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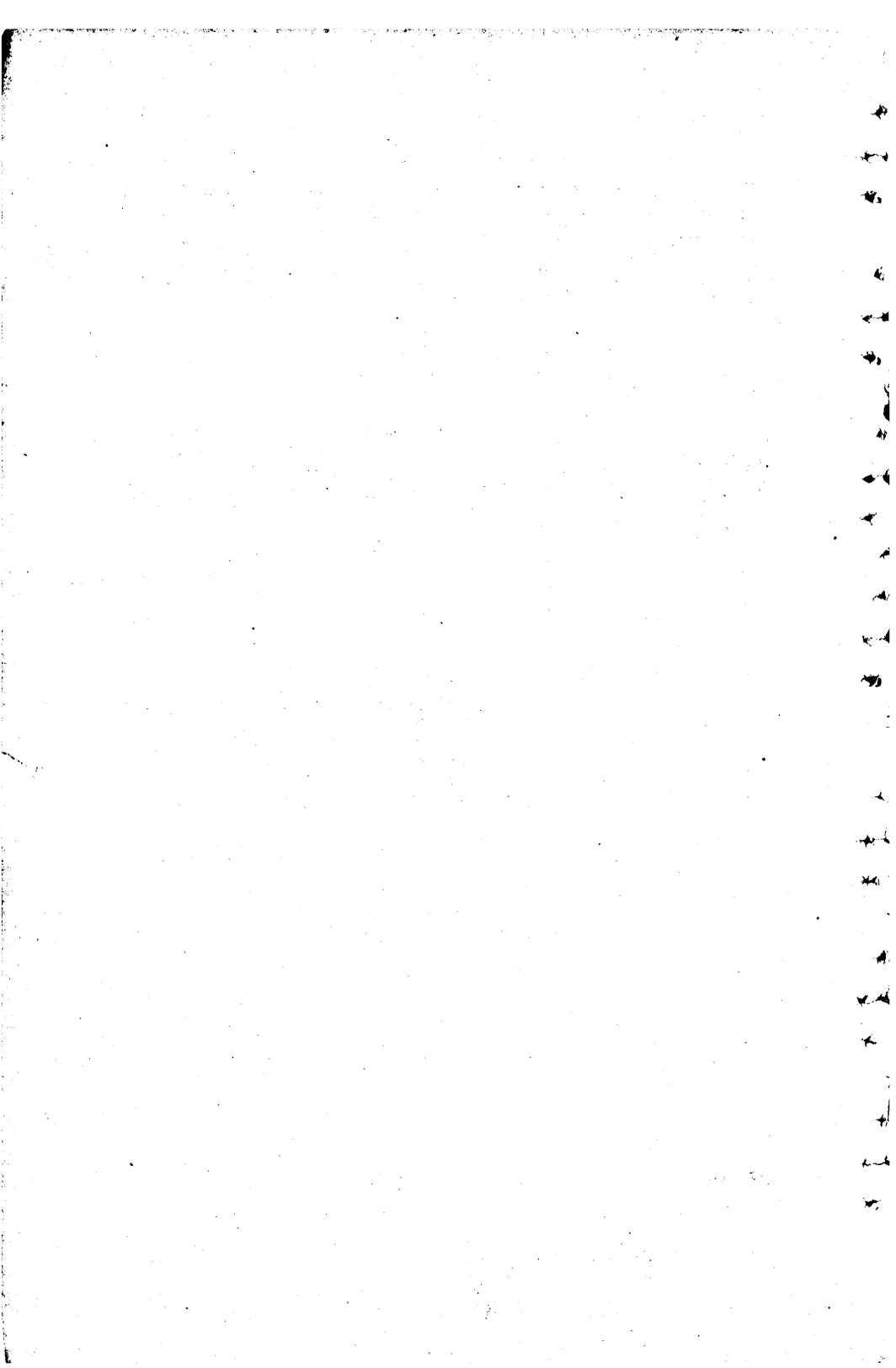
REPORT
OF THE
UNIVERSITY OF HAWAII
1931-1932



DECEMBER, 1932

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Honolulu, Hawaii,
December 31, 1932.

TO THE GOVERNOR AND LEGISLATURE
OF THE TERRITORY OF HAWAII:

GENTLEMEN:

I have the honor of transmitting this report of the President covering the various activities of the University from July 1, 1931-June 30, 1932, and the accompanying financial statements for the same period.

President Crawford's report reviews very thoroughly the work of the University and its several cooperating institutions for the past year. Its contributions in the fields of education, research, and public service, as well as its needs for the immediate future, should prove of great interest to all who are concerned with its growth and development. I feel confident that this report will receive your careful consideration.

Respectfully,

CHARLES R. HEMENWAY,
Chairman, Board of Regents.



Report of the University of Hawaii

(July 1, 1931 to June 30, 1932)

TO THE BOARD OF REGENTS :

This is a period when all that the University does is being scrutinized critically by the administration to eliminate needless expense, for the necessity for economy is paramount.

By the elimination of some positions which seemed unnecessary, by a general reduction of all salaries, by increasing the tuition fee, and by many minor economies, we are able to enter the new year with a much smaller appropriation than we had last year.

For the biennial period, 1931-1933, the legislature of 1931 appropriated a little over \$968,000 for the University, including the former Normal School, which was merged with it. The 1932 legislature reduced this by more than \$210,000. A large part of this saving in the appropriation was made by a reduction of the Teachers College staff, in accordance with a plan to limit the number of graduates. Another large item is the 10 per cent reduction in all salaries. The balance of the \$210,000 cut is being met by an increase in the tuition fee and by many economies.

TEACHERS COLLEGE

The consolidation of the Normal School with the University has been successfully accomplished, with a large saving in the expense of operation. As the union became effective in September, 1931, just as the academic year was beginning, it was too late to make any staff changes for that year. Accordingly, the time was taken to study the situation, while the staff was kept intact.

As a result of the study, it was found that the Teachers College was somewhat overstaffed and that the number of graduates and prospective graduates was larger than required by the need for new teachers in the schools of the Territory.

It was, therefore, decided to reduce the enrollment of students in the Teachers College in the academic year beginning in September, 1932, by placing a limitation on the numbers in each of the upper classes. As this would result in a total enrollment about half as large as in the year 1931-1932, it was believed that the instructing staff could be correspondingly reduced. Of the 51 staff members, 26 were affected by this change, 20 being notified that they would not be re-engaged in 1932 and 6 others being transferred to other positions in the University.

This relatively great reduction required many difficult and trying readjustments on the part of those who could not be continued in employment, but, with few exceptions, they accepted the situation philosophically. In spite of unemployment difficulties, practically all have found new places for themselves.

The consolidation of the two institutions will not be complete until a change is made by the legislature in the fiscal arrangements. At present, the appropriation for the Teachers College is not only separate from that for the remainder of the University but is derived from a different source and applies to a different fiscal biennium. It is recommended that the 1933 Legislature be asked to make a single appropriation for the University as a whole, including the Teachers College.

COSTS AND INCOME

A financial summary of the year is included in this report. It shows a healthy condition, with adequate balances carried over for the next year.

GIFTS

Most notable of the gifts to the University was one which does not appear in our books of account, the Charles H. Atherton House for men students. This beautiful building represents an investment of something over \$100,000, given by the Atherton family as a memorial to him for whom the structure was named.

Another gift which did not enter the treasurer's accounts was the second installment of \$5,000 of a \$15,000 gift from the Carnegie Corporation for the University library. By means of this generous gift our library is able

to procure many important books that otherwise we could ill afford.

The Carnegie Corporation also contributed \$5,000 toward the expense of assembling the strong faculty of the 1933 summer School of Pacific and Oriental Affairs.

The Rockefeller Foundation continued its grant beyond the promised five year period, which expired in December, 1931, giving us \$30,000 during our last fiscal year for the racial studies, which have been under way for some years.

As a result of the campaign to raise funds for the proposed Founders' Gate at the intersection of University Avenue and Dole Street, the alumni, students, faculty, and friends gave a total of \$2,644.

Scholarship donations amounted to \$1,575, and other miscellaneous gifts to a total of \$375 were received.

A very notable gift of books was made by Mr. Gensaku Nakamura, of Honolulu. He presented his entire library of about 5,000 volumes of Japanese works and is assisting the librarian in the proper cataloging of the books in English. Other gifts to the library, including one by the Yale University Press, are noted in the report of the Librarian, which follows.

STUDENT ENROLLMENT

In spite of more rigid standards of admission, the number of students in attendance this year is about 8 per cent more than that of the preceding year. The enrollment of regular undergraduate students in 1930-1931 was 992, with 276 more in the Normal School, which was then on a separate basis. Thus the combined enrollment in the two institutions was 1,268. This year the enrollment was 1,369, not including graduate and special students.

The total enrollment for the year was 2,800, divided as follows:

Graduate Division	117
College of Arts and Sciences.....	445
College of Applied Science.....	416
Teachers College	510
Specials and Extension	718
Summer Session (1931)	594
TOTAL	2,800

A very large majority of these students, about 93 per cent, were residents of the Islands, but it is interesting to note that 32 of the mainland states, the Philippines and Samoa were represented in the other 7 per cent, and several foreign countries as well: Canada, China, England, Germany, India, Japan, South Africa, Sweden, and Switzerland.

FACULTY

Three members of the University faculty earned the Ph.D. degree last year: Marjorie Babcock at Columbia University, in psychology; A. W. Lind at the University of Chicago, in sociology; Francis Peterson at Columbia University, in education.

Two others spent a year in advanced study: Henry H. Rempel, studying art in Germany; M. K. Riley, studying entomology at the University of Iowa.

Two were invited to temporary positions in summer sessions: M. K. Cameron, by the University of California in Berkeley, and E. P. Sayers, by the University of Washington in Seattle.

Professor Porteus brought distinction to himself by publishing a book which was acclaimed the "scientific book of the month," a study of the aboriginals of Australia.

Several additions are to be noted:

Harry Kirkpatrick, Ph.D., as Assistant Professor of Physics.

Annie C. B. McPhail, Ed.B., as Assistant Professor of Art.

Marguerite Rand, M.A., as Assistant Professor of Romance Languages.

William H. Taylor, B.A., Instructor in Economics.

Portia Miner, Ed.B., Instructor in Art (for one year only).

Muriel Bergstrom, M.A., Assistant in English.

C. C. Robinson, engaged on a part-time basis to make a study of the problems of employment and vocational guidance.

As visiting Professor of Sociology, Dr. Robert E. Park, of the University of Chicago, added strength to our faculty. Separations during the year are as follows:

Professor Paul Kirkpatrick, Physics, to take a position at Stanford University.

Associate Professor E. L. Kelly, Psychology, to take a two year fellowship for research and study in Germany.

Assistant Professor Mary K. Chase, History.

Research Fellow C. E. Glick, Sociology.

Research Assistant F. S. Hulse, Anthropology.

Instructors:

James Akimo, Education.

Rebecca Banks, Education.

Abbie Behrns, Education.

Avis Kidwell, Education.

Edna B. Lawson, Education.

Beatrice MacKenzie, Education.

Portia Miner, Art.

O. W. Olsen, Entomology.

H. B. Simpson, Physical Education.

Alice Smith, Hygiene.

Lillian Smith, Home Economics.

T. T. Waterman, Anthropology.

Velma Woods, Education.

Supervisors of Practice Teaching:

Florence Avison.

Lucy Blaisdell.

Ella M. Engle.

Thurba Knight.

Ivah Wilson.

Assistant Instructors:

W. C. Davis, Botany.

Margaret Lecker, German.

SUMMER SESSION

The Summer Session of 1932 was a notable feature of the year's activities. About 1,000 students were in attendance, many of whom were teachers from the schools of the Islands. The instructional staff included a number of visiting lecturers, who contributed richly not only by their class instruction but by the public addresses they made. On the faculty were the following:

Dr. William Bennett Munro, of California Institute of Technology, nationally known authority in the field of history and government.

- Dr. Henry F. Grady, Dean of the School of Commerce of the University of California.
Wilfred J. Hinton, of the Institute of Bankers, London, England.
Dr. Arthur N. Holcombe, of Harvard University.
Dr. Charles E. Martin, of the University of Washington, Seattle.
Dr. K. Morimoto, of Hokkaido Imperial University, a leading figure in Japan in economics.
Dr. Kenneth Saunders, widely known lecturer and publicist on Oriental art and philosophy.
Dr. Lester M. Wilson, of Columbia University, New York.
Dr. Clair E. Turner, of Massachusetts Institute of Technology, specialist in public health.
Dr. E. S. C. Handy, of the Bishop Museum.
Dr. T. A. Jaggard, of the U. S. Geological Survey, in charge of volcanology at Kilauea.
Virginia Woodbridge, of the University of California at Los Angeles.

These, with a number of our able faculty members, constituted a strong staff and made a lasting impression on the intellectual life of the Islands.

ATHERTON HOUSE

The Charles H. Atherton House, noted in another paragraph as a gift to the University, was completed near the end of last year and is now ready for occupancy by our men students. This promises to be one of the most important additions to our campus, for it not only provides good living quarters for some of our students, but, what is even more significant, it will afford a wholesome Christian atmosphere in which the young men will live. It is hoped and expected that this atmosphere will typify somewhat the friendliness of "Charlie" Atherton.

With this fine example of generosity before us, perhaps we may look forward to a similar gift for our women students, for whom our housing facilities are far from adequate.

PUBLIC HEALTH NURSING

In response to an apparent need for it, the University undertook last year to conduct a special course in public

health nursing. With generous cooperation from Palama Settlement, the Territorial Board of Health, the Social Service Bureau and several interested individuals, an intensive course covering one year was arranged, with student admissions limited to those who held certificates as registered nurses and who, in addition, could meet the usual entrance requirements of the University. The course proved to be well worth while and is to be repeated in 1932-1933. Thereafter it will be offered in alternate years, for the opportunities for placing the graduates are somewhat limited. A special certificate in Public Health Nursing is given by the University to those who successfully complete the one year course.

THE AQUARIUM

In spite of the decrease in the number of travelers during the past year, the attendance at the aquarium has kept up surprisingly well. A total of 18,554 people paid admission fees to see our collection of Hawaiian fishes. In addition to this number, 148 classes from the public schools and kindergartens were admitted free, a total of 4,729 pupils and teachers. The fact that 23,283 people visited the aquarium in one year and at a time of such unsettled conditions speaks well for the continuing popularity of this branch of the University.

The high standard of the exhibits has been maintained, and, in spite of the difficulties in making collections, the tanks have been kept fairly well stocked. The buildings and equipment are in good condition, and no unusual outlays are in prospect.

The income derived from admission fees reflects the slump in tourist travel, for it was \$1,370 less than that of the year before and \$2,650 less than that of two years ago.

PUBLICATIONS

The University published during the year the following:
The Quarterly Bulletin:

Vol. X, No. 3—"Teachers College Announcement, 1931-32."

Vol. X, No. 4—"Directory of Officers and Students, 1931-1932."

Vol. XI, No. 1—"Report of the University for 1930-1931."

Vol. XI, No. 2—"Summer Session Announcement, 1932."*

Vol. XI, No. 3—"Catalogue and Announcement of Courses, 1932-33."

Other publications by the University:

Charter and By-laws of the University (Occ. Papers, No. 13).

Sun Time, Standard Time and Radio Time (Occ. Papers, No. 14), by J. W. Coulter.

Student Conference on Pacific Relations.

The Government of Hawaii, Federal, Territorial and County, by Wm. H. George and P. S. Bachman. (Third Edition).

Dividends from Your University. A review of 25 years of public service.

Miscellaneous Announcements:

The Evening Session, 1931-32.

Public Health Nursing Course.

Graduate School of Tropical Agriculture.

University Extension Division:

Extension Courses, 1931-32.

Plays for School and Community Use.

Catalogue of Visual Aids, 1931-32.

Cooperative Extension Service:

Extension Bulletin No. 15—Sept., 1931. "Commercial Potato Production in Hawaii," by F. G. Krauss.

Extension Bulletin No. 16—June, 1932. "Commercial Vegetable Production in Hawaii," by F. G. Krauss.

Several mimeographed publications listed in a later portion of this Report.

Hawaii Agricultural Experiment Station:

***Report of the Station for 1931, Bulletin No. 62*—"Physical Properties of Hawaii Soils, with special reference to the colloidal fraction," by Charles Richter.

*By an error this was numbered Vol. XI, No. 1.

**Published in Washington by the U. S. Department of Agriculture.

***Bulletin No. 63*—"Physiochemical Properties of Edible Canna and Potato Starches," by J. C. Ripperton.

***Bulletin No. 64*—"The Pigeon Pea (*Cajanus indicus*), Its Improvement, Culture and Utilization in Hawaii," by F. G. Krauss.

***Bulletin No. 65*—(In press).

Bulletin No. 66—"Survey of the Physical Features that Affect the Agriculture of the Kona District of Hawaii," by H. A. Powers, J. C. Ripperton and Y. B. Goto.

Circular No. 2—"Pineapple Bran as a Feed for Livestock," by L. A. Henke.

Circular No. 3—"Natural and Artificial Incubation of Hens' Eggs," by C. M. Bice and F. G. Botelho.

Circular No. 4—"Poultry Feed Supplements (Avocados, Bananas, Papayas as supplementary Feeds for Poultry in Hawaii)," by C. M. Bice.

Experiment Station Association of Hawaiian Pineapple Cannery:

Carter, Walter. "The Use of Insecticides on Pineapple Plants in Hawaii," *Jour. of Economic Entomology*, 24:1233-1242, December, 1931.

Dean, L. A. and Magistad, O. C. "The Determination of Replaceable Hydrogen in Manganese Dioxide-Free Hawaiian Pineapple Soils." *Jour. American Society of Agronomy*, 23:832-843, October, 1931.

Godfrey, G. H. and Oliveira, Juliette. "The Development of the Root-Knot Nematode in Relation to Root Tissues of Pineapple and Cowpea," *Phytopathology*, 22:325-348, April, 1932.

(With Johnson, M. O.). "Chloropicrin for Nematode Control," *Industrial and Engineering Chemistry*, 24:311, March, 1932.

Hagan, Harold R. "Vacuum Fumigation of Pineapple Planting Material," *Journal of Economic Entomology*, 24:1002-1012, October, 1931.

Illingworth, J. F. "Yellow Spot of Pineapples in Hawaii," *Phytopathology*, 21:865-880, Sept., 1931.

Linford, Maurice B. "Transmission of the Pineapple Yellow-Spot Virus by *Thrips tabaci*," *Phytopathology*, 22:301-324, April, 1932.

**Published in Washington by the U. S. Department of Agriculture.

- Sideris, C. P. "Container for the Study of the Behavior of Individual Roots," *Plant Physiology*, 7:173-174, January, 1932.
- "Taxonomic Studies in the Family *Pythiaceae*. I. *Nematosporangium*," *Mycologia*, 23:252-295, July-August, 1931.
- (With Beatrice H. Krauss) "Carences minerals des plantes: le rôle physiologique du fer, du titane, du manganèse, du bore et du fluor sur le développement de l' *Ananas sativus* et du *Zea mays*," *Comptes Rendus Deuxième Congrès international de Pathologie comparée*. October, 1931.
- "Taxonomic Studies in the Family *Pythiaceae*. II. *Pythium*," *Mycologia*, 24:14-61, January-February, 1932.
- Stanley, John. "A Mathematical Theory of the Growth of Populations of the Flour Beetle, *Tribolium confusum*, Duv.," *Canadian Journal of Research*, 6:632-671, June, 1932.
- "Is Evolution Only a Detail in the Dynamics of Populations?" *Science*, 75:49-50, January 8, 1932.
- "A Method of Relacquering the Stems of Livingston Atmometer Bulbs," *Science*, 75:644, June 7, 1932.

Other Faculty Publications:

- Allen, O. N. (With Allen, E. K.) "A Study of the Bacterial Fermentation of Poi," *Journal of Bacteriology*, 23:63-65. (Abstract for 33rd Annual Meeting).
- Andrews, Carl B. "Engineering Problems in the Tropics," *Civil Engineering*, Oct., 1931.
- Chase, Mary K. "Les Negociations de la Republique du Texas en Europe, 1837-1845. A new study in the diplomatic history of the Republic of Texas." *Libr. Ancienne Honoré Champion*, 226 pp., 1932.
- Coulter, J. W. "Lucia: An Isolated Mountain District in California," *Bull. Geog. Soc. Phila.*, 29:183-198, July, 1931.
- "San Luis Obispo, California," *Econ. Geog.* 7:308-318, July, 1931.

Sideris, C. P. "Container for the Study of the Behavior of Individual Roots," *Plant Physiology*, 7:173-174, January, 1932.

"Taxonomic Studies in the Family *Pythiaceae*. I. *Nematosporangium*," *Mycologia*, 23:252-295, July-August, 1931.

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"San Luis Obispo, California," *Econ. Geog.* 7:308-318, July, 1931.

- "Population and Utilization of Land and Sea in Hawaii, 1853," *Bernice P. Bishop Museum Bull.* 88, 1931.
- "The Happy Mountains." *Home Geographic Monthly*, 1:7-12, Feb., 1932.
- (With Serrao, A. G.) "Manoa Valley, Honolulu: A Study in Economic and Social Geography." *Bull. Geog. Soc. Phila.* 30:109-130, April, 1932.
- Crawford, D. L. "The Business of Teaching." *Hawaii Ed. Review*, Sept., 1931, 8, 20-22.
- "Is Art a Frill?" *Hawaii Ed. Review*, Feb., 1932, 143.
- "A Great Heritage." *The Friend*, Feb., 1932, 325-327.
- "Can They Stir the Monster? Mass Education in China." *Jour. Nat. Educ. Ass'n.*, April, 1932.
- Edmondson, Chas. H. "New Crustaceans from Kauai, Oahu, and Maui." *Bishop Museum, Occ. Papers*, 9:17, 1931.
- Kelly, E. L. "The Admissions Program at the University of Hawaii." *Hawaii Ed. Review*, April, 1932, 200.
- Kinnear, G. R. "Standardized Machine Accounting Procedure for University Expenditures." *American Accountant*, 47:167-170, June, 1932.
- Kirkpatrick, H. A. "Dependence of Compton Line Breadth on Primary Wave Length with the Multicrystal Spectrograph." *Phys. Review*, 38:1094-1108, Sept., 1931.
- (With Jesse W. M. Du Mond and Lucan Alden). "Search for Preferentially Directed Electron Velocities in Crystalline Graphite." *Phys. Review*, 40:165-177, Apr. 15, 1932.
- Kirkpatrick, Paul. "Lateral Space Distribution of X-Ray Photo-electron." *Phys. Review*, Dec., 1931.
- "Further Development of the Rotary Voltmeter." *Rev. Sci. Inst.*, N. S. 3:430-438, Aug., 1932.
- (With Iwao Miyake). "A Generating Voltmeter for the Measurement of High Potentials." *Rev. Sci. Inst.*, N. S. 3:1-8, Jan., 1932.
- Kuykendall, R. S. "Education in the Hawaiian Islands Prior to the Founding of Lahainaluna High School." *The Friend*, July, 1931.

- "Historical Notes." *Fortieth Annual Report of the Hawaiian Historical Society*, 34-42, April, 1932.
- Lawson, Edna B. "Our Little Theatre and Drama Culture." *Hawaiian Annual*, 1932, 70-74.
- Louttit, C. M. "Memory Abilities in Various Racial Groups." *Jour. Educ. Psych.*
- Miyake, Iwao. (See Kirkpatrick, Paul).
- Palmer, Harold S. "Loess at Ka Lae, Hawaii." *Volcano Letter*, Sept. 10, 1931, 1-3.
- Porteus, S. D. *The Psychology of a Primitive People*. Ed. Arnold Co., London, and Longmans, Green & Co., New York, 438 pp., Nov. 15, 1931.
- "Race Crossings in Hawaii." *Proc. Int. Congress on Race and Population*, Rome, Italy, Sept., 1931.
- Shapiro, H. L. "The Chinese in Hawaii." *Inst. Pac. Rel. Data Paper*, Aug., 1931.
- Madorah E. Smith. "The Direction of Reading and the Effect of Foreign Language School Attendance on Learning to Read." *Journal of Genetic Psychology*, 40:20, June, 1932.
- St. John, Harold. "Reduction of Olsynium." *Prov. Mus. Report for 1930*. Victoria, B. C., C11-C13, July, 1931.
- "Pilea Bisepala St. John." *Bishop Museum Bul.* 86:42-45, Sept., 1931.
- "Additions to the Flora of Niihau." *Bishop Museum Occ. Papers*, 9:14, Oct., 1931.
- "The American Species of *Lysichitum*." *Svensk Bot. Tidskr.*, Bd. 25, H. 4, 1931.
- "Notes on *Pritchardia*." *Bishop Museum Occ. Papers*, 9:19, April, 1932.
- Wadsworth, H. A. "Further Observations Upon the Nature of Capillary Rise Through Soils." *Soil Science*, Dec., 1931.
- (With Harold R. Shaw). "Developments in Irrigation Practices." *Hawaiian Sugar Planters Ass'n., Transactions of the 51st Annual Meeting*, Dec., 1931.

The reports of several officers of the University are presented herewith.

DAVID L. CRAWFORD,
President.

Report of the Registrar

During the summer of 1931, a total of 740 applications for admission to our freshman class were reviewed by the Director of Admissions, 412 of which were accepted. At the beginning of the second semester, five more first year students were admitted, making a total of 417 "new" freshmen. Eighteen "holdovers" from previous years brought the freshman total to 435. This is an increase of 20 per cent over 1930-31, as compared to an increase of 7 per cent in 1930-31 over the previous year.

Of the 417 "new" freshmen, 10.33 per cent came from schools outside the Territory, 20 states and 4 foreign countries being represented. Slightly more than 21 per cent came from high schools on the other islands. As would be expected, McKinley sent the largest group, with Punahou second, and Hilo, Kauai, and Maui in that order. Twenty-three per cent of the students admitted from the high schools of the Territory came from private schools.

The mortality in the freshmen class during the year was 24.22 per cent, 18.22 per cent being dropped for poor scholarship and 6 per cent voluntarily withdrawing. These figures show a 6 per cent increase over last year in those dropped and a 2 per cent decrease in those withdrawing. Illness or financial reasons were responsible for 50 per cent of the voluntary withdrawals.

Forty-nine students were admitted with advanced standing from colleges and universities on the Mainland.

Enrollment for the year 1931-32 shows an increase in candidates for the bachelor's degree of 38 per cent and an increase of 17 per cent in candidates for advanced degrees. This increase in candidates for the bachelor's degree is due in large measure to the amalgamation of the Normal School and the University. Following is a summary of the year's enrollment:

Graduate Division	117
Fifth Year (Teachers College)....	18
Seniors	223
Juniors	327
Sophomores	368
Freshmen	435
TOTAL	1,488
Deduct, counted twice	2
Total Degree Candidates	1,486
Part Time Students	548
Students Not Working for Credit	172
GRAND TOTAL	2,206

In addition to the above, 543 individuals were registered during the year in credit extension courses on the other Islands. The record keeping for these courses is also handled in the Registrar's office.

The 1932 Summer Session enrollment was 973. This is an increase of 63 per cent over 1931, resulting in part from the amalgamation of the Territorial Normal School and the University. Seventeen per cent of the individuals attending hold the bachelor's or the master's degrees; 16 per cent are regular undergraduates at the University of Hawaii or other collegiate institutions; 53 per cent have had normal school training or the equivalent; the remainder are unclassified students and auditors. The geographical distribution shows 72 students from outside the Territory, 21 states, Alaska, the Philippines, China, and Japan being represented.

At the June Commencement, 210 degrees were awarded:

Master of Science	2
Master of Arts	15
Bachelor of Science	46
Bachelor of Arts	130
Bachelor of Education	17

Twenty-seven candidates expect to complete the work for the bachelor's degree at the end of the 1932 Summer Session and will go on record as of the class of 1932, as will four candidates for the Master of Arts degree. These give

a total of 241 individuals receiving degrees in 1932. Certificates were also awarded to 19 students who had completed a fifth or post-graduate year in Teachers College in further preparation for teaching in secondary schools, and eight students were granted Public Health Nursing Certificates.

Forty-six per cent of the freshmen who entered the University of Hawaii in September, 1928, have remained to receive their bachelor's degrees here. Approximately 7 per cent of the group transferred to other colleges or universities and it is fair to suppose they have received degrees elsewhere. Combining the two groups, some 53 per cent of the class entering in 1928 survived to receive degrees, a mortality of 47 per cent.

H. B. MACNEIL,

Registrar.

The University Library

In September, 1931, when the University and the Normal School were consolidated, the Normal School library with its spacious and attractive reading room and its 13,000 volumes became the Teachers College Branch of the University library. Catalog and order departments were transferred to the main library. Some saving was accomplished by eliminating duplicate periodical subscriptions and expensive reference books. The strictly educational material is gradually being transferred to the Teachers College and the more general material to the main library. This is being done slowly, so that records may be kept straight, but eventually the main catalog will show all books in both buildings.

The catalog department has cataloged over 2,000 books from the Carnegie Corporation gift fund in addition to its normal work. The reserve books have practically doubled in circulation during the past year. The increase has been so great that, with fewer regular texts required next year, it will probably be necessary to remove this collection from the cramped, screened in section behind the charging desk to a separate room. The Japanese collection has also outgrown its quarters and has spread over into the general collection. The Hawaiian room is full to the last shelf and is always a busy spot.

One of the most pleasing gifts the library received this year was an oil painting by a local artist, Twigg Smith, presented by the Class of 1932. Probably the most important gift was Mr. Gensaku Nakamura's Japanese library of 5,000 volumes. Other valuable collections received were the University Club library, Yale publications for the year, a set of *Great Events of the Great War* from the American Legion, a set of Mrs. Wolcott's *North American Wild Flowers* from Mrs. Walter Frear, a beautiful set with hundreds of large plates of *Korean Antiquities* from the Government General of Chosen, and an etching from Mr. Luquiens for the Hawaiian room. Through the Carnegie Corporation fund, a complete set of the *Transactions of the Asiatic*

Society of Japan from 1872 to date was purchased. The *Wakaba Kai* society took out a 30 year membership for the University Library, so that these will be assured to us until 1961. It is interesting and rather significant to glance over the list of foreign countries from which many valuable and beautiful volumes have been received during the past few months: Finland, France, Japan, China, Scotland, Switzerland, England, Chosen, Czechoslovakia, Germany, Sweden, Norway, Canada, Hungary, and Russia.

Among the 2,665 persons who held borrower's cards of the Library last year were 886 who were not officially connected with the University. People outside the University should realize that they have a full borrowing privilege if they care to exercise it.

Additions during the year—Bound volumes		
(General)		4,469
Additions during the year—Unbound parts		
(General)		13,497
Additions during the year—Bound volumes		
(Government)		281
Additions during the year—Unbound parts		
(Government)		6,435
Bound volumes in library June, 1931		
(General)	36,853	
Additions 1931-32	4,469	
	<hr/>	41,322
Books missing two years, with- drawn	201	
Books lost, paid for, worn out, etc.....	85	286
Total bound volumes (General)		
June 30, 1932	41,036	41,036
Bound volumes in library June, 1931		
(Government)	16,344	
Additions 1931-32	281	
	<hr/>	16,625
Duplicate copies transferred	2	
Total bound volumes (Government)		
June 30, 1932	16,623	16,623
TOTAL BOUND VOLUMES (GENERAL AND GOVERNMENT) June 30, 1932		
		57,659

Total pamphlets (All sources)		
June 30, 1931	210,426	
Additions pamphlets (All sources)		
June 30, 1932	19,932	
	<hr/>	
	230,358	
Pamphlets transferred and discarded.....	3,608	
	<hr/>	
TOTAL PAMPHLETS JUNE 30, 1932	226,750	226,750
Books in circulation 1930-31	32,970	
Books in circulation 1931-32	43,275	
Increase in circulation 1931-32	10,305	
Reserve books in circulation (Not included in above)		
1930-31 Estimated	69,237	
1931-32 Estimated	123,552	
Books temporarily missing for year		
1931-32	665	
Cataloged pamphlets missing for year.....	82	
Evening Attendance (6-9 p.m.) Sept., 1931-June, 1932	6,333	
Gifts year 1931-32—Bound	2,801	
Gifts year 1931-32—Unbound	5,611	

TEACHERS COLLEGE BRANCH

Bound volumes (General)		
accessioned Sept. 1, 1931	12,279	
Bound volumes (General)		
not accessioned Sept. 1, 1931.....	486	
Waimanalo	651	
	<hr/>	
	13,416	
Additions at Waimanalo year 1931-32.....	120	
Additions by Purchase	278	
	<hr/>	
	13,814	

Lost	30	
Waimanalo	4	
Worn out	50	
	<u>84</u>	<u>84</u>
TOTAL BOUND VOLUMES		
JUNE 30, 1932	13,730	13,730
Cataloged and accessioned		
unbound	493	
Cataloged not accessioned		
unbound	170	
	<u>633</u>	
Pamphlets and unbound		
periodicals	8,397	
Pamphlets additions	1,827	
	<u>10,224</u>	
TOTAL PAMPHLETS (Periodicals		
and cataloged unbound)	10,887	10,887
Books temporarily missing year 1931-32....	241	
Cataloged pamphlets temporarily		
missing year 1931-32	7	

SUMMARY OF ENTIRE LIBRARY

Total bound volumes (General) June 30, 1932.....	54,766
Total bound volumes (Government) June 30, 1932....	16,623
	<u>71,389</u>
Total bound volumes (General and Government)	
June 30, 1932	71,389
Total pamphlets and all unbound material	
June 30, 1932	237,637

MARY P. PRINGLE,

Librarian.

University Extension Division

The work of the year has been along the following main lines of service:

1. Extension Courses
 - a. Credit courses away from the campus
 - b. Non-credit courses on the campus
2. Lecture Service
3. Film Rental (Visual Education)
4. Play Loan Service
5. Distribution of publications
6. Test Service (distribution of standardized educational tests).

This program is a combination of the activities conducted by the University of Hawaii and the Territorial Normal School prior to the merger of the two institutions.

EXTENSION COURSES

The courses arranged by the Extension Division are all offered away from the campus, with the exception of some non-credit courses of a special nature. The program of last year included the following:

Island	First Semester		Second Semester	
	No. Courses	Regis- tration	No. Courses	Regis- tration
Maui	8	154	14	270
Hawaii	6	73	12	311
Kauai	7	119	6	72
Oahu	1	13	1	14
Lanai	---	-----	1	9
TOTALS	22	359	34	676

Classified with reference to subject-matter fields, these courses were: education, 8; English, 6; art, 6; practical arts, 6; political science, 5; sociology, 4; three each in health education, music, and nature study; two each in biology, geology, and history; one each in chemistry, geography, general science, library technique, agriculture, business law, and Japanese.

All courses carried University credit, but auditors and non-credit students were permitted to register. Most of the registrants, however, were teachers definitely doing the work for credit.

Non-credit courses on the University campus were as follows: two courses in short story writing, one for beginners and one more advanced, with enrollments 19 and 7 respectively; millinery, with 10 registered and costume design, with 12. The majority of courses which heretofore have been developed on the campus by the Extension Division are now included in the Evening Session of the regular curriculum.

LECTURE SERVICE

Three prominent visiting lectures spoke to large audiences in the University Lecture Hall, under the auspices of the Extension Division. In October, Capt. Carl von Hoffman, noted African explorer, gave two illustrated lectures, "Zulu Rites," and "Jungle Gods," with an attendance of 706. In December, Prof. James Shelley of Canterbury College, Christchurch, New Zealand, delivered two lectures, "Drama and Life," with an attendance of 800. In January, Dr. Richard Woltereck of the University of Leipzig gave a free illustrated talk on "The Differentiation of Species and of Races in Islands and Lakes," under the joint auspices of the Extension Division and the Hawaiian Academy of Science.

Among lectures by several local people one is noteworthy, a lecture given by Professor Lee on "Symbolism in Oriental Art."

The lecture service was extended to the other islands, a summary for the year showing that Maui had 9 lectures, Hawaii, 8; Kauai, 7; and Molokai, 1. Rural Oahu had 9. In addition to these, the records of the division indicate that faculty members gave a total of 176 lectures and 24 radio addresses.

FILM RENTAL SERVICE

The visual education service has completed a very active and progressive year. This is not shown by a gain of receipts over disbursements nor by an increase of films distributed. In fact, there was a decided falling off in film

rentals and, in consequence, less income. This, together with the added expense of salaries, increased the disbursements still more.

The schools have been handicapped this past year by difficulty in raising funds to finance their motion picture programs. This caused them to select their films more carefully and to use them to better advantage. Many schools are equipped with only the 35mm machines and, as our supply of 35mm films was less this year, the rentals from these schools were less. With the advent of the talking pictures, it is now impossible for this department to replace its worn-out 35mm films with new ones. We are practically restricted to 16mm pictures.

This department has been responsible to a large degree for the better methods of procedure adopted by the visual education committees of the schools in Honolulu. There has been a general acceptance of suggestions given by this department, which has brought a friendly relationship and gratifying results to all concerned.

The Evening Session classes in visual aids in teaching have brought 55 teachers and 9 principals into close contact with this department. These teachers represented 19 schools in Honolulu and 5 in rural Oahu. The filmstrip library was used by 13 schools this year in contrast with two schools that used it in 1930-31.

We now have about 20 excellent industrial exhibits which are ready for general distribution in September.

The extent to which the films were used is shown in the following summary:

Honolulu (Public Schools)	1,113	reels
Honolulu (Private Schools)	239	
Rural Oahu Schools	224	
Kauai Schools	34	
Maui Schools	141	
Hawaii Schools	173	
Organizations and Individuals	72	
University of Hawaii	101	
TOTAL	2,097	reels

PLAY LOAN SERVICE

There has been a steady increase in the number of individuals and organizations that availed themselves of the Play Loan Service this year. Of the 500 plays and collections of plays listed, 185 were used a total of 327 times by 55 schools and individuals. About 100 new plays were listed in the catalog.

An examination of the material most frequently called for indicated that one act plays, plays for children and young people, Christmas plays, operettas, stunts, and novelty plays were the most popular.

DISTRIBUTION OF PUBLICATIONS

During the year, a total of 44,602 pieces of printed matter were distributed in the Territory and elsewhere. Most of this service is now being taken over by the University publications office, thus relieving this division of a task which is not strictly of an extension nature.

TEST SERVICE

The purpose is to distribute standardized educational measurements to private, public, elementary, and secondary schools. Cooperating with the Department of Public Instruction, particularly through its supervising principals, this division provides expert counsel and guidance in the planning of testing programs and in the general use of these tests.

FINANCIAL SUMMARY

The income from all sources (course fees, film rentals, and other receipts) was \$16,130.45 and the expenditures for salaries, purchases, etc., amounted to a total of \$16,932.19. The small deficit was covered by a balance carried forward from the preceding year.

FRANCIS PETERSON,

Director.

The Psychological Clinic

I submit the following report on the activities of the Psychological Clinic for the year ending June 30, 1932.

The work done during the previous 12 months has continued on the same general lines as in former years. There is the same wide demand for the services of the Clinic, a demand that is only limited, apparently, by the smallness of our staff and the facilities at our command. Since 1922, there has always been more work than we could possibly handle, notwithstanding the fact that the case load, or number of individuals in proportion to our staff, is much greater than is carried by any mainland clinic engaged in psychological work. The variety and number of institutions and agencies requiring the assistance of the Clinic seems to increase rather than to diminish. Elementary and high schools, through the vocational counselors, visiting teachers, and principals, referred the greatest number of cases, but large numbers of individuals were also examined on behalf of the Social Service Bureau, the Board of Health, Queen's Hospital Training School, the Juvenile Court, Palama Settlement, the Emergency Hospital, the Humane Society, the International Institute, Ala Moana Opportunity School, the Prison Board, etc. The total number of cases examined by the staff for the year was 912, but this figure gives but little idea of the amount of work involved. Many cases are seen at frequent intervals, and many interviews with parents, social workers, etc., are necessary in connection with each case. Some cases have required from 15 to 20 hours of work.

Among the special jobs, continuing throughout the year, were the examination of the children proposed for the tuberculosis preventorium and the examination of the applicants for the nursing school at Queen's Hospital. This latter work may be extended when the University establishes its proposed pre-nursing course.

In connection with a committee on feeble-mindedness, to which the director of the Clinic was appointed by the Gov-

ernor, I visited Dr. Healy's Clinic in Boston, the New York City clinics, the Essex County Clinic, and the Chicago Bureau of Juvenile Research, making observations of the work of each organization. In addition, much time was spent at the Vineland Training School, and Menanico Colony, N. J., St. Elizabeth's Hospital, Washington, D. C., and the Rome State School, New York. The observations made on these visits have been embodied in a report on the care and control of the feebleminded, which will form part of the general report of the committee. Lectures were also given at Smith College, Yale University, and Columbia University.

Miss Majorie E. Babcock, assistant director of the Clinic, was granted leave of absence for the purpose of graduate work in New York. She fulfilled all the requirements for the Ph.D. degree and obtained a diploma as psychological counselor. This work was completed in what was recognized at Teachers College, Columbia University, as a record time that has been rarely equalled. Her thesis constitutes an important contribution to the study of juvenile delinquency and will be of much value to us in our future work.

The year 1931 was also marked by the publication of the report of the Porteus expedition to northwest and central Australia in 1929. This expedition was undertaken under the auspices of the Australian National Research Council, with the cooperation of the University of Hawaii. The selection of the director of this Clinic to do this work may be taken as evidence of the high scientific standing of the University of Hawaii in the field of racial psychology and social anthropology.

Mr. Russell Leiter, research assistant, is continuing his work of standardizing and applying a new series of performance tests, which he has devised, and which, when completed, will be the most comprehensive and usable tests of their kind anywhere available. They will prove extremely valuable to those engaged in the problems of mental diagnosis and will constitute another contribution from the University of Hawaii to scientific methods in the study of racial differences.

S. D. PORTEUS,

Director.

Cooperative Extension Service in Agriculture and Home Economics

The Agricultural Extension Service during the past year has met with greatly enlarged opportunities and has rendered service of greater importance than in any previous year. Unfortunately, the demands have taxed our resources beyond their limit at times. Changing economic conditions have necessarily brought about a shifting of our endeavour from much small, individual first aid and routine service to the development of large and important projects which involve the urgent welfare of the whole Territory. Among these may be mentioned the Territory-wide crop and livestock surveys; the formation of plans for rehabilitating the rice industry; the development of an extensive market gardening and truck farming enterprise, including the production of early potatoes for export; a study of possibilities for the better utilization of lands being thrown out of cultivation in the major crops, one of the most important problems confronting us, and a territorial campaign to encourage rural people to produce for their home use as many foodstuffs as their circumstances will permit. Much has been done to organize the small scattered producers into cooperative marketing and buying associations. Many practical treatises have been published in our *Agricultural Notes*. Market reports have been improved and reliable forecasts are being sent out from time to time. Our specialists and county agents are often called into important industrial and governmental conferences.

However, much difficult work lies before us. The extent and complexity of our major problems are taxing our limited staff and resources to the utmost. Each of our county agricultural extension agents, of which there are five in the whole territory, should have an assistant. Such men could be engaged for \$1,800 a year, plus about \$500 for travel and incidental expenses. An agronomist or specialist in market gardening is needed. Such a person could be had for a yearly salary of \$2,400 and about \$800

for travel. Such an augmentation of our staff would greatly facilitate our work, which must be curtailed unless more help is forthcoming.

Our important Home Economics and 4-H Clubs departments are greatly in need of an assistant to help the present efficient assistant director of home economics to carry on her arduous duties with less strain and to prepare to meet the increasing demands on the department effectively and creditably. Such an assistant should receive \$2,400 salary and \$600 for travel.

Fortunately, we are receiving splendid cooperation from all departments of the University, especially from the Hawaii Agricultural Experiment Station and the departments of Geography, Botany, Entomology and Chemistry, as well as from the experiment stations of the Association of Hawaiian Pineapple Canners and the Hawaiian Sugar Planters Association; The Territorial Board of Agriculture and Forestry, the Territorial Survey Offices, the U. S. Customs House, and the U. S. Army and Geological Survey. The U. S. Customs have been extremely helpful in making available statistical data for our agricultural surveys. Never before have the commission merchants cooperated so well in our marketing projects. The U. S. Department of Agriculture, which is officially cooperating, has aided us to secure new and valuable seed stocks and has supplied technical information not obtainable elsewhere.

AGRICULTURAL ECONOMICS, FARM MANAGEMENT, AND MARKETING DIVISION

During the past year this division has completed the extensive compilation of available data on the classification and utilization of all lands of the Territory. This mass of information has been embodied in a series of maps which hang on the walls of our main office. Much of the work and data were contributed by the Army and the Territorial Survey Office and Tax Commission.

By resorting to a systematic weekly collection of all the import and export data at the Customs House and compiling the data promptly at the end of each month, this division is enabled to determine quickly and reliably the status of any and all agricultural commodities which have relationship to Hawaii. A like service is being developed for

Hawaiian grown produce consumed within the Territory. The U. S. Army is especially interested in this phase of our statistical work and has assigned the services of two men to gather the detailed data formerly collected by this division.

The new *Weekly Market Review*, now in the 31st issue of Vol. II, besides publishing current wholesale prices of the principal Island grown agricultural commodities, also publishes special cabled prices of coast produce and the average monthly retail prices and index numbers of 40 articles of food sold in Honolulu. This weekly publication now goes regularly to 482 interested concerns. It would be impossible to gather all this detailed data without the cooperation of many collaborators. These include the Federal Market News Service in San Francisco and the U. S. Bureau of Labor Statistics, from whose monthly reports we are given the special privilege to make abstracts before they are published officially in Washington. Many of the leading merchants and commission houses have contributed liberally of their knowledge on current prices.

The Economics Division has been making careful studies and analyses of crop and price outlooks and some thoroughly reliable forecasts have been broadcast by means of weekly radio talks and extension publications.

Now for the first time, outside of the major industries, systematic crop and livestock production cost studies are being made. These basic studies were begun a year ago, with poultry and eggs, a project which now enlists the aid of 23 collaborators.

The other cost of production projects include coffee, with 48 collaborators; rice, involving 31 collaborators, and potatoes, with 15 collaborators. Producers will eventually be able to compare their own costs with those of dozens of other farmers.

During the past year, four crop associations, with a membership of 252 members, were organized with the cooperation of the Economics Division, which also assisted in the organization of several farmers' buying associations. Studies for better methods of farm management are now being made. A recent treatise on this subject appears in the *Agricultural Notes*, entitled, "Determining the Costs of Production and Selling of Eggs." Mr. Lund's bulletin, "A Guide to Cooperative Organization for Hawaii" has met with a large demand both locally and abroad. One of Ha-

waii's large sugar factors has made several requests for copies for use in determining the ways and means for co-operative organization.

The Economics Division has given many educational lectures before large audiences of rice, coffee, and potato growers, truck farmers, and poultry raisers. Because 4-H club boys, especially the senior group, are carrying on several projects involving economics and farm management, every effort is being made to educate these youths as well as their elders, in the fundamentals of economics.

The marketing end of this division has been active in giving demonstrations in grading and packing such products as tomatoes and potatoes and in assisting in selling, by bringing producers, markets, and consumers together. The following publications are accredited to the Economics Division in addition to numerous radio talks and lectures:

- Agric. Notes No. 14*, "How Much Does It Cost to Produce a Dozen Eggs?"
- Agric. Notes No. 15*, "Determining the Economic Costs of Producing and Selling a Dozen Eggs."
- Agric. Notes No. 19*, "Condition of Growing Crops on April 1, 1932, with Comparisons."
- Agric. Notes No. 21*, "Peaches—Crop Report as of May 1, 1932."
- Agric. Notes No. 23*, "Hatchery Report, 1932."
- Agric. Notes No. 26*, "Midsummer Poultry and Egg Outlook, 1932."
- Weekly Market Review*, Vol. II, No. 1-26.

AGRONOMY DIVISION

This division necessarily works in close association and cooperation with the Agricultural Economics, Farm Management, and Marketing Division. During the past year a major territorial potato production project was inaugurated, with 15 collaborators cooperating. Twenty-five acres were involved the first year. Yields ranging from 21 to 117 sacks an acre were produced in the initial trials. Large plantation interests are becoming interested in the possible utilization of some of their surplus land for this crop. Further crop diversification, including the growing

of Maui Red beans, Lima beans, soy beans, and peanuts, seems likely on some of the old established plantations. On Kauai, Messrs. Gay and Robinson are experimenting with cotton. Choice seed stocks of Acala, Sea Island, and Egyptian cotton have been obtained from the Bureau of Plant Industry, U. S. Department of Agriculture, for this project.

The Agronomy Division is making every effort to rehabilitate the rapidly declining rice industry through better cultural methods and better marketing. In cooperation with the experiment station of the Hawaiian Sugar Planters Association, this division is making an effort to secure better seed stocks.

Special emphasis is being given to the development of better market gardening and truck farming methods, and to extending their operation over a wider area. Some of the abundant rice lands of the Bishop Estate are now being utilized for demonstrating the feasibility of this enterprise. The writer has now in press a 120 page treatise on commercial vegetable growing for Hawaiian conditions, which should greatly stimulate the local production of some varieties of vegetables now being imported from the mainland.

The pasture improvement work being carried on in cooperation with the Division of Animal Husbandry is making progress. The following Agricultural Notes have been prepared by this division during the past year and many copies distributed:

- Agric. Notes No. 13*, "Johnson Grass as a Weed and Its Control in Hawaii."
Agric. Notes No. 13-a, "Supplement to Agricultural Notes No. 13."
Agric. Notes No. 16, "The Production of Wet Land Taro."
Agric. Notes No. 17, "Instructions for Growing Papaya Trees."
Agric. Notes No. 18, "The Compost Heap—A Food Factory for the Home Garden and Farm."
Agric. Notes No. 24, "Soy Beans, Their Culture and Uses in Hawaii."
Agric. Notes No. 25, "Acid Mercury Dip for Seed Potatoes."
Extension Bulletin No. 15, "Commercial Potato Production in Hawaii."

Hawaii Agricultural Experiment Station Bulletin No. 64, "The Pigeon Pea, Its Improvement, Culture and Utilization."

Perhaps the most important work of the agronomist, who is also the Director of the Extension Service, is that of consultant to the members of his staff, whose fields of work all touch on agronomy.

ANIMAL HUSBANDRY DIVISION

This division, under the direction of Mr. H. L. Chung, has worked in close cooperation with the Agricultural Economics and Agronomy divisions. Much of the egg and poultry cost of production accounting and statistical work pertaining to livestock was done in conjunction with this division. The rapid and substantial growth of the poultry industry in Hawaii is largely the outgrowth of the work of this department. Mr. Chung has devoted much time to the development of the turkey industry. This division is advocating the use of purebred sires and better management in the swine industry and has encouraged the growing of better feeds for pasturage and for green manure. During the past year a preliminary survey was made of the liver fluke situation and an educational campaign inaugurated for the pest's control.

This division is accredited with the following publications during the year:

- Agric. Notes No. 33, "Frogs."*
- Agric. Notes No. 34, "Whitewashing Barns."*
- Agric. Notes No. 35, "Pheasant Raising."*
- Agric. Notes No. 36, "Value of Pedigreed Livestock."*
- Agric. Notes No. 37, "Effective Fly Repellents."*

FORESTRY DIVISION

This division has stressed the possibilities of establishing large tracts of forests over many of the marginal lands of the Territory. Mr. Theodore C. Zschokke, the director of this division, points out that such forests, in addition to conserving the soil and water resources of lands involved, may in years to come prove sources of cash revenue as well. In the Extension Service's campaign for market gardening and truck farming, this division has given valuable aid in

planning tree shelter belts. Ornamental tree planting for schools, churches, and homes, and along the rural roadways has been advocated. In a number of cases, the trees were furnished and extensive plantings were supervised by this division. The army posts and naval barracks about Honolulu, as well as a number of Territorial institutions, have availed themselves of Mr. Zschokke's services. During the past year this service has rendered much help to the 4-H club work.

4-H CLUB AND HOME ECONOMICS DIVISIONS

Miss J. Hazel Zimmerman, assistant director, summarizes the work of this division in the following report:

4-H Club Work. Better 4-H Club work is being accomplished this year than ever before. This is shown by the comparison of these figures:

	1931	1932
Leaders	126	150
No. Clubs	98	115
No. Members	525	1,742
Sr. 4-H ext. members	129	221

More communities are asking for club work. Leaders are attending training conferences and schools and evincing greater interest. Club work is being presented in such a way that the boys and girls can use the instruction in solving some of the home and farm problems.

More home practices are being adopted in clothing, foods, home improvement, gardens, poultry, bees, coffee, swine, forestry, orchards, and pigeons. Each club member is required to adopt at least four practices in agriculture and home economics. There should be 7,852 practices adopted in agriculture and home making.

Club members are keeping better records of work. There are better judging and demonstration teams. More influential people are becoming interested in club work. The older club boys and girls are working on projects which will show dollar and cent value in the near future. The educational and recreational club programs given in the different communities are helping to solve some of the community problems, to save money, and to make better citizens.

Senior 4-H Club Work. Perhaps one of the most outstanding achievements in the organization of the 4-H Club

work is the establishment of the present series of thoroughly organized Senior 4-H Clubs in Kona, under the leadership of County Agent Y. Baron Goto. At present there are six senior 4-H Clubs in Kona, with a total membership of 53 young men, ranging in age from 18 years up, carrying on coffee farming project work. This work is so popular with the young men, when they are acquainted with the nature of it, and has been so successfully carried out during the past year by those who are already taking part in it that the Extension Service has planned a greater development of it under the supervision of Mr. Goto.

Home Demonstration. The most outstanding phases of the home demonstration program are:

1. "Live at Home Programs" are being carried out in many communities. There are more gardens grown, more fruit trees planted, and more home flocks being raised.

2. Leadership is being developed among older women.

3. The women are happier with more knowledge of home making and more recreational programs.

4. More women are being helped through cooperation of the home agents and the Board of Health.

5. More than 1,000 women have adopted improved practices in food, health, child care, and home improvement during the past year.

6. The men are interested in the work being given for women.

COUNTY AGENTS' WORK

The five men county agricultural agents and five women home demonstration agents and a county agent at large are the resident field agents at the call of Hawaii's agriculture in the furthest part of the Territory. These members of our staff are in close touch with our farmers and their families and share with them intimately their problems, their successes, and their failures. These men and women work out many of their projects with the minimum assistance from the central staff. Mr. Y. Baron Goto has done notable work in the improvement of the coffee industry of Kona. His rat campaigns are an outstanding achievement, saving thousands of dollars to the coffee growers. His "live at home" campaign has borne fruit. His agricultural community fairs and farmers' excursions are all ori-

ginal ideas and have won much praise throughout the Territory. Mr. Goto is a valued collaborator of the Hawaii Agricultural Experiment Station in carrying on extensive fertilizer, cover crop, and pruning experiments with coffee. Mr. Goto may be said to be the father of the Senior 4-H Club work in Hawaii.

Mr. R. A. Goff's pasture improvement work is an important undertaking for the benefit of the whole Territory. The Hawaii Experiment Station, which shares in this work, credits Mr. Goff with being one of its most valued collaborators. Much credit for the efficient weed control work being carried on by the county government of Hawaii should be given to Mr. Goff. Swine cholera has been fought by Mr. Goff, as by few government officials anywhere. His knowledge of poultry and dairying has made him a valuable consultant in these subjects to the whole island of Hawaii. Commercial vegetable growing in the volcano and Hilo districts of Hawaii is receiving much of Mr. Goff's attention.

The Maui County highly diversified agriculture has imposed upon Mr. N. F. Ambrose, county agent, a great variety of duties during the past year. The most outstanding achievements were doubtless the potato production and orcharding projects. The potato work at Ulupalakua, Makawao, and Kapaa has been as successful as could be expected in its first year. At Ulupalakua, yields up to 117 sacks an acre were obtained through the use of suitable varieties and rational fertilization prescribed by the Extension Service. Reports on a six acre comparative test of seven standard varieties carried on by Ulupalakua Ranch have not yet been received, but this indicates the extent to which the potato work has progressed on Maui. In cooperation with this service, the Hawaii Experiment Station, at its branch stations on Maui, has also conducted a series of 10 variety comparison experiments. This illustrates the cooperation of the research divisions of the University with the Extension Service.

The orchard work of Mr. Ambrose has been one of the important achievements of the Maui County Extension Service during the past year. In the Kula region, on the slopes of Haleakala, there is rapidly being developed an orcharding district of deciduous fruits, although some citrus fruits are being planted. Several thousand well developed trees of apples, pears, cherries, peaches, prunes, walnuts, and

pomegranates are now established in this region, where many fruits were once grown. Mr. Ambrose, an experienced pomologist, has assisted a score of farmers in locating their orchards, selecting varieties, planting, pruning, spraying, and fertilizing. Maui County's thriving poultry industry also receives much aid from the county agent. General market gardening and home gardening in the "live at home" project is given active assistance. Mr. Ambrose has emphasized bee keeping in the Boys and Girls 4-H Clubs. Another achievement of the Maui County Extension Service during the past year was the completion of the county highway Johnson grass control project, for which the county made apparatus and cooperated with labor and in other ways. The Maui County Extension agents always take an active part in the Maui County Fair, as well as in all other community enterprises of an agricultural nature.

Honolulu County's diversified agriculture has benefited greatly from this service. The present activity in market gardening by numerous small, independent growers and their organization into mutually beneficial associations is largely the result of the work of the late county agricultural agent, Mr. H. C. Wong. Mr. Wong, who died in May, is to be accredited with having done some of the most outstanding and constructive work among the small farmers of the Territory. His work was largely responsible for the fine development of the poultry industry on Oahu. Rural community agricultural welfare, especially with the youth of plantation camps and in individual rural homes, was a hobby with this agent.

Mr. Wong's work with the poultry associations and shows will always be to his credit. This important work is now being administered by his successor, Mr. Harvey Vollrath, a well trained agriculturist who has taken a strong hold on a difficult job since July 1, 1932.

Kauai County's greatest agricultural problem, outside of the two main industries, is the rehabilitation of her once prosperous rice industry. Once the main rice growing district of Hawaii, the area now planted has been reduced to about one-fifth of the former maximum. While the high cost of labor and land rentals has always been a detrimental factor in meeting the competition from Japan and the mainland of the United States, in recent years the rice stem borer and a blast disease have been contributing factors to

the decline of this industry. These handicaps have been counteracted to a certain extent through the aid of the Extension Service, which has advocated more efficient methods. Now, however, the growers have been all but crushed by the indiscriminate dumping of low priced California rice in the local markets. This produce, though of excellent quality, sells for about 50 cents below the cost of producing Hawaiian rice. For perhaps the first time in history, all agencies, including the growers, merchants, and bankers, headed by the local Chamber of Commerce, have come together to discuss ways and means for resurrecting this valuable industry, which affects 5,000 acres and 1,000 small farmers and their families.

Kauai County, under the leadership of County Agent John Thompson, has led in the number of individual farm potato projects undertaken during the past year, and some of the finest tubers that have been shipped into Honolulu have come from that island. Although these crops have not proved profitable, on account of the low prevailing prices and the low yields due to excessive rains, the growers are gaining the experience necessary to make any new agricultural enterprise successful. As a result of the potato demonstration conducted on Kauai during the past year, Mr. Albert Horner of the Hawaiian Canneries Company at Kapaa proposes planting 10 acres with the Garnet and Triumph varieties for the early export market which the Podmore brothers are developing. The Kauai Pineapple Company is contemplating similar plantings. As in all other counties in the Territory, the county agents on Kauai are actively encouraging the "live at home" campaign. Pasture improvement work has progressed favorably in Kauai County during the past year. Extensive diversification and rotation of crops is gaining favor with the Kapaa homesteaders. Mr. Albert Horner has grown two successive crops of peanuts on an acreage basis successfully. The poultry industry is growing.

This report would be incomplete were we to omit appreciative reference to the generous cooperation and help of many private and industrial as well as governmental agencies, who have given freely of their resources, not the least of which is their constructive criticism.

F. G. KRAUSS,
Director.

Hawaii Agricultural Experiment Station*

The low prices of both sugar and pineapples, the leading agricultural industries of the Islands, resulted in a greater interest in the possibilities of developing to a greater extent minor agricultural crops. Under the present prices of sugar and pineapples, rather extensive areas of marginal and sub-marginal lands on the plantations present serious problems as to their profitable utilization. The station has been glad to make available to the agricultural interests all its data, accumulated since 1901, when the station was first established.

The funds of the station were increased by \$2,000 during the year just closed, this being the authorized increment of the Adams fund, bringing the total of the Adams fund allotment to \$7,000 for the year. These particular funds are available only for fundamental scientific research. Progress was made in developing the various outlying tracts obtained the previous year for experimental purposes at the higher elevations on Hawaii, Maui, and Oahu. The station, continuing its cooperative work with the Territorial Department of Forestry, extended its planting operations to certain higher elevations on the island of Hawaii, where there are extensive areas of land that would be benefited by the development of improved crops or agricultural practices adapted to these particular areas.

Work in agronomy was carried out on three of the larger islands and included pigeon peas, green manuring crops, forage crops, range grasses, and vegetable crops. The pigeon pea selections were reduced to 400 in number by eliminating the less promising lots. Progress was made toward the development of a strain suitably flavored for use as human food. This is an especially promising line of work in view of the great numbers of people who are becoming interested in growing a greater proportion of their own food supplies. The fact that the pigeon pea appears to be subject to a greater percentage of natural crossing, at least with certain strains, has necessitated precautions

*Conducted jointly by the University and the United States Department of Agriculture.

not hitherto considered necessary in the pigeon pea breeding work of the station. During the year *Bulletin No. 64*, "The Pigeon Pea (*Cajanus indicus*): Its Improvement, Culture, and Utilization in Hawaii" was published, covering the work with the pigeon pea at the station and the University of Hawaii for the past 25 years. Work with the green manure crops was continued, some 64 different lots being grown in the spacing tests and 10 varieties being included in the green top growth test. A new grass and legume nursery, containing 145 different species and varieties, was established during the year. Comparative yield tests with four of the most popular large forage grasses for dairy cows were under way during the year. The investigations with vegetables included lettuce, Irish potatoes, sweet potatoes, garden beans, taro, peanuts, ginger, and red peppers.

The animal husbandry work was largely confined to feeding experiments in the dairy and swine sections. The eighth year of a feeding test to determine the effect of a ration of sugar cane molasses on milk production and breeding records in dairy cows was completed. The tests of feeding sprouted oats to dairy cows and brood sows as yet fail to show any very conclusive results, but they will be continued for at least another year. Work was continued with the feeding of raw sugar as a supplement to fattening rations for swine.

Studies of macadamia nut grading and processing, range grasses, Hawaiian soils, physical and chemical properties of starches, fertilizer and pruning experiments with coffee, nicotine content of various tobaccos, and sterol content of avocado oil have constituted the more important lines of chemical investigations of the station. The manuscript for a bulletin on the range grasses of Hawaii was submitted for publication. In the soil work, a bulletin entitled, "Survey of the Physical Features that Affect the Agriculture of the Kona District of Hawaii" was published as *Bulletin No. 66* of the station. An important development in the coffee fertilizer work was the establishment of a series of Mitscherlich pot tests as a probable means of a rapid and economical determination of the fertilizer requirements of the coffee tree on any particular soil. A series of chemical and physical studies of different island grown starches concluded the starch project of the station,

which has been under way for a number of years, but which has now been brought to a close for the time being. The special chemical investigations of avocado oil were continued. New phases of work along this line of a more intensive and fundamental character were inaugurated as an Adams fund project. Attempts are being made to obtain certain nicotine derivatives which will be effective as stomach poisons for certain classes of insects. It has been shown that some strains of tobacco contain much higher percentages of nicotine than certain others when grown locally. This has an important bearing on the development of locally produced insecticides for use on the pineapple fields of the Hawaiian Islands.

The horticultural work of the year was primarily concerned with the establishment of new varieties of coffee, macadamia nuts, avocados, citrus, litchi, and such miscellaneous fruits as the akala berry and passion fruit. Substantial progress was made in the development of the Economic Tropical Arboretum, the plantings in which now total about 200 species occupying 14 acres of ground. Budding, grafting, and other methods of vegetative propagation have continued to receive experimental attention, as each species seems to require the development of a special technique in order to be successfully propagated. The work of the divisions is being carried on at the central station in Honolulu, at the Tantalus substation, 1,000 feet above Honolulu, at the Kona substation, at an elevation of approximately 1,500 feet, as well as at several other places which present desired variations in elevation, rainfall, or soil conditions.

The nutrition laboratory of the home economics division continued its studies on the vitamin content of Chinese cabbage, inaugurated similar work on the local mountain apple, and made further studies on the biological value of the pigeon pea. Intensive studies of the nutritional value of the Hawaiian shellfish, locally known as the "opihī," were continued. A total of 550 white rats was raised during the year for use in the nutritional experiments. The manuscript for a bulletin on the nutritional value of some 26 Japanese foods in common local use was prepared and submitted for publication.

The poultry division has demonstrated that sorehead or "fowl pox" is transmitted by the mosquito. Vaccination with "live virus" was shown to be effective as low as the

fifth week with chicks, the fourth week with turkey poults, and the first week with squabs. Cane molasses was shown to be an economical constituent of both chick and growing rations. Studies were continued to discover some sex linked character, readily observed, to make practicable the sex determination of pure bred day old chicks. It was demonstrated that Hawaiian grown culls and surplus papayas, avocados, bananas, and sweet potatoes can often be used to advantage as poultry feed supplements, both in laying and fattening rations. Successful results were obtained in the raising of turkeys in confinement when the young poults were vaccinated against sorehead.

The work in the soil physics division centered around a fundamental study of the physical significance of the silica-sesquioxide ratios resulting from chemical analyses of soil colloids. Further studies indicate that the moisture equivalent of a soil depends upon the amount and nature of the colloidal material involved. There appears to be a definite direct correlation between the silica-sesquioxide ratio and the moisture equivalent of any particular soil.

The 600 or more lots of pigeon peas heretofore under test at the Haleakala substation were reduced by rigorous selection and elimination to 100 selections for further comparative testing. Plantings of numerous grasses, green-manuring field and root crops, as well as berries, fruits, nuts, and vegetables were continued. The acclimatization and selective breeding work was carried on at each of the higher elevation branch substations. The 6,400 feet elevation at Puu Nianiau proved too high and exposed for the successful growth of the great majority of plantings that succeeded at the lower elevations.

The Kona substation, just closing the second year of its operation, has shown substantial progress. The work has been centered largely on coffee, macadamia nuts, and the akala or Hawaiian raspberry, although plantings of about 25 different species of fruit and nut trees and plants have been made. A small start has also been made with swine, poultry, and dairy stock. The substation employs a full time superintendent, who also looks after the outlying experiments under the supervision of the experiment station specialist in general charge of these particular lines of work.

J. M. WESTGATE,
Director.

Experiment Station of the Association of Hawaiian Pineapple Cannery*

The year 1931-32 has seen a number of changes in the program of the Experiment Station. These have been determined largely by the results of previous research. Pineapple wilt, a prevalent disease reducing pineapple yields, has been definitely proved to be transmitted by mealy bugs. This baffling difficulty, which has been so disastrous to pineapple fields, has many misleading symptoms which led the Experiment Station to assume that it was due to some sort of root complex and the previous program of the Experiment Station was set up on this basis. Now that it has been demonstrated that wilt is a disease transmitted by the mealy bug, the attitude toward problems concerning the roots of pineapples has changed from one of emergency activity to systematic research.

The attitude toward fundamental research has, however, not been affected by this shift of interest. It is felt more strongly than ever that the most economical solution of the problems of agriculture are to be brought about by an understanding of the fundamental nature of the phenomena concerned.

The interest of the industry has been shifted from the production of the greatest quantity of pineapples to the production of pineapples of the highest quality. The result is that, whereas all experiments previously measured the effect of various factors only in terms of tons of pineapples to the acre, they must now be measured in terms of quality of pineapples as well. The Chemistry, Physiology, and Pathology departments have been involved in this study. The Pathology Department became interested because it was found that certain so-called diseases of the fruit were expressions of malnutrition or environmental effects. The Chemistry and Soils Department has been involved in the measurement

*This Experiment Station is affiliated with the University, but supported and managed by the Association of Hawaiian Pineapple Cannery.

46 EXPERIMENT STATION OF HAWAIIAN PINEAPPLE CANNERS

of the effect of various fertilizer practices upon pineapple quality. The Physiology Department has been involved in determining the effect of various factors upon enzymes, diastases, and other physiological phenomena.

There is at the present time evidence to show that fruit quality is in part a hereditary character. Certain selected lines have consistently higher quality than the fruit produced by field run planting material grown under the same conditions. There is also certain evidence to indicate that fertilizer and other environmental factors contribute to the quality of fruit. A number of series of experiments have shown that fruit quality may be increased by increasing fertilizer up to a certain point, and that beyond this point, at least under certain conditions, the quality of fruit is deteriorated by the further use of fertilizer.

Another striking demonstration of the effect of environment upon the quality of fruit arose from an experimental field at the Wahiawa Substation. Here were planted side by side planting materials each of which had had one generation of experience in a good field on the one hand, and in a poor field on the other. Two generations back, all of this planting material was equally good. After the one generation of growth, in the one case in a bad field and in the other case in a good field, planting material was placed side by side, and that from the good field produced a high percentage of good quality fruit, while that from the bad field produced a low percentage of good quality fruit. This seems to indicate very clearly that any agricultural practice which is detrimental to the pineapple plant may pass on to the next generation some of the deleterious environmental effects, and thus the effects of bad agricultural practice may be accumulated with the resulting degradation of the fruit.

Since the inauguration of the spraying experiments to control the mealy bug, and, thereby, the wilt of the pineapple, three parasite hunting expeditions have been sent into the field: one in cooperation with the Territorial Board of Agriculture and Forestry, and the other two conducted by members of the Entomology Department of the Experiment Station. Thus far, a number of interesting parasites and predators have been located, but only one has been successfully established. A predator from Mexico is now established and gives some promise of being helpful in con-

trolling the mealy bugs. Parasites have been shipped from Japan in the hope that they may control the thrips which transmit the yellow-spot disease.

The Genetics Department has this year canned the fruits of 187 hybrid pineapples produced at the Wahiawa Station. These have been scored at various points on the mainland by fruit breeders, specialists in home economics, and members of the pineapple sales organizations. On the basis of the scoring, 17 fruits have been ranked by these people as of better quality than the present *Smooth Cayenne*. In addition to this, the Genetics Department, working in conjunction with the Pathology and the Nematology departments, has demonstrated that measurable differences exist in the resistance of various seedlings to parasites and diseases. Thus the hope of producing a pineapple which will be more resistant to pests and diseases than the present *Smooth Cayenne* seems justified. In fact, the present *Smooth Cayenne* ranks among the most susceptible of all the varieties thus far tested.

The Chemistry Department has continued its program of work upon the fertilizer requirements of the pineapple. Lysimeters have been installed in various types of environment, and the balance sheet is being kept of the amounts of available nitrogen, potash, and phosphorus in the soils throughout the various seasons of the year. It seems very evident at the present time that soils which contain more than 700 pounds of available potash per acre foot are releasing potash in an available form faster than plants can use it. Acting upon this principle, many of the companies have made substantial savings in their fertilizer costs.

The revised program of the Nematology Department calls for a rather intensive study of the effect of various numbers of nematodes upon gall formations and the rate of growth of pineapple plants. It seems to be rather definitely indicated that a certain threshold value in the number of nematodes present is required to interfere materially with the growth of the pineapple plant. It is also indicated that this number may vary under different conditions.

ROYAL N. CHAPMAN,

Director.

Report of the Treasurer

I have the honor to present herewith the report of the Treasurer for the fiscal year ended June 30, 1932, in which is set forth the financial history of the University for the year and its financial condition as of June 30, 1932.

The forms suggested for financial reports of colleges and universities by the National Committee on Standard Reports for Institutions of Higher Education have been followed, and this report will form the basis for subsequent yearly reports.

G. R. KINNEAR,

Treasurer.

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FINANCIAL REPORT
BALANCE SHEET

EXHIBIT A

JUNE 30, 1932

ASSETS

I. Current Fund Assets			
A. General Funds			
Cash	\$	7,014.47	
Treasury Deposits		94,021.29	
Auditor's Office: Current			
Account		371,094.89	
Inventories: Supplies		22,948.47	
Accounts Receivable		1,853.19	
Total General Funds	\$		496,932.31
B. Restricted Funds			
Cash		381.68	
Treasury Deposits		12,331.81	
Total Restricted Funds			12,713.49
Total Current Fund Assets	\$		509,645.8
II. Loan Fund Assets			
Cash		2,620.49	
Notes Receivable		10,844.52	
Total Loan Funds Assets			13,465.0
III. Endowment and Other Non-Expendable Funds Assets			
Cash		106.82	
Investments			
Securities			
Bonds		5,500.00	
Real Estate Mortgages		700.00	
Total Endowment and Other Non-Expendable Funds Assets			6,306.8
IV. Plant Funds Assets			
A. Unexpended			
Cash		888.11	
Treasury Deposits		2,517.65	
Total Unexpended ..			3,405.76
B. Invested in Plant			
Educational Plant (Total)	2,807,543.00		
Work-in-Progress	388.73		
Total Invested in Plant		2,807,931.73	
Total Plant Funds Assets			2,811,337.4
V. Agency Funds Assets			
Cash		2,487.56	
Investments		6,408.66	
Total Agency Funds Assets			8,896.2
Total Assets			3,349,651.3

BALANCE SHEET

EXHIBIT A

JUNE 30, 1932

LIABILITIES

I.	Current Liabilities and Funds		
	A. General		
	Current Surplus		
	Reserves	\$ 383.96	
	Working Capital	15,006.48	
	Deferred Credits	9,411.22	
	Unallotted Appropria-		
	tions	371,094.89	
	Unappropriated Surplus	101,035.76	
	Total General Funds	\$ 496,932.31	
	B. Restricted Funds, per Schedule B-3	12,713.49	
	Total Current Liabilities and Funds		\$ 509,645.80
II.	Loan Funds		
	Loanable Principal (Per Exhibit C)	13,465.01	
	Total Loan Funds....		13,465.01
III.	Endowment and Other Non-Expendable Funds		
	Endowment Funds, per Exhibit D		
	Income designated for Student Aid	5,547.82	
	Income designated for prizes	759.00	
	Total Endowment and Other Non-Expendable Funds		6,306.82
IV.	Plant Liabilities and Funds		
	A. Unexpended		
	Unexpended Plant Funds,		
	Per Exhibit E-1	3,405.76	
	Total Unexpended ..	3,405.76	
	B. Invested in Plant		
	Net Investment in Plant, Per Exhibit E-2		
	Total Investment in Plant	2,807,931.73	
	Total Plant Liabilities and Funds		2,811,337.49
V.	Agency Funds		
	Agency Funds per Exhibit F	8,896.22	
	Total Agency Funds		8,896.22
	Total Liabilities and Funds		<u>\$ 3,349,651.34</u>

STATEMENT OF CURRENT FUNDS

EXHIBIT B

Balance at Beginning of Year, July 1, 1931		\$ 81,765.09
Add:		
Current Educational and General Income, per Schedule B-1, Section (1) ..	\$ 1,123,160.27	
Income of Auxiliary Enterprises, per Schedule B-1, Section (2)	71,219.62	
Income for Other Non-educational purposes, per Schedule B-1, Section (3)	3,697.11	
Other receipts increasing current funds	48.40	1,198,125.40
		<u>\$ 1,279,890.49</u>
Deduct:		
Current Educational and General Expenditures, per Schedule B-2, Section (1)	706,436.12	
Expenditures of auxiliary enterprises, per Schedule B-2, Section (2)	67,540.49	
Other Non-educational expense, per Schedule B-2, Section (3)	2,055.00	
General funds transferred to Plant Funds, Exhibit E-1	4,046.30	
Auxiliary enterprises funds transferred to Plant Fund, Exhibit E-1....	13,487.21	
Other items decreasing current funds....	1,481.23	795,046.35
Balance at end of Year, to Exhibit A, Section (1)	*\$	<u>484,844.14</u>

*Distributed as follows:

Unallotted Appropriations	\$371,094.89
Unappropriated Surplus	101,035.76
Restricted Funds	12,713.49

STATEMENT OF CURRENT INCOME
SCHEDULE B-1

Educational and General		
Student Fees (net)		\$126,769.54
Public Appropriations		
Federal	\$126,116.02	
Territorial ..\$ 1,018,392.50		
Less		
Legis-		
lative		
with-		
drawals		
and		
lapses ..	213,766.22	
	<u> </u>	
Net Territorial	804,626.28	930,742.30
Gifts and Grants from Private Sources		
Grants from Foundations	30,350.00	
Other Gifts	25.00	30,375.00
	<u> </u>	
Sales and Services of Educational		
Departments		
Extension	6,503.43	
Hawaii Experiment		
Station	16,282.68	
Visual Education	1,691.80	24,477.91
	<u> </u>	
Other Sources		
Tenant Properties and		
Rentals	3,463.00	
Military Commutation	1,222.83	
Interest on Current		
Funds	1,583.34	
Sundry Receipts	4,526.35	10,795.52
	<u> </u>	
Total Effective Income to Exhibit B..		\$ 1,123,160.27
Auxiliary Enterprises and Activities		
Aquarium	4,142.75	
Book Store	25,376.92	
Cafeteria	22,578.39	
Dormitories	13,043.81	
Dispensary	6,077.75	
	<u> </u>	
Total to Exhibit B.....		71,219.62
Other Non-educational Income		
Scholarships		
Endowment Income	374.06	
Gifts and Interest	1,592.54	1,966.60
	<u> </u>	
Kona Rat-eradication Campaign.....		1,730.51
	<u> </u>	
Total to Exhibit B		\$ 3,697.11

STATEMENT OF CURRENT EXPENDITURES
SCHEDULE B-2

I. Educational and General		
General Administration and Expense		
General Administrative Offices.....	\$ 45,294.80	
General Expense	12,480.55	57,775.35
<hr/>		
Resident Instruction and Departmental Research		
Teachers College		
Resident Instruction..	\$ 50,440.77	
Training Schools	34,566.24	85,007.01
<hr/>		
Colleges of Arts and Sciences and		
Applied Science	256,285.28	
Department of Physical Welfare.....	15,406.49	
Summer Session	12,871.57	369,570.35
<hr/>		
Organized Research		
Psychological Clinic	10,314.05	
Hawaii Experiment Station	51,312.03	
Rockefeller Research	34,807.25	96,433.33
<hr/>		
Extension		
Agricultural Extension	72,550.16	
Other Extension	24,309.15	
Visual Education	2,583.58	99,442.89
<hr/>		
Libraries		34,867.42
Operation and Maintenance of Physical Plant		48,346.78
<hr/>		
Total to Exhibit B		706,436.12
II. Auxiliary Enterprises and Activities		
Aquarium.....		6,470.31
Bookstore.....		22,470.53
Cafeteria.....		22,566.58
Dormitories.....		10,614.60
Dispensary.....		5,418.47
<hr/>		
Total to Exhibit B		67,540.49
III. Other Non-Educational Expense		
Scholarships, Prizes, and Awards		2,055.00
<hr/>		
Total to Exhibit B		2,055.00

STATEMENT OF RESTRICTED EXPENDABLE FUNDS
SCHEDULE (B-3)

	Balance Beginning of Year	Income for Year to Schedule B-1	Expended and Included in Schedule B-2	Balance at End of Year Exhibit A
Endowment Income:				
For Non-Educational Purposes				
Chinese Community Scholarship	12.20	177.50	180.00	14.70
Stephen Spalding Scholarship	35.40	150.00	150.00	35.40
Dean Prize Fund	74.37	46.56	50.00	70.93
	97.57	374.06	380.00	91.63
Gifts:				
For Educational Purposes				
Rockefeller Research	10,408.55	30,000.00	34,807.25	5,601.30
Carnegie Corporation of New York	5,000.00	350.00	350.00	5,000.00
Hawaiian Academy of Science		25.00	25.00	
	15,408.55	30,375.00	35,182.25	10,601.30
For Non-Educational Purposes				
Scholarship Donations				
Stephen Spalding	150.00		150.00	
Associated Women Students	50.00	100.00	50.00	100.00
Wakaba Kai	50.00	50.00	50.00	50.00
Hang Chung Hui	50.00	50.00	50.00	50.00
Wm. and Mary Alexander	25.00		25.00	
Maui Women's Club	25.00		25.00	
Prince Fushimi		300.00	300.00	
Chinese Students Alliance		300.00	300.00	
Honolulu Chamber of Commerce		200.00	200.00	
Hilo Chamber of Commerce		100.00	100.00	
D. A. R. Scholarship		200.00	200.00	
Caroline Ross Scholarship		50.00	50.00	
Hui Pookela		50.00		50.00
Strangers Friend Society		100.00	100.00	
Hawaiian Girls' Club		75.00	75.00	
Scholarship Interest Fund	22.51	17.54		40.05
	372.51	1,592.54	1,675.00	290.05
Other:				
Kona Rate Eradication Campaign		1,730.51		1,730.51
Totals	15,878.63	34,072.11	37,237.25	12,713.49

STATEMENT OF LOAN FUNDS

EXHIBIT C

Balance at Beginning of Year		\$	521.58
Additions during year:			
A. Receipts			
Gifts and Grants from private sources			
Earnings on investments (interest)	\$	278.70	
Public appropriations			278.70
B. Other Additions (Transfers from Territorial Normal School)			
Territorial Revolving Loan Fund		15,011.63	
Teachers College Loan Fund		1,510.34	
Moir-Ross Loan Fund		1,231.61	
Helen Strong Carter Dental Loan Fund		1,243.78	
Total Available			18,997.36
Deductions during year:			
Legislative withdrawal		6,188.06*	
Oahu Unit, N. S. A. A.		144.57**	
			6,332.63
Balance at end of Year, to Exhibit A, Section II.....			\$ 13,465.01

SUPPORTING SCHEDULE

Loan Funds	Balance Beginning of Year	Receipts for Year	Other Additions	Deductions	Balance End of Year
Harriet Wheeler Westgate Fund	332.50	5.76			338.26
Representatives Club Fund	150.00				150.00
Alumni Fund	39.08	1.00			40.08
Revolving Fund (Territorial)		166.43	15,011.63	6,188.06*	8,990.00
Teachers' College Fund		35.68	1,510.34	144.57*	1,401.45
Moir-Ross Fund		24.69	1,231.61		1,256.30
Helen Strong Carter Dental Fund		45.14	1,243.78		1,288.92
Totals	521.58	278.70	18,997.36	6,332.63	13,465.01

*—Withdrawal by 1932 Special Legislature of unloaned principal and interest earned in the Territorial Revolving Loan Fund for Scholars.

**—Withdrawal of principal by Oahu Unit, Normal School Alumni Association.

STATEMENT OF ENDOWMENT AND OTHER NON-EXPENDABLE FUNDS

EXHIBIT D

Balance at Beginning of Year	\$ 6,306.82
Receipts:	
Gifts and Grants from private sources	
Earnings and Profit on Investment credited to principal account	
Other Additions:	
Transferred from Current Funds	<u> </u>
Balance at end of Year, to Exhibit A, Section III.....	<u><u>\$ 6,306.82</u></u>

SUPPORTING SCHEDULE

Fund and Purpose	Balance Beginning of Year	Receipts for Year	Other Additions	Deduc- tions	Balance End of Year
Chinese Community Trust	\$ 3,047.82	.....	.....	.....	\$ 3,047.82
(Income Designated for Scholarships)					
Stephen Spalding Trust	\$ 2,500.00	.....	.....	.....	2,500.00
(Income Designated for Scholarships)					
Dean Prize Fund	\$ 759.00	.....	.....	.....	759.00
(Income Designated for Honor Awards)					
Totals	\$ 6,306.82				\$ 6,306.82

UNIVERSITY OF HAWAII

STATEMENT OF UNEXPENDED PLANT FUNDS
EXHIBIT E-1

Balance at Beginning of Year		
Additions during Year		
Receipts for Plant Extensions		
Gifts and Grants from Private Sources		
Founders' Gate	\$2,644.00	
Varney Memorial	888.11	\$3,532.11
		<hr/>
Amount transferred from Current Funds		
From General Funds (Exhibit B).....	4,046.30	
From Auxiliary Enterprises and Activities		
Funds (Exhibit B)	13,487.21	17,533.51
		<hr/>
		21,065.62
Deductions during Year		
Expended for Plant Extensions		
New Buildings (Glass Green-house)	500.00	
Additions to Existing Buildings	7,204.44	
Improvements other than buildings	2,458.50	
New Equipment	3,317.89	
Work-in-progress	4,179.03	17,659.86
		<hr/>
Balance at end of Year, to Exhibit A, Section IV		3,405.76

STATEMENT OF FUNDS INVESTED IN PLANT
EXHIBIT E-2

Value of Plant at Beginning of Year.....		\$ 2,430,182.89
Additions during Year:		
Expended from Plant Funds, Schedule E-1	\$ 17,659.86	
Expended from Educational and General Funds and included in Schedule B-2, Section (1)	24,458.87	
Expended from Auxiliary Enterprises and Activities Funds and included in Schedule B-2, Section (2)	1,175.88	
Assets acquired through Federal A. E. S. Funds, hitherto unrecorded	10,073.59	
Property Donations	8,468.45	
Acquisition of Territorial Normal School Plant Investment		
Land	45,540.00	
Buildings and Improvements	207,220.00	
Equipment	66,184.95	
	380,781.60	
Deductions during Year:		
Property worn out or otherwise disposed of	3,032.76	377,748.84
Value of Plant at end of Year (Exhibit A, Section IV)....		\$ 2,807,931.73

STATEMENT OF AGENCY FUNDS

EXHIBIT F

Balance Beginning of Year			\$ 1,279.52
Receipts:			
Student Fees		\$ 18,198.00	
Athletics			
Gross Receipts	\$ 25,293.94		
Less Share to Teams	21,581.41	3,712.53	
Advertising		2,620.24	
Theatre Guild		1,525.48	
Other		277.06	26,333.31
Total			\$ 27,612.83
Expenditures:			
A. S. U. H. (General)	3,312.93		
Athletics	13,095.70		
Ka Leo	2,902.51		
Ka Palapala	4,048.59		
Theatre Guild	1,765.54		25,125.27
Balance at end of Year, to Exhibit A, Section V			\$ 2,487.56

SUPPORTING SCHEDULE

Organization	Balance Beginning of Year	Earnings	Distribution of Student Fees	Expendi- tures	Balance
A. S. U. H.	1,279.52	277.06	3,446.50	3,312.93	1,690.15
Athletics		3,712.55	7,390.00	13,095.70	1,993.17
Ka Leo		1,242.54	3,269.50	2,902.51	1,609.53
Ka Palapala		1,377.70	4,092.00	4,048.59	1,421.11
Theatre Guild		1,525.48		1,765.54	240.06
	1,279.52	8,135.31	18,198.00	25,125.27	2,487.56
Balance at end of Year to Exhibit A, Section V.....					2,487.56
Investments					
Fixed Trust Shares				308.66	
Stadium Stock				6,100.00	
Total Investments					6,408.66
Total Agency Funds to Exhibit A; Sec. V..					8,896.22

8.51

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