultural and natural objects; (2) to encourage productive research on this material by museum staff and others; and (3) to disseminate knowledge through publication and displays.

During the biennium July 1, 1954-June 30, 1956, Museum displays were visited by 275,000 persons who, in most instances, would not otherwise have been reached by the University. This represents an increase of 150 per cent over the previous biennium. On October 19, 1955, the Museum welcomed its 500,000th visitor since it was relocated in the Seagle Building.

The Mobile Exhibits accounted for about a third of our visitors even though the vehicles were only on tour for a little over six months during the two-year period. No State funds were available for operating expenses. The highly successful tour of the east coast and south Florida was made possible through arrangements with the Florida Power and Light Company. The Mobile Exhibits consist of displays that are housed in two large specially converted buses and give a panoramic story of the history of Florida. The Mobile Exhibits visited junior and senior high schools and town squares; in some communities they were seen by over a third of the total population during their short stays. It is unfortunate that funds are still not available for operating them this year.

The display space in the Seagle Building is being used more efficiently. Many old-style exhibits are being replaced by modern exhibits. The following new displays were installed during the biennium: a paleontological display featuring a 20-foot skeleton of a fossil crocodile, *Gavialosuchus*, which is the only nearly-complete specimen of this form known to science; a 1907 electric automobile and an 1880 hack; a large mural showing Florida Ice Age Animals with two cases of Pleistocene fossils; a case exhibiting Dolls and Toys of Other Peoples of the World; a period room consisting of a section of a life-size Victorian Florida room of the 1890's; two cases of Victorian jewelry; a display of glassware; invertebrate fossils; a modernistic arrangement of the Ducks of Florida; and a recently excavated totem pole (near DeLand), nine feet tall. Only two totem poles have ever been found in the southeastern United States and both are on display in the Florida State Museum.

Over a dozen temporary displays were organized during the biennium with "Arts of the Orient" being among the more significant. A reception was held at the opening at which Mr. Toshio Shimanouchi, First Secretary of the Japanese Embassy, was guest of honor.

A number of old displays were reconditioned, including the mocking bird and cardinal habitat groups. Eight other avian habitat groups are in various stages of completion.

Under contract with the State Board of Parks and Historic Memorials, we designed and constructed displays for two small museums, one at Olustee Battlefield Monument near Lake City, and the other at Constitution Memorial Park near Port St. Joe. At the latter a dedicatory program was held culminating in a formal opening attended by 3,500 persons. Governor Collins participated in the exercises giving a major policy address on Constitutional Revision.

The collections grew and prospered during the biennium. We now have in custody well over 600,000 specimens (or lots of specimens) which represent a doubling of our holdings since the last report. An outstanding acquisition was a pair of fresh water porpoises from the Upper Amazon River. There are no other specimens of this animal in any other university or museum in North America. A large number of gifts from staff members, associates, and friends of the Museum enriched the holdings in the Biological Sciences. Mr. Maxwell Smith gave us 10,000 lots of mollusks from his collection which is one of the most significant private assemblages of shells in the United States. Dr. William McLane donated a very extensive collection of fishes from the St. Johns watershed. The tremendous collection of mayflies has been enlarged still further by Dr. Lewis Berner's work under terms of a grant from the National Institutes of Health.

One of the chief acquisitions in the Social Sciences was a representative collection of Seminole Indian artifacts and southeastern Indian baskets purchased from Dr. John M. Goggin. Members of The Florida Anthropological Society have continued to make valuable contributions to our archaeological collections. Certain of our holdings were reduced by transferring many books to the University Library where it is more appropriate that they be housed.

Most of the active study collections are being reorganized and recatalogued. (Because of lack of qualified personnel this has not yet been possible for some of our collections, eg., stamps, coins, invertebrate fossils, minerals and some smaller ones.) Thus we are making considerable progress towards having an accurate inventory of our holdings.

A modest number of field studies have been made by our scientific staff, mostly possible through funds from outside agencies like the National Park Service and the National Science Foundation. The major archaeological excavations were in the vicinities of Boca Raton, Chattahoochee, Turner River, St. Petersburg, and the St. Johns River north of Jacksonville. Biological collections were made in many parts of Florida, in Arctic America, and in a number of areas in Caribbean America, the latter two primarily with outside funds. The most intensive study is a continuing investigation of the fauna of the Flint-Appalachicola-Chattahoochee Rivers since the area will be completely altered from its natural condition upon the completion of the Jim Woodruff dam.

The staff and associates have been active in presenting papers before scientific societies and publishing reports in technical journals. Noteworthy is the inauguration of a new journal by the Museum, *The Bulletin of the Florida State Museum, Biological Sciences*, which has already developed a wide distribution. Over 200

exchanges, new to the University Library, have so far resulted.

The *Florida Anthropologist* continues to have a Museum Associate as editor and the Museum serves as the office for a few regional and national professional societies.

The number of classes and groups visiting the Museum seems limited largely by our facilities; about 250 groups from various parts of the State came to the Museum during the biennium. As in the past, a number of items were loaned to our museums, schools, and camps for display. Contractual arrangements are under way for the Museum to construct a series of five circulating study-displays for the State Game and Fresh Water Fish Commission.

The Museum was fortunate in acquiring the services of two highly qualified and specialized scientists during the biennium. Dr. William Riemer, Assistant Curator of Biological Sciences, and Dr. William Sears, Assistant Curator of Social Sciences, joined our staff in July, 1955.

More curators are badly needed to properly care for and study the several growing collections. Additional personnel are also required in the exhibits program and related activities. We have the greatest need for more space.

We have room to exhibit no more than one-half of 1 per cent of our specimens. While, of course, many of these specimens are of interest only to the specialist and not to the general museum visitor, we conservatively estimate that to discharge the display function properly we need a building of approximately 100,000 square feet located on the University Campus. Space limitations are also jeopardizing the growth of the collections. We are now forced to decline, with deep regret, certain gifts of large objects that would, under more favorable circumstances, be delighted to accept. We need additional space for the collections, also.

It is the obligation of the Director to suggest, in practical terms, the amount of support he believes is required for the Museum to adequately meet its responsibilities. An unrealistic and starry-eyed program is no more defensible than a restrictive one that would be unable to provide the State and University with the kind of museum services they should have. It is our serious and considered estimate that proper museum functions within the present framework of the State and University could be adequately housed in the space suggested above. During the biennium the Museum budget was increased to an amount slightly over 25 per cent of that estimated as necessary to provide proper and adequate museum service for the State of Florida and the University of Florida at this time.

Respectfully submitted,
Arnold B. Grobman
Director

REPORT OF THE EDITOR OF THE UNIVERSITY NEWS BUREAU

To the President of the University:

The University New Bureau is dedicated to the proposition of interpreting the aims, objectives and principles of higher education at the University of Florida and its human proponents through all media of communication.

A service agency, serving the entire University wherever needed, the News Bureau has maintained direct contact with the newspapers, television stations, magazine editors and radio stations in recording the University's growth, de-

velopment, and honors, through news stories, new features, television films, and radio news, as well as magazine articles, brochures and pamphlets.

During the last Biennium the News Bureau serviced directly to the newspapers and the wire news agencies better than 7,500 news stories and features. Through the medium of television, over 100 news film shorts and features were serviced to Florida television stations during the same period.

These features and news stories ranged from coverage of important University events and conferences to interpretative articles on University needs and objectives, public service articles on various aspects of University work in the area of higher education, news of students, faculty, and staff, and interpretative stories on research and extension.

In other areas of service the News Bureau designed brochures when called upon, directed the planning and execution of a University-wide exhibit at the Florida State Fair and the Central Florida Fair, and helped carry the University Story to special publics in cooperation with the Division of Alumni Affairs through "Alumni Day" programs.

On the national scene, the News Bureau directed stories and features that found outlets in Time Magazine, Look Magazine, The American Magazine, New York Times, Woman's Home Companion, Popular Mechanics, Columbia TV News, and one nationally televised program "Wide Wide World" over NBC television, among others. Many stories and features on the University found prominence in the national press as well as technical and professional magazines.

In the area of special events, national attention was focused on the inauguration of President J. Wayne Reitz, the Caribbean Conference, American Institute of Biological Sciences national meeting, Homecoming, and Gerontological conference.

In the area of pictures and films, the Department of Photo Services, a unit of the News Bureau, supplied pictures and film for the Bureau's interpretative features and news coverage, as well as continuing as a service agency in supplying visual aid photographs to all Colleges, Departments and Divisions.

The News Bureau continued its sponsorship of campus tours in cooperation with Student Government, and the editor, and assistant editor, and members of the staff served in many ways in aiding both students and staff members in problems and projects relating to the University's relationship with the many publics it serves.

The Bureau has enjoyed the cooperation of the Administration and the staff, and although realizing there are still many areas yet to be improved, pledges its continued cooperation and service to the progress of the University and higher education.

Respectfully submitted,
Allen Skaggs, Jr.,
Editor, News Bureau

REPORT OF THE DIRECTOR OF THE UNIVERSITY OF FLORIDA PRESS

To the President of the University:

Sir: The biennium ending June 30, 1956, was a period of substantial progress for the University of Florida Press. During the two years 152 manuscripts were processed by the Press, 51 were accepted for publication, and the following 27

titles were published:

Aging and Retirement, edited by Irving L. Webber

The Caribbean: Its Culture, edited by A. Curtis Wilgus

The Caribbean: Its Economy, edited by A. Curtis Wilgus

Common Exotic Trees of South Florida, by Mary F. Barrett

Florida Under Five Flags, Revised Edition, by Rembert W. Patrick

Gringo Lawyer, by Thomas W. Palmer

Guide to Dance Periodicals, Volume V, compiled by S. Yancey Belknap

Guide to the Reptiles, Amphibians, and Fresh-Water Fishes of Florida, by Archie Carr and Coleman J. Goin

Handbook of Latin American Studies: 1951, No. 17, edited by Francisco Aguilera

Handbook of Latin American Studies: 1952, No. 18, edited by Francisco Aguilera

Higher Education and Florida's Future, Volume I: *Recommendations and General*

Staff Report, compiled by A. J. Brumbaugh and Myron R. Blee

The Land Called Chicora, by Paul Quattlebaum

D. H. Lawrence: A Basic Study of His Ideas, by Mary Freeman

The Location of Agricultural Production, by Edgar S. Dunn, Jr.

Man and Land in Peru, by Thomas R. Ford

Medical Center Study Series, edited by Louis J. Maloof, under the general title

Planning Florida's Health Leadership:

Volume 2—*Florida's Doctors at Mid-Century*, by John M. Maclachlan

Volume 3—*Health and the People in Florida*, by John M. Maclachlan

Volume 4—*Florida's Hospitals and Nurses*, by John M. Maclachlan

Volume 5—*Medical Education in the University*, edited by Louis J. Maloof

Peasant Society in the Colombian Andes, by Orlando Fals-Borda

The Pricing of Cigarette Tobaccos, by Elmo L. Jackson

The Rain Forests of Golfo Dulce, by Paul H. Allen

Russia's Japan Expedition of 1852 to 1855, by George Alexander Lensen

Shakespeare's Use of Music, by John H. Long

The Workshop Way with Foreign Students, by Kate V. Wofford

The Yellow Ruff and "The Scarlet Letter," by Alfred S. Reid

Your Florida Garden, by John V. Watkins and Herbert S. Wolfe

The Press plans to issue 14 books in each year of the coming biennium.

Throughout the past biennium the Press has continued to keep firmly in mind the principal functions of a competent university press: (1) to serve as an increasingly effective medium for the dissemination of the research findings of the faculties in its orbit; (2) to enrich the intellectual life of Florida and the South as a whole through the publication of regional materials; and (3) to enhance the reputation of the University throughout the world by publishing distinguished titles of general interest. The Press has also, through its Latin American publications, broadened its participation in the good-will program of the University, which has contributed so notably to better relations between the Americas.

In an effort to assure maximum efficiency in its several departments, the Press sponsored two surveys during the past biennium. The first of these surveys, conducted in cooperation with the Office of Employee Personnel Services, culminated in May, 1956, in a most helpful report to the President, which might well serve as a model for similar staff studies. The second survey, which examined present and proposed policies and procedures of the Press, was transmitted to the President in July, 1956, with a resultant clarification of the aims, programs,

and functions of the Press.

The energetic and informed sales and promotional departments of the Press continued throughout the biennium to focus favorable attention on various aspects of the University's scholarly activities through reviews of Press titles in leading periodicals and newspapers, as well as by means of direct mailings, carefully placed space advertisements, and timely radio programs. Press books attract an ever larger number of buyers not only in every state of the Union and in all the Territories of the United States, but also in Latin America, the British Empire, Continental Europe, Asia, and Africa.

As in the previous biennium, the Press was cited for signal excellence in book designing, *Fletcher Martin* by Barbara Ebersole being selected as one of the best designed Southern books of 1954.

It is pleasant indeed to include in this report a note on the removal of the Press in October, 1955, to its handsome and commodious new quarters in the Stadium Building. The quarters were appropriately dedicated in February, 1956, and the event, which marked the tenth anniversary of the founding of the Press, was nationally publicized in *Publishers' Weekly*. Press staff members daily perform their duties with maximum enthusiasm and effectiveness, and with a sense of deep and abiding gratitude.

As always, the members of the Board of Managers of the Press performed their duties with equal zeal and wisdom. Their judicious application of Press policies and their farsighted assignment of our imprint strengthened the reputation of the Press in the world of scholarship and publishing.

Midway in the biennium the Board was shocked and saddened by the sudden passing of two staunch friends of the Press—Warder Clyde Allee and J. Speed Rogers. Both were distinguished zoologists, and each had served with distinction as head of the Biology Department of the University of Florida. Dr. Allee was Chairman of the Board of Managers at the time of his death; and Dr. Rogers was a founding father of the Press and the first Chairman of the Board. Their contributions to the welfare of the Press are indelibly inscribed in its records.

On June 30, 1956, the Board members were:

T. Lynn Smith, *Chairman*
Lewis F. Haines, *Director*
Archie Carr
Raymond E. Crist
William A. Gager
William K. McPherson
Rembert W. Patrick
Allen M. Sievers
Alexander G. Smith
Herbert S. Wolfe, *Secretary*

Respectfully submitted,
Lewis F. Haines, *Director*

REPORT OF THE DIRECTOR OF RADIO STATIONS WRUF-WRUF FM

Many things have transpired during the last two years in the administration of WRUF and WRUF-FM.

We have maintained our Public Service Programs and have received many

citations by various organizations for the fine work we have carried on.

We moved our studios from the old location on Radio Road to the North end, fourth floor, of Florida Field Stadium where adequate office space and fine studios were built. We believe we have one of the finest radio set-ups in the entire Southeastern section of our country.

We still maintain our program of training young men and women in the field of radio and have been very successful in this project.

We can take the position that WRUF, of necessity being a commercial station and receiving no appropriation from the State of Florida, should be the sole commercial outlet for the University of Florida, being its own radio station.

We have requested the Board of Control to allow us to use the full facilities of our present transmitter and go 10,000 Watts, which would give us primary coverage from coast to coast and would greatly enhance our revenues. We believe that, if this should be done, we would be able to render a greater service to North-Central Florida and its people and the University.

Respectfully submitted,
Garland Powell,
Director

REPORT OF THE DIRECTOR OF THE SCHOOL OF JOURNALISM AND COMMUNICATIONS

To the President of the University:

Sir: I have the pleasure to submit to you the following report for the School of Journalism and Communications and its activities covering the biennium ended June 30, 1956.

The period covered by this report probably covers the greatest activity this School has experienced since its establishment July 1, 1949. For your convenience these activities are summarized by these highlights:

1. The School moved to new quarters in the football stadium in September of 1955. These facilities, totaling some 30,000 square feet of space, have proven most adequate. The occupancy of these quarters made it possible to offer much needed laboratory work and courses which were not offered previously because of lack of space and staff.

2. Continuing to grow at the remarkable pace set in the last six years, the School is recognized as the fastest growing School of Journalism in the United States and in this biennium led all of the units of the University of Florida in growth. Because well-educated and competently trained graduates are our principal product, the June, 1956 graduating class pretty much symbolizes the School for this biennium. The class numbered forty-six, which was 80% larger than any previous class in the School's history. The majority of these graduating seniors were hired by business, industry and in the professions six weeks to two months before commencement exercises and as this biennium ended the School had many requests from Florida employers and beyond the state for additional graduates.

3. Ever increasing enrollment and expansion of facilities where required work could be offered made it necessary to expand the teaching staff. Care in selecting new staff members with the best academic qualifications and diversified experiences is reflected by the fact that this year's new staff members came from Texas, Missouri, Wisconsin, Georgia, South Carolina, Florida and Ohio.

4. First assignment of the staff in September of 1955 was a very thorough re-evaluation of the School's curricula. Results will be reflected in the 1956-1957 University catalogue.

Major changes were made in the advertising program based on needs of the state and recommendations of the Visitation Committee of the American Council on Education for Journalism which were made in the Spring of 1955. These revisions included combining the advertising program in printed media and the advertising program in audio-visual program into a single sequence leading to the Bachelor of Science degree in Advertising.

This was the first opportunity of the School to re-evaluate and reorganize its course work in radio and television following transfer of this work from the Department of Speech to the School. Revisions were also made in light of the opportunity for adequate laboratory work in both radio and television. A well-rounded program will now be offered leading to the degree Bachelor of Science in Communications.

Some changes were made in the journalism program in line with recommendations of the A. E. J.'s accrediting committee. This committee visited the campus early in 1955 and following its re-evaluation study of the School, its staff, its teaching program and interviews with employers of its graduates, re-accredited the School in the news editorial sequence and also, for the first time, accredited School in advertising.

One of the significant results of this re-evaluation is the reduction in the number of required technical courses leading to each of the three professional degrees. This is in keeping with the belief that graduates of this School need a broad base of education and knowledge in many areas other than the strict professional courses. Required professional work now totals twenty-five or less credit hours in each of the degree programs. While opportunity for elective work in all units of the University has been increased, required work has also been expanded in areas which include the Department of Speech, the College of Business Administration, the Department of Art in the College of Architecture and Allied Arts, the Department of History, the Department of Political Science, the Department of English and the Department of Psychology. A special course is also being offered for us in use of books and the library.

5. Actual transfer of the radio and television teaching program from the Department of Speech to the School became effective at the start of the biennium just ended. That action of the Board of Control also created the Radio-Television Production Center in this School.

The School now has its own radio studios for student training and broadcasting purposes. The School's Radio Center went on the air with its educational programs for the first time in the late Spring of 1956. These programs were aired over WRUF-FM with the programs originating in the School's studios. The Radio Center is continuing to work during the summer preparing educational programs and it is expected the School will resume its educational broadcasting in the Fall of 1956. In addition, taped programs were supplied to WMBR in Jacksonville through the Spring of 1956 and plans are now underway for extending this service to radio stations throughout the state which have requested such programs in the Fall of 1956.

6. Closed circuit television equipment was installed in the School's Television Center late in the Spring of 1956 in preparation for the recording of educational programs on films for distribution to stations throughout the state. First tests

of the School's plans for recording these programs have been satisfactory and it is expected this new method for making kinescopes will prove much less expensive than that system used by television networks. Distribution of these educational programs as part of the University's adult and continuing education program is expected to start in the Fall of 1956.

This biennium has also been marked by the continuation of the School's television broadcasting once a week with live programs over WMBR-TV in Jacksonville. We have also produced a number of news shows in response to requests from the state's commercial television stations and have assisted the Agricultural Extension Service in preparation of its television programs for telecasting in Tampa. The School also cooperated with the General Extension Division in sponsoring a short course for the Florida Council of Churches in the use of radio and television.

7. The School continued to expand its services to the state and professional groups which looked to the School for leadership and assistance. The Florida Press Association, representing all the weekly newspapers in Florida and more than half of the daily papers, met on the campus in December of 1955 to dedicate its new quarters in the School. Participating in those ceremonies with Florida's editors were the President of the University and the Governor of the state.

The Florida Daily Newspaper Association moved its state headquarters to the School on April 1, 1956. The two associations are now served jointly by Professor John Paul Jones, who is Secretary-Manager for each association.

The Florida Scholastic Press Association Central District Conference was held on the campus in October of 1955 under sponsorship of the School. The School in cooperation with the General Extension Division will be host to the state conference of this association in April of 1957.

The School continued to serve the Florida Newspapers Advertising Executives and has been requested to arrange its program and serve as host for its annual state-wide meeting this coming year.

Members of the School's staff participated in three state meetings of the Florida Women's Press Club during the last biennium and the School will serve as host to this group's annual state meeting this coming year.

8. This biennium was marked by the establishment of the first scholarships in journalism in Florida at this School. The first awards were made by Mr. Julius Davidson, President and Publisher of the Daytona Beach newspapers. These scholarships total \$1,200 annually for two young women and two young men in the School. The first two of the Davidson scholarships were awarded in September of 1955.

The Grantland Rice Journalism Scholarship, in the amount of \$750 annually, was established early in 1956 by the Sunshine Park Racing Association of Oldsmar, Florida. This award will go to a senior in this School.

In May of 1956, the Tampa Morning Tribune announced establishment of the John Stuart Bryan Memorial Scholarship Fund which will pay \$500 annually to a junior and \$500 annually to a senior in this School.

9. A wide variety of research was completed which included study of newspaper personnel problems, study of political advertising in Florida weeklies in 1952 compared with 1956, study of handling of Negro news in selected weekly newspapers throughout the south from an economic standpoint, advertising rate and economic data reports published each year.

During the previous biennium, this School was chosen by the Educational De-

partment of the United States Army as one of four journalism schools in the United States for training its career officers in journalism and public relations. Those in charge of this program in Washington have expressed their pleasure and satisfaction with the Florida program and will send their entire contingent of graduate students in this program to Florida alone for the 1956-57 academic year. This means seven officers will be enrolled for this graduate program this coming year.

Members of the staff were active in participation in programs throughout the state and in many cases on the national level. They appeared on programs at the Newspaper Managers Association, Association for Education in Journalism, National Association of Educational Broadcasters, Florida Broadcasters Association in Miami, conducted advertising short courses at Clewiston, Palatka, and Milton, lectured on public relations before the Ridge League of Municipalities at Fort Mead, the Jacksonville Advertising Club, Association of Penwomen at Jacksonville, high school journalism classes throughout the state, Lake Okeechobee Small Business Clinic, and a series of lectures on writing for publications at the A. C. S. C., Air University, Maxwell Air Force Base in Alabama.

Report of this biennium would be incomplete without calling attention to the national recognition that is being given the training of students in journalism and communications at the University of Florida. For the first time in the history of the School, national recruiting teams requested interviews with seniors in this School starting as early as February of the second semester. For the first time in history, Proctor and Gamble went outside the Ivy League in hiring someone for its advertising staff. This company took one of our February, 1955 graduates for its Cincinnati office. This last year business and industry hired as many of our graduates as did the journalistic professions. This, it seems to me, is a reflection of the curricula in this School which emphasizes the arts and science courses for more than 75% of the professionally trained graduates in journalism and communications.

All of these factors, Mr. President, point up the place the School of Journalism and Communications has made for itself in the University of Florida and in the state.

Respectfully submitted,
Rae O. Weimer,
Director

REPORT OF THE REGISTRAR

To the President of the University:

I have the honor to submit the attached report for the biennium ending June 30, 1956.

Very truly yours,
R. S. Johnson
Registrar

TABLE I

A. REGULAR SESSION ENROLLMENT FOR THE BIENNIUM

Colleges and Schools	1954-55 Enrollment						1955-56 Enrollment							
	Men		Women		Total		Men		Women		Total			
	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad		
College of Agriculture	321	181	7	4	328	185	513	446	173	11	8	457	181	638
College of Architecture and Allied Arts	279	15	57	6	336	21	357	334	18	50	4	384	22	406
College of Arts and Sciences	461	310	225	89	686	399	1,085	586	287	241	85	827	372	1,199
College of Business Administration	638	57	43	3	681	60	741	762	62	42	2	804	64	868
College of Education	178	327	484	398	662	725	1,387	198	276	510	346	708	622	1,330
College of Engineering	728	53	2	1	730	54	784	951	68	2	0	953	68	1,021
School of Forestry	31	5	0	0	31	5	36	34	6	0	0	34	6	40
School of Journalism and Communications	99	9	38	0	137	9	146	154	6	45	0	199	6	205
College of Law	316	0	8	0	324	0	324	350	0	4	0	354	0	354
College of Pharmacy	114	21	18	1	132	22	154	129	23	17	1	146	24	170
College of Physical Education and Health	50	15	28	9	78	24	102	60	37	26	12	86	49	135
University College	5,405	0	1,631	0	7,036	0	7,036	5,721	0	1,689	0	7,410	0	7,410
Gross Enrollment	8,620	993	2,541	511	11,161	1,504	12,665	9,725	956	2,637	458	12,362	1,414	13,776
*Less Duplicates							1,484							1,710
Net Total Enrollment							11,181							12,066

*Persons registered in one college or school the first semester and another the second semester.

TABLE I

B. SUMMER SESSION FOR THE BIENNIUM

Colleges and Schools	1954 Summer Session						1955 Summer Session							
	Men		Women		Total		Men		Women		Total			
	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad	Ug	Grad		
College of Agriculture	90	83	4	3	94	86	180	106	92	4	4	110	96	206
College of Architecture and Allied Arts	68	6	8	4	76	10	86	71	6	14	3	85	9	94
College of Arts and Sciences	131	210	50	40	181	250	431	148	183	61	50	209	233	442
College of Business Administration	185	36	6	0	191	36	227	224	36	12	1	236	37	273
College of Education	50	419	153	321	203	740	943	75	369	191	329	266	698	964
College of Engineering	169	30	0	1	169	31	200	243	33	0	0	243	33	276
School of Forestry	16	3	0	0	16	3	19	18	2	0	0	18	2	20
School of Journalism and Communications	15	10	4	0	19	10	29	20	4	8	0	28	4	32
College of Law	107	0	2	0	109	0	109	126	0	1	0	127	0	127
College of Pharmacy	46	12	7	1	53	13	66	51	15	2	1	53	16	69
College of Physical Education and Health	15	18	3	12	18	30	48	14	19	3	14	17	33	50
Unclassified	89	0	88	0	177	0	177	65	0	93	0	158	0	158
University College	999	0	254	0	1,253	0	1,253	1,248	0	263	0	1,511	0	1,511
Gross Enrollment	1,980	827	579	382	2,559	1,209	3,768	2,409	759	652	402	3,061	1,161	4,222

TABLE II

A. ENROLLMENT OF VETERANS BY COLLEGE AND SCHOOL REGULAR
SESSION OF THE BIENNIUM

Colleges and Schools	1954-55			1955-56			Total Enrolled	Vet- % Vet- erans	Stu- dents	Enrolled			Vet- % Vet- erans			
	Students Enrolled			Veterans Enrolled						Students				Veterans		
	Ug	Grad	Total	Ug	Grad	Total				Ug	Grad	Total		Ug	Grad	Total
College of Agriculture	328	185	117	120	513	237	46.1	457	181	182	119	638	301	47.1		
College of Architecture and Allied Arts	336	21	101	7	357	108	30.2	384	22	150	11	406	161	39.6		
College of Arts and Sciences	686	399	138	192	1,085	330	30.4	827	372	203	178	1,199	381	31.7		
College of Business Administration	681	60	290	41	741	331	44.6	804	64	405	47	868	452	52.0		
College of Education	662	725	103	241	1,387	344	24.8	708	622	128	194	1,330	322	24.2		
College of Engineering	730	54	300	30	784	330	42.0	953	68	455	38	1,021	493	48.2		
School of Forestry	31	5	20	4	36	24	66.6	34	6	23	4	40	27	67.5		
School of Journalism and Communications	137	9	45	9	146	54	36.9	199	6	70	6	205	76	37.0		
College of Law	324	0	220	0	324	220	67.9	354	0	249	0	354	249	70.3		
College of Pharmacy	132	22	42	10	154	52	33.7	146	24	63	10	170	73	42.9		
College of Physical Education and Health	78	24	17	9	102	26	25.4	86	49	32	24	135	56	41.4		
University College	7,036	0	1,946	0	7,036	1,946	27.6	7,410	0	2,234	0	7,410	2,234	30.1		
Gross Enrollment	11,161	1,504	3,339	663	12,665	4,002		12,362	1,414	4,194	631	13,776	4,825			
*Less Duplicates					1,484	585						1,710	784			
Net Totals					11,181	3,417	30.5					12,066	4,041	33.4		

*Persons registered in one college or school the first semester and another the second semester.

TABLE II

B. ENROLLMENT OF VETERANS BY COLLEGE AND SCHOOL SUMMER SESSION OF THE BIENNIIUM

Colleges and Schools	1954 Summer Session						1955 Summer Session							
	Students Enrolled		Veterans Enrolled		Total Enrolled	% Vet-erans	Students Enrolled		Veterans Enrolled		Total Enrolled	% Vet-erans		
	Ug	Grad	Ug	Grad	Stu-dents		Ug	Grad	Ug	Grad	Stu-dents			
College of Agriculture	94	86	59	83	180	142	78.8	110	96	64	87	206	151	73.3
College of Architecture and Allied Arts	76	10	39	3	86	42	48.8	85	9	41	4	94	45	47.8
College of Arts and Sciences	181	250	52	135	431	187	43.3	209	233	77	126	442	203	45.9
College of Business Administration	191	36	110	23	227	133	58.5	236	37	154	28	273	182	66.6
College of Education	203	740	30	335	943	365	38.7	266	698	53	292	964	345	35.7
College of Engineering	169	31	81	15	200	96	48.0	243	33	151	23	276	174	63.0
School of Forestry	16	3	10	4	19	14	73.6	18	2	14	2	20	16	80.0
School of Journalism and Communication	19	10	9	10	29	19	65.5	28	4	15	4	32	19	59.3
College of Law	109	0	77	0	109	77	70.6	127	0	97	0	127	97	76.3
College of Pharmacy	53	13	22	8	66	30	45.4	53	16	27	7	69	34	49.2
College of Physical Education and Health	18	30	6	17	48	23	47.9	17	33	10	13	50	23	46.0
Unclassified	177	0	52	0	177	52	29.3	158	0	52	0	158	52	32.9
University College	1,253	0	556	0	1,253	556	44.3	1,511	0	828	0	1,511	828	54.7
Gross Enrollment	2,559	1,209	1,103	633	3,768	1,736	46.0	3,061	1,161	1,583	586	4,222	2,169	51.3

TABLE III
DIPLOMAS, CERTIFICATES, AND DEGREES CONFERRED SINCE 1905

	Number of Diplomas & Certificates	Bacca- laureate	Profes- sional	Master's	Doctor of Education	Doctor of Philosophy	Honorary Degrees
1905-1938	1,730	5,054	53	467	----	23	21
1938-39	446	408	---	22	---	2	2
SS 1939	122	166	---	47	---	---	---
1939-40	457	437	---	22	---	1	---
SS 1940	83	170	---	41	---	3	---
1940-41	452	488	2	33	---	4	2
SS 1941	71	187	---	41	---	1	---
1941-42	381	386	1	22	---	4	2
SS 1942	116	140	---	17	---	2	---
1942-43	170	337	---	15	---	4	---
SS 1943	33	110	---	27	---	1	---
1943-44	39	102	---	11	---	---	3
SS 1944	16	69	---	24	---	---	---
1944-45	35	54	1	15	---	1	1
SS 1945	27	89	---	29	---	2	---
1945-46	205	136	---	13	---	3	2
SS 1946	294	112	---	39	---	---	---
1946-47	740	334	---	38	---	1	1
SS 1947	389	280	---	61	---	2	---
1947-48	883	799	1	71	---	---	5
SS 1948	265	455	1	87	1	---	---
1948-49	895	1,183	1	108	3	1	1
SS 1949	264	641	---	192	1	8	---
1949-50	920	1,744	---	95	5	6	8
SS 1950	239	621	---	266	---	12	---
1950-51	857	1,415	8	231	6	14	---
SS 1951	98	314	---	221	2	5	---
1951-52	696	1,191	---	205	3	19	3
SS 1952	131	264	---	231	2	14	---
1952-53	778	1,136	---	159	4	33	7
SS 1953	169	227	---	209	5	18	---
1953-54	743	1,072	1	176	13	37	---
SS 1954	159	214	---	213	8	13	---
1954-55	941	937	---	176	12	33	---
SS 1955	127	194	4	205	9	31	---
1955-56	921	1,270	2	172	12	26	4
Totals to June							
June 30, 1956	14,892	22,736	75	4,001	86	324	62

TABLE III
DIPLOMAS, CERTIFICATES, AND DEGREES CONFERRED SINCE SS 1954

	Number of Diplomas & Certificates	Bacca- laureate	Profes- sional	Master's	Doctor of Education	Doctor of Philosophy	Honorary Degrees
SS 1954	159	214	---	213	8	13	---
1954-55	941	937	---	176	12	33	---
SS 1955	127	194	4	205	9	31	---
1955-56	921	1,270	2	172	12	26	4

OFFICE OF THE DEAN OF STUDENT PERSONNEL

To the President of the University:

This report consists of two parts:

I. An introduction and some general comments about the work of the division, descriptions of some problems which the division faces in providing efficient service to students, and a brief consideration of the status of advising and counseling functions as they are performed by the academic units on the campus.

II. Individual reports from the several offices associated in the Division of Student Personnel are included. These require no further comments, since they clearly describe the work of the following offices:

1. Office of the Dean of Men
2. Office of the Dean of Women
3. Office of Director of Housing
4. Adviser to Foreign Students
5. University Placement Service
6. Student Personnel Records
7. Florida Center of Clinical Services
8. Florida Union

The Biennium has been marked by several developments which clearly affect the morale of the student body, and the effectiveness with which students take advantage of educational opportunities here.

1. Increases in enrollment without sufficient staff and space increases have caused further decline of relationships between the faculty and students, and has strained the capabilities of the staff of the Division of Student Personnel to meet the demands of students for services. In general the University has not been able to provide for adequate advisement of students by members of the teaching faculty. Some of the academic colleges have effectively organized programs of advisement for their students, *but no University-wide effort is in evidence*. It can be safely said that a majority of our students fail to receive adequate consultation with interested and informed faculty in order to develop their educational goals clearly. The result of this serious shortcoming is that we continue to lose promising students, and fail to develop into their maximum potential the large part of our student body who remain with us.

The University should study trail-blazing efforts by other large universities with respect to these problems as an aid to effectively developing a campus-wide reorganization of our program.

2. The trend, which was noted in the last biennium, toward increased requests by students for counseling and advisement has continued. This trend is a general one and has placed increased loads on members of the teaching faculty who confer with students with respect to academic problems as well as on members of the Student Personnel Staff who are called upon to provide professional services with respect to personal problems, placement opportunities, etc.

3. Decline of ability of the University of Florida to successfully recruit new staff has continued. As a result the division has this year found itself unable to replace those members of the staff who have resigned to accept better paying positions elsewhere.

During the biennium 1949-51 the division received more than 200 unsolicited

written inquiries from professionally trained persons who were seeking positions with us. During the 1953-55 biennium fewer than 50 such inquiries were received, and only about 5 of these were received during the 1954-55 year. Our relative position then has changed during the past five years so that, instead of being sought by persons who wish to become members of our staff, we find it difficult and even impossible to interest people in accepting positions.

The following needs of the division are most urgent:

1. Adequate salary increases to keep the present staff and to successfully recruit new personnel for expansion.

2. A new Union building designed to meet the demands of a student body of 15,000-20,000.

3. The development of an adequate residence program which will house a substantial proportion of the anticipated increases in enrollments.

4. Expansion of space for the functions in the central Student Personnel suite on the first floor of the Administration Building. These offices received more than 120,000 students, faculty, parents, and members of the public during the biennium. These far exceeded the planned capacity of the space available.

W. M. Wise

Dean of Student Personnel

Office of the Dean of Men

During the biennium 1954-56, the work of the Dean of Men's Office continued substantially as in the past. The type of work continued much as before, although the amount of this work increased considerably, due partly to increased student enrollment and a seeming increase in the number of students needing financial aid of some sort—scholarships, loans, or employment—to continue in school.

On July 1, 1954, H. K. McClelland was promoted from Adviser to Student Organizations to the position of Assistant Dean of Men. In this capacity, he has taken over much of the work concerned with Student Employment, such as interviewing students, contacting various agencies on the campus with regard to possible openings for student assistants, etc.

Assistant Dean A. W. Boldt received his Doctor of Education degree from the University of Florida at the Commencement on June 4, 1956.

During the biennium, staff members attended various meetings, such as the Southern Association of Deans of Men's meeting in Athens, Georgia, the National Interfraternity Conference in St. Louis and Philadelphia, the NASPA meetings. During the summer of 1955, Dean Boldt was selected by the Florida State Alcoholic Rehabilitation Board to receive one of its scholarships to attend the Yale Seminar on Alcoholic Studies. This summer, Dean Beaty was selected and will attend the Seminar in July 1956. In August 1955, Dean McClelland attended the Harvard Seminar for Personnel Administrators, sponsored by NASPA.

Some progress is being made in securing new scholarships for the University of Florida. Approximately twenty-five new scholarships were made available to University of Florida students. Among these were such groups as the Food Fair Stores Foundation scholarships, which operate much as scholarships from Winn-Dixie Foundations have operated in the past, with the exception that the University makes the final choice as to recipients. These scholarships were first available to students in September 1954, beginning with six freshmen from Dade,

Broward and Palm Beach Counties. The awards of \$250 each year will be continued for four years as long as the student remains in school and makes satisfactory progress toward graduation. Each year six new scholarships will be awarded to entering freshmen.

In the fall of 1955, our allocation from Senate Bill 944 (Racetrack) funds was increased from \$15,000 to \$25,000. Part of this additional \$10,000 was used to grant scholarships to particularly promising freshmen and was awarded on the basis of high school placement scores. On the whole, this group did exceptionally well, and it is hoped that this plan may be continued in order to help worthy students begin their college training.

During the biennium there were scholarships awarded as shown below:

1954-55	453	\$186,855
1955-56	529	187,997

During the biennium there were loans made as follows:

1954-55	2,456	\$157,178
1955-56*	2,997	195,094

*The month of June 1956 is not included in this total as figures were not available when the report was made.

The number of students employed on campus through the Office of Student Employment averaged about 1100 each semester of the biennium. There was a slight decrease in the number during 1955-56 due perhaps to various factors, including the increased scholastic requirements of the University and the fact that fewer students were permitted to work without maintaining a scholastic average of C.

The number of student organizations on the campus remained fairly steady at about 200. All organizations are now required to hand in annual progress and financial reports to this office. A leadership training program has been instituted for officers of organizations and is held at the beginning of the second semester in each year. University Open House, running for two weeks, has been held in March of each year. Programs feature outstanding activities of the various organizations on the campus. This office continues to feature three activity calendars per year, one each semester and one during the summer session. Also, three official directories of student organizations are issued at approximately the same time.

There are now twenty-five men's national fraternities on the University campus. One fraternity, Zeta Beta Tau, voluntarily removed its charter from the campus this year. Two colonies have just been established and are now active. These are Delta Upsilon and Sigma Alpha Mu. Greek Week, featuring the activities of fraternities and sororities, has been one of the outstanding achievements of the fraternity system over the past two years. For the most part, "Help Week" and constructive community projects have taken the place of the old "Hell Week." This trend continues on the increase. The Interfraternity Conference has been constantly strengthened with more emphasis on handling of fraternity affairs by IFC wherever and whenever possible. The number of men students and percentages of men in fraternities has remained fairly constant at about 30 percent.

Office of the Dean of Women

The biennium 1954-56 has been one of the most constructive and satisfying in the history of women at the University of Florida. Such progress does not "just happen," but is possible only if the leaders are educators working with students toward common goals.

Women's organizations have learned to plan ahead, even to a year ahead, to evaluate what they are doing, to limit the time of their meetings so that absenteeism is not a problem in spite of busy schedules.

Changes have been made in assignment policies to the halls so that freshmen and other classmen are in the same halls, a change we have found very desirable to encourage loyalty and continuity.

Grade averages of non-fraternity women, most of whom live in the Residence Halls, made a greater rise over last biennium averages than those of the affiliated women. It is also interesting that a study of cases referred by the Hall Councils to the Judiciary Committee of the Women Students' Association showed that though the number of full time, single undergraduate women increased 300% from 1949 to 1955, the cases only increased 30%. In 1949-50 the number referred was 4% of the total, while in 1954-55 it was 1-3/5%.

In the estimation of the Dean of Women constructive education has gone on in the residence halls and many faculty would agree that this is so. Those individuals requiring specialized help of any kind have been referred to the proper persons and relations between faculty, personnel and health services, the Dean of Women and the Residence Hall Staff are excellent.

Our perennial problems remain. We lack adequate housing for women, and the obtaining and retaining of Residence Hall Staff is a major problem, yet without these educators the progress mentioned above would have been impossible. Ways must be found to compensate for the unnatural situation living in a hall demands, or we must conclude the halls are not a part of the total educational picture and allow negative education to take place with its resultant loss to the future citizens of the state as well as loss of time and money. The University of Florida has a nationally known Residence Hall program and it would be a pity to have it deteriorate because individuals do not receive salaries commensurate with their training and experience.

Office of the Director of Housing

Progressively increasing demands for housing space have occurred during the period 1954-56. In September, 1955, space was unavailable for approximately 400 students who desired it. Some of these were unable to enroll because no suitable housing could be found. During the spring of 1956, room applications from freshman men and women increased in number about 28 per cent over the same period for the preceding year. The number of applications from entering upper-class men and women increased 43 per cent. Applications from married students increased 19 per cent. It is evident that the shortage of housing facilities will become more critical and will limit potential enrollment increases.

Approval of a \$3,000,000 loan by the Federal Housing and Home Finance Agency will provide an additional 1,000 spaces by September, 1958. Since deteriorating temporary structures now housing 400 students must be razed by 1958, the net space increase will be only 600. Hence, this planned construction

will meet only a small part of the University's needs.

An Off-Campus Housing Department was authorized and established during 1955. In a relatively short period of time, this Department has accumulated a volume of useful information regarding off-campus rental facilities, given direct and material assistance to the large number of students and staff seeking off-campus accommodations, and established helpful relations with many private house managers and property owners. Coordination of information and organized referral procedures have proven to be a positive University service. A Counselor for off-campus women has been of major assistance to women students compelled to live off campus because of the housing shortage.

The appointment of an Associate Director of Housing has made possible more concentrated attention to the development of the educational resources of campus housing facilities. His work with students and staff in the halls will continue to improve the educational program which will contribute materially to student life and possibly to a reduction of student drop-outs from the University.

A continuing problem is the personnel turnover in residential staff and clerical positions. Over 50 per cent of the residential staff resigned in June 1954, and again in June, 1956. Salary rates have been a factor. This rate of turnover has curtained the effectiveness of the administration of the halls and the programs therein. Difficulty in obtaining qualified clerical personnel has reduced office efficiency.

In order to improve administrative procedures and programs, studies have been undertaken regarding such matters as assignment procedures, staff responsibilities and work load, and program objectives. To increase efficiency and reduce costs, plans have been made to utilize IBM equipment for assignments, billings, and accounts receivable. Preventive maintenance programs have been established for the Flavet Villages and the various Residence Halls. The Furniture Repair Shop has been an invaluable aid to the preservation of equipment and the up-grading of equipment standards.

The availability of Broward Hall for special conferences and short courses during Summer Sessions has resulted in favorable relations with individuals and groups from all parts of the state. Income has also been increased.

In the immediate future, major attention should be given to: (1) acceleration of efforts to obtain additional housing facilities which will more nearly enable the University to accommodate increasing enrollments; (2) increasing salaries as a means for stabilizing personnel in residence and clerical positions; and (3) strengthening educational programs in housing as a means for supporting the University's academic program and helping students to gain more from their educational experience at the University.

Biennial Report of the Adviser to Foreign Students

July 1, 1954 to June 30, 1956

The third and fourth years of operation of the office of Adviser to Foreign Students have been characterized by increasing volume and scope of work in the areas of the University's responsibilities in international educational exchange. Major emphasis is still the coordination of arrangements for foreign students, but with increasing emphasis on advisement of American students and staff members going abroad. The major objective is to help assure that inter-

cultural contacts will be of maximum benefit to all concerned in terms of better understanding among peoples and development of individual capacities to contribute to human welfare throughout the world.

Enrollment of foreign students in regular classes during the biennium has been as follows:

Summer session, 1954	70	(29 countries)
Fall semester, 1954	219	(52 countries)
Spring semester, 1955	214	(48 countries)
Summer session, 1955	82	(29 countries)
Fall semester, 1955	236	(46 countries)
Spring semester, 1956	240	(45 countries)
Summer session, 1956	98	(36 countries)

These figures include Puerto Ricans who are classified as foreign students because of their Spanish language background, but does not include other U. S. citizens of foreign birth whom the office is frequently asked to serve. Neither does it include those enrolled in the summer English Language Institute for foreign students, 17 in 1954 and 21 in 1955, or a special group of 22 secondary school teachers and administrators from 12 countries here for three months during the 1954 fall semester.

A marked increase in volume of admission inquiries and applications handled by the office has been noted during the biennium. In 1954-55 1,647 inquiries were tabulated, an increase of about 40% over the preceding year. 1955-56 shows about a 25% increase over 1954-55. Due chiefly to economic limitations only a fourth to a third of those inquiring become active applicants for admission.

Analysis of inquiry and enrollment figures indicates that the following are probable trends in the University's participation in international education:

1. The University enjoys a growing reputation around the world and in both hemispheres. This is reflected both in direct inquiries and applications from individuals and in those referred through such agencies as the Department of State, the International Cooperation Administration (Point Four), the U. S. Office of Education, the Housing and Home Finance Agency, the U. S. Department of Agriculture, the Institute of International Education, various foreign governments, the American-Korean Foundations, and others.
2. There has been marked growth in inquiries and enrollment of students from south Asia, from the Mediterranean to the Pacific. For many of these students the University of Florida is perhaps a more satisfactory place for study than any other U. S. Institution.
3. The number of Latin Americans has decreased somewhat due to more selective admission practices and to more stringent curbs on dollar exchange through most of Latin America. However, Latin Americans still constitute about half of the total foreign student enrollment.
4. Much of the growth of enrollment of foreign students has been at the graduate level.
5. Agriculture, Arts and Science, Engineering, Architecture, and Education (in that order) are the most popular fields of study among foreign students, but students from abroad have been enrolled during the biennium in every college in the University except Law.

The biennium has seen an increase in volume and to some extent in scope of activities of the office and in the degree to which foreign and U. S. students, as well as staff and the general public, make use of services. In fact we have reached, and at times have exceeded the limit of work that can reasonably be undertaken with our present staff. It has been necessary to postpone development of a number of areas in which our present program is weak, notably those of campus and community contacts between foreign students and Americans, continuing relationships with foreign student alumni, and greater emphasis on study and travel abroad by Florida students. In cooperation with other University officials and under the policy guidance of the Committee of Foreign Students we continue to handle (1) admission inquiries and the preliminary processing of admission applications, (2) reception and orientation of new foreign students, (3) processing of foreign student scholarships, (4) a major portion of the non-academic counseling of foreign students, (5) measures to assist foreign students in improving their English and academic performance, (6) advisement of the International Student Organization which includes both foreign and American students, (7) handling relations with the U. S. Immigration and Naturalization Service and other public and private agencies interested in student exchange, (8) assistance with arrangements for visitors from abroad, (9) providing hospitality for foreign students and visitors, (10) consulting in public relations matters involving foreign students, etc.

In October and November of 1955 the Adviser to Foreign Students had the privilege of representing the University on a tour of Pakistan, Iran, Iraq, Kuwait, Lebanon, Syria, Jordan, Israel, Turkey, and Greece under a travel fellowship granted by the American Friends of the Middle East and the National Association of Foreign Student Advisers. Discussions were held with top education officials in each country, and leading schools, colleges, and universities were visited. It was also possible to visit about 30 University of Florida alumni, all of whom were enthusiastic about their Florida experience, and the families of a dozen or more present students.

The experience of seeing the exchange picture from the foreign point of view helped materially in gaining perspective on our campus international education program, and has given an opportunity to influence exchange practices both in this country and in the Middle East.

It is evident that the University of Florida is becoming more widely recognized throughout the world as an important educational center. Its well-developed Latin-American program and increasing emphasis upon south Asia are making important contributions abroad and also serve the best interests of the state and the nation.

University Placement Service

June 30, 1956, marked the end of three years' operation of the University Placement Service; the last two years reflect considerable growth in size and influence of the activities of the office. This is borne out by the increase in the number of students utilizing the services and greater employer contacts. Also, more university units and individual faculty members have begun actively supporting the program.

Over the past two years, the demand for our graduates has reached an all time record . . . a time where there were more jobs than graduates.

This prosperous job situation coupled with the increased complexity of busi-

ness has created a problem . . . the need for more effective assistance to students in making the right choice of job careers and more effectual efforts to employers in locating the right people; this, in the final analysis, is the essence of placement work.

The Placement Service has attempted to gear its efforts to meet the needs created by these conditions. Emphasis has been placed on the further development and refinement of internal clerical and office systems in order to more efficiently handle the office workload; establishing better liason and communication with academic departments; offering more counseling and guidance to individual students; and making talks to classes concerning the job approach.

Among the accomplishments of the office has been the establishment of a communications' center or focal point of university-wide placement activities. Where employers once had to make numerous contacts on campus in order to conduct placement business, they can now effectively do so with one office without delay or inconvenience. Further, the design of the system is such that an employer may deal directly with one single department or with every college simultaneously through the coordinating efforts of the Placement Service.

Also, the Placement Service has set up a system which provides a source of information concerning jobs in fields from accounting to zoology. This service enables a student to conduct as broad a job search as needed at one single location. A part of this system is the utilization of the faculty to bring the information to the direct attention of students. This is done by furnishing each department and interested faculty member with job information pertaining to their respective fields. Faculty members are also encouraged and given an opportunity to talk to company representatives when they visit campus.

During the second year of the biennium the Placement Office arranged to have over 200 companies come to campus for interviewing purposes. Many companies sent representatives in both the fall and spring. The companies were large and small and covered all industries from locations in every part of the U. S. Over 4,500 individual interviews took place as a result of these visits.

The basic needs of the Placement Service are not too different from other units in our growing college community, i.e., mainly additional professional and clerical personnel and more space in which to operate.

Using the past two years as an index, it is expected that the demands upon our placement facilities will increase in greater proportion than enrollment during the next biennium. The role which the Placement Service plays of matching an individual's talents with the requirements of a certain business will become more prominent.

Office of Student Personnel Records

During the past biennium the Office of Student Personnel Records has experienced an ever-increasing work load. With more and more students enrolling in the University, and with perpetual care required for all student personnel records, it has become more difficult to maintain the quality service which should characterize the office. Plans for the records to include more complete information on each student, and increased use of folders by faculty and staff are dependent on additional personnel in the department, for such growth is now definitely held back by lack of sufficient clerical help.

The amount of material in the Student Personnel Record folder continues to

grow as well as the number of folders. The records now total approximately 10,000 active folders and approximately 56,000 inactive, 31,000 of which are microfilmed. During the past biennium 13,440 folders were checked out and returned.

The record folders contain information about the social and academic activities of each student. The following information is gathered and classified, then becomes a permanent record in the student's folder: Student Personnel Record Card containing personal information, American Council on Education scores, Diagnostic Reading Test scores, High School Placement Test scores, Clinic and Counselling Reports, degree with the date of graduation, honors received on graduation, extra curricular activities (officers and members of campus organizations), withdrawals, suspensions and reinstatements, autobiography, transcript of high school credits and Advanced Standing Certificate, grade sheets at the end of each semester, grade change sheets, and correspondence from Student Personnel offices.

Also included in the student's folder are: decisions reached at student petitions meetings, correspondence from registrar's office, scholarship awards and reports, loan applications, work applications and rating sheets, honor court reports and disciplinary reports, result of Freshman Speech and Hearing Tests, and fraternity and sorority pledge cards.

Microfilming undertaken during the summer of 1954 included all folders of students enrolled prior to the fall of 1947, or those who were graduated by June 1950, a scattered few of whom came back for one more semester's work. This was an estimated 8,500 Kard-a-Film cards. We resumed microfilming in 1955, pulling all the folders of students enrolled prior to 1950 (approximately 4,500.)

We are planning to make additions to the microfilm file on an annual basis from now on, pulling from the inactive file a sufficient number of folders each year to maintain the space limitations available with minor adjustments. At the present, it is estimated that after the current project of microfilming is completed, the annual volume should run about 4,000 to 5,000 total which should leave room in the files for the increase in enrollment each fall. Since use of these files by the Student Personnel Staff and Faculty is growing each month, it is desired to keep the current and active folders as accessible as possible to facilitate the quick handling of requests for such folders. Adequate storage space is becoming a critical problem in the records office, due to the ever increasing volume of student personnel records. Because of greater enrollment at the University each year and more material being available on students, necessity has forced us to consider shelf filing. This is the record housing method based on the filing of active or inactive records on a series of shelves instead of filing cabinets. It saves up to 50% of floor space and 75% of the cost of first grade filing cabinets and makes records more accessible. It is our hope that we will be able to adopt this method of filing in our office during the next biennium.

FLORIDA CENTER OF CLINICAL SERVICES

Biennial Report (1954-'56)

This Center coordinates the activities of five units: Psychological Clinic, Speech and Hearing Clinic, Reading Laboratory and Clinic, Marriage and Family Clinic, and Adapted Exercises Clinic. This interdisciplinary cooperation and coordination assists students of the university and residents of the State in

solving their educational, vocational, emotional, behavioral, and social problems.

The Center cooperates with departments and colleges in the university in providing practicum facilities in training areas as follows: clinical psychologists, counseling psychologists, school psychologists, speech pathologists, audiologists, speech and hearing therapists, reading specialists, rehabilitation counselors, public school counselors, teachers of the mentally retarded, teachers of the orthopedically handicapped, and administrators for programs for exceptional children. The Center also conducts research relating to the problems receiving attention in the various units.

A Board of Directors composed of those Deans, heads of departments, heads of clinics, and others whose interests are directly related to the functions of the Center, determines the policy to be followed in the Center. This Board is composed of nineteen members. A State Advisory Committee of eighteen members acts as an informed group of citizens and as an advisory group to the Board of Directors.

The Florida Center of Clinical Services assisted 3,531 university students in the 1954-'56 biennium. Many of these students were seen in two or more clinics, and made 19,172 visits. Each visit averaged approximately one hour. The number seen from off-campus was 1,620 for 8,732 visits which one and one-quarter hour seen from off-campus was 1,620 for 8,732 visits which averaged one and one-quarter hours per visit. Staff time was not available to meet many requests of university students and those from off-campus, with the result that many did not receive the attention they needed. University students pay no fees for these services; there are fees for other than university students who have ability to pay.

Office of the Coordinator

A psychiatrist is shared with the Student Health Department. A psychiatric social worker and a secretary are provided by the Alachua County Health Department. The Center has entered into an agreement with the Student Health Department whereby services of a physical therapist on its staff can be purchased for off-campus subjects who are being seen in one or more of the clinics and who need physical therapy for their total adjustment. Other staff in this office include the Coordinator and the administrative assistant to the Center.

During the past two years the Coordinator has given considerable time to the establishment and direction of the program for training rehabilitation counselors. The Coordinator has also continued to relate to staff of the J. Hillis Miller Health Center and the Medical School regarding programs evolving in that environment, and the relationship of our staff and Center activities to that program.

Excellent working relations have been enjoyed with state and private agencies now assisting those with problems and handicaps. There have been many relationships with the mental health clinics in the State. The Nemours Foundation continues to permit us to bill it for some off-campus cases. The clinics provide services to a good many clients of the state vocational rehabilitation program. The Florida Society for Crippled Children has made it possible for staff members to join diagnostic teams of the Crippled Children's Commission. Traveling clinics have participated in many programs during this biennium. Members of the various clinics have participated in the cleft palate team evaluations.

Psychological Clinic

The staff is composed of three clinical psychologists, one clinician (half-time),

two graduate assistants, one clerk, and a secretary. Five clinical psychologists and nine graduate assistants of the Psychology Department gave time in exchange for time given to that department by clinic staff members for teaching and for direction of graduate studies. During this past biennium, 1,359 university students and 684 off-campus subjects have made 5,690 visits to this clinic. These visits do not include the time of actual group testing in conjunction with vocational guidance programs, but do include interview and counseling appointments in connection with vocational guidance.

This past year there was a waiting list of 75 to 200 university students during the year. A very limited amount of time was provided for off-campus clients, with appointments two to three months behind schedule. With the training of clinical psychologists, counseling psychologists, school psychologists, and rehabilitation counselors we should see more off-campus subjects in order to provide adequate training facilities. Staff time must be provided for adequate supervision and training in these areas, particularly in diagnosis and therapy in relation to child adjustment. This clinic is very understaffed in relation to requests for service and needs for training.

Speech and Hearing Clinic

Dr. George H. Kurtzrock joined the staff in February 1956 as an audiologist. Other staff members include the head of the clinic, one clinician, two graduate assistants, and a secretary. The Speech Department provides some staff time of two staff members and two graduate assistants in exchange for staff time of the Head, the Associate, and the Coordinator for teaching and graduate work. During this past biennium 485 university students and 519 off-campus subjects have made 6,760 visits to the clinic. These figures do not include testing in conjunction with speech and hearing surveys. During the biennium 6,234 university students were screened for speech and/or hearing defects. Seven hundred forty-eight were advised to return to the clinic for assistance. Members of the staff have participated in a number of traveling clinics and diagnostic teams.

This past year there was a waiting list of approximately 100 university students seeking assistance. Staff time was not available and many of these students did not get help after their defect had been detected and they had been requested to report. Not as many subjects from off-campus were seen as were needed for training purposes in the Speech Department. More staff time is necessary for this clinic.

Reading Laboratory and Clinic

This unit is sponsored by and is under the budget of the Department of Freshman English (C-3), except for a clinician (half-time) and a graduate assistant from the Florida Center of Clinical Services. The total staff is composed of a Head, an associate, a clinician (half-time), four graduate assistants, and a secretary. This clinic conducts a very comprehensive program of services to university students. This unit also aids children and adults from off-campus with reading problems. Members of the staff teach courses in reading for the College of Education and have an outpost of their clinic in that College. During the biennium they assisted 1,582 university students and 438 off-campus subjects for a total of 11,121 visits. The staff participated in many traveling clinics and engaged in considerable research.

University students continue to request more assistance from this unit. The two chief staff members also have teaching assignments. More staff is needed to meet requests for assistance and to evaluate procedures with research.

Marriage and Family Clinic

The Department of Sociology in the College of Arts and Sciences provides less than one-half of the time of one individual through two staff members and a secretary to this clinic. Many university students and individuals from off-campus seek the assistance of the staff of this unit. During the biennium they assisted 160 university students and 143 subjects from off-campus for a total of 818 visits. Staff members work very closely with the psychiatrist and staff members in the Psychological Clinic and other units. More staff time is needed for university students and a very small percentage of the requests from off-campus can be met because of inadequate staff time. One staff member should be on the budget of the Center.

Adapted Exercises Clinic

This unit is an integral part of the College of Physical Education and Health. A Head and two clinicians have some time available for individual programs. All programs with university students are under the direction of the Student Health Service. The Center furnishes a graduate assistant to this unit. During the biennium 193 university students and 16 off-campus subjects made 3,515 visits for assistance to this unit.

The members of this staff work closely with the physical therapist in the Student Health Service. This has permitted a better understanding of the functions and responsibilities of these two professions. The staff assists with the camp program for handicapped children at Camp Crystal Lake. The Center needs to supply more staff time to this unit.

Veterans' Guidance Center

This unit is not coordinated with the other clinics but since it is under the direction of the Coordinator it is included in this report. A contract with the Veterans Administration provides for a full-time vocational appraiser and a half-time psychometrist to give psychometric evaluations to those referred to this unit. An average of 39.2 individuals per month receive this service.

Staff Needs of the Florida Center of Clinical Services

- a. Psychological Clinic—1 associate, 1 clinician, 1 secretary
- b. Speech and Hearing Clinic—1 clinician, 1 graduate assistant
- c. Reading Laboratory and Clinic—1 clinician
- d. Marriage and Family Clinic—1 associate (half-time)
- e. Adapted Exercises Clinic—1 graduate assistant
- f. Coordinator's office—1 secretary.

The Florida Center of Clinical Services assisted 3,531 university students in the 1954-'56 biennium (2,938 in 1952-'54) for a total of 19,172 visits (17,095 in 1952-'54). These visits each averaged approximately one hour. The Center assisted 1,620 from off-campus in this period (1,313 in 1952-'54) for a total of 8,732 visits (7,656 in 1952-'54). These visits each averaged approximately one and a quarter hours. Staff time was not available to meet many requests of university students and those from off-campus. More individuals from off-campus need to be seen in order to relate adequately to the various training programs.

Florida Union

During the period covered by this report, the operation of the Florida Union showed continued progress in program activities, building operation and main-

tenance, new services rendered to University personnel and continued growth of the activities and development of Camp Wauburg.

The Florida Union maintains the label of "the center of activities" as attested by the more than 40,000 persons who use the Florida Union each week.

During the month of April, 1956, the Florida Union celebrated its twentieth anniversary with a week's schedule of all types of activities for students and faculty. Twenty years of constant use and heavy wear on the building and its furnishings and equipment bring about special maintenance problems. These have been met with constant vigilance to keep the building and its equipment in good repair. Both public lounges have been completely refurbished, a permanent inventory marking system has been completed on all equipment, many interiors have been repainted, the several pieces of obsolete equipment have been replaced.

During the second year of the biennium, the Barber Shop began operation as a department of the Union rather than a lease operation, such operation proving to be a success. The Craft Shop is steadily increasing in popularity and is becoming more and more important as an outlet for developing and maintaining avocational interests by students, faculty, and their children. Attendance in the Craft Shop shows an increase of 44% over the preceding biennium.

New services to the University public provide for sale of fishing licenses at the Union; and the purchases of motorized transportation for the delivery of Western Union messages and increased efficiency in this area. Exemption of the federal tax for the Game Room provides a saving of more than \$200.00 per year.

The second year of this biennium found all attendance and participation records for Camp Wauburg broken. The use of the Camp during 1954-56 showed an increase of 30% over the preceding biennium. New developments at Camp Wauburg include a new road to a boat launching site at the lake, a new well, and a redefined swimming area with additional qualified staff to provide for greater water-front activity and safety.

In the area of program activities, there are three trends which have been developing during the biennium; first, a greater popularity of small, intimate activities rather than large mass activities, and second, greater emphasis within the Florida Union to work with student organizations, offering assistance in the development, planning and execution of their activity programs. In addition, there has been greater faculty and staff participation in student activities, much to the pleasure of students, thereby making the Florida Union more of a community center and less of a student center. Increased use of the facilities of the Union for short courses, workshops, and conferences sponsored by University departments and student organizations has been apparent. New program activities include a Freshman Night each semester when the entire building is turned over for freshmen only, and an expansion of the Outing program to include a four day trip to Cuba.

The Florida Union has many problems but four major areas need immediate attention. The lack of adequate space receives top priority in a list of problems. The increase in enrollment and changes in the complexity of the student body and their activities make a new Florida Union a necessity. Secondly, the operating budget of the Union does not permit adequate professional staff to accomplish the basic tasks and purposes of the Union. Additional aid from the state budget for professional staff must be secured. Third, expansion of land at Camp Wauburg continues to be a great need. Normal daily activities, increased emphasis on

the teaching functions at the Camp, as well as normal increases brought about by a larger enrollment produce many problems, most of which could be solved by additional space. The Camp, with its twelve acres of ground, is now in its eighteenth year of operation within the same geographical limits. Fourth, the inclusion of a minor food service facility in the Union is needed. The Florida Union is the only Union in the country without the minimum services of a snack bar or small fountain area. Such a facility increases the usefulness of a Union and would aid immeasurably in the fulfillment of our educational activity program.

Much effort has been spent during the last biennium toward the planning of a new Union. Faculty, staff, and student committees have worked diligently to bring about a new Union. All areas of the University must join forces during the next biennium to make a new Union a reality.

