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OF THE

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no.3. Announcement of the evening session
Supple. including late afternoon and Saturday courses, 1932-1933.

no.4. Report of the University of Hawaii, 1931-1932.

33-2899

Honolulu, Hawaii,
January 1, 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, 1930-June 30, 1931, and accompanying financial statements for the same period.

President Crawford's report reviews very thoroughly the work of the University and its several coöperating 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.

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Report of the University of Hawaii

(July 1, 1930, to June 30, 1931)

To THE BOARD OF REGENTS:

Another year of busy activity at our rapidly growing University is briefly reviewed in this report. To tell how many students we had enrolled and how much money we spent and to report a few other such facts does not give a real picture of this institution, and yet that is about all that can be told in a report of this kind. There are many things that one wishes could be recounted, some of the more intimate and personal details of our teaching and of our extension service, which is merely another form of teaching, and some of the very interesting minutiae of the researches of this or that member of our staff. But all those things are too human for a business report, and we shall have to merely hope that some who read this will have the insight to know that this University is intensely human, far more interested in helping people than in tallying up things to fill a report.

The year has had its material growth and progress: more students, a larger faculty staff, new buildings, expanding campus growing more beautiful, larger library, more jobs to be done, and, of course, more money spent. These things are important, for by them the University is all too frequently judged, but even more important, I believe, is the statement that this institution is steadily growing in those inner qualities which to the more thoughtful characterize the genuine university, that university which Nicholas Murray Butler has called "a society of scholars." This is something which grows slowly and becomes visible to the public only after many years. The gradual broadening and deepening of the research program on and around our campus is one evidence of this growth; the increasing tendency for our better students to remain with us instead of transferring to a mainland university is another bit of evidence; the greater esteem on the part of our supporting public is further testimony. These things challenge our attention much more than the material growth noted above.

EXTENDING THE BOUNDS OF KNOWLEDGE

"The university is the laboratory in which knowledge new and old is assembled and interpreted for the use and service of mankind," declares the president of Columbia University. He might have added that the assembling process sometimes requires a good deal of digging as in a mine. While I would not go so far as to say with President Butler that "the university is only incidentally and accidentally a school," I do hold that research and the general function of assembling and interpreting knowledge deserves a place in the university fully equal to that occupied by undergraduate teaching and should be closely related to it for the sake of the mutually beneficial interactions. Yet when we compare the amount of investment of money and time in these two functions, we find a great disparity. With us, undergraduate teaching absorbs nearly all of the appropriated funds, and research must look to private sources for most of its support.

The situation, however, is greatly improved by the presence on our campus of two important research staffs which, although not supported by us, are in a certain sense integrated with the University and form a part of our general picture. The Experiment Station of the Association of Hawaiian Pineapple Canners invests about $250,000 per year in research work of a more or less fundamental nature, while the United States Bureau of Entomology is spending about $75,000 per year in basic studies of the fruit fly problem.

Of our own organized activities in research we may note three: (1) the Hawaii Experiment Station, which receives $15,000 per year of territorial appropriations together with $20,000 realized from sale of farm products, and $60,000 from the federal treasury; (2) the Psychological Clinic, which receives about $12,000 per year of territorial appropriations; (3) our concentrated efforts to study some features of the race problem, toward which the Rockefeller Foundation has contributed $30,000 per year for the past several years. Outside of these our research is relatively meager and decidedly incidental to undergraduate teaching. To some of our professors we are able to give a moderate margin of freedom for research, but we should go much further in this. The chief difficulty is that our present policy, forced upon us by limited resources, fails in many instances to attract to our faculty those scholars whom we need so urgently to develop the research spirit, and instead we are in danger of developing a faculty which is all too sterile and unproductive so far as research work is concerned.

In spite of this difficulty, our faculty is carrying on a creditable program of research and the University is developing more of that atmosphere which attracts the scholar. It needs continued encouragement, especially in the practical and effective form of increased freedom from too much teaching and in the provision of adequate facilities and resources for research work.

It was a notable step forward when we established the Graduate School of Tropical Agriculture, for this will tend to enhance the research spirit on our campus by drawing into closer association with us the staffs of the several coöperating institutions which are engaged in research and, also, by attracting students to us who are interested in research.

I recommend very strongly that we turn all possible effort to the further development of our graduate division, for it will do much to build up that atmosphere of scholarship which is so vital to any institution which takes to itself the name university.

The following summary list of project titles indicates the nature and extent of the research which was in progress during the past year. The list is divided under three subheads: (1) racial studies supported in large part by a grant from the Rockefeller Foundation; (2) investigations by the agricultural experiment station staff, a large part of the cost of which is met from federal funds; (3) miscellaneous researches by faculty members, incidental to their teaching. The work of the A.H.P.C. Experiment Station is not included in this list.

I.

RACE STUDIES IN HAWAII

ANTHROPOLOGY

1. Study of the Chinese-Hawaiian hybrid in comparison with the Chinese and Hawaiian, including physical, psychological, social, and economic aspects, together with a historical summary of this mixed-blood group in Hawaii. (H. L. Shapiro, with assistants.)
2. Anthropometrical study of Japanese in Hawaii. (H. L. Shapiro, with assistants.)
3. Histology of Skin Pigmentation in Various Races. (C. J. Hamre.)

PHYSIOLOGY

4. Comparative basal metabolism of the several racial groups in Hawaii. This is an active project, being part of a world-wide

survey under the general direction of Dr. Benedict in Boston, the work here being carried on by Prof. C. D. Miller after a period of training with him.

PSYCHOLOGY

5. Psychology of Primitive Man (A Study of Australian Aboriginal Intelligence). (S. D. Porteus)

   This volume of about 500 pages is almost ready for publication and will deal fully with the result of the author's recent expeditions to uncivilized Australia, undertaken on behalf of the Australian National Research Council, with the coöperation of the University of Hawaii. This study is fundamental to our research program on racial differences.

6. Mr. Russell Leiter, research assistant, is at present engaged on a study of Chinese, Hawaiians, and Chinese-Hawaiian hybrids, using a new performance scale which he is at present perfecting. For this study he is using the subjects previously included in an anthropological survey carried out by Mr. Wm. A. Lessa under Dr. H. L. Shapiro's direction. This work will result in the development of a non-language scale for application to racial groups.
7. Mr. Ralph Piddington, research fellow, is collecting data on a Japanese group, using a variety of performance test for which data have already been collected on Australian aborigines. He will return to Australia in May to continue the investigation with the natives of Northwestern Australia.
8. Other studies on which data are being collected or have already been obtained have to do with comparisons of muscular efficiency in various racial groups, and with the application of special tests of insight into certain social situations.
9. Memory Abilities in Races.
10. Common Judgment Tests.

SOCIOLOGY

11. Inter-racial marriage in Hawaii. This will be partly statistical but will include also a review of the situation and a study of case histories, causal factors, and present tendencies, with data relating to the economic, political, and general social status of the persons of mixed race. (Romanzo Adams)
12. An ecological approach to social disorganization in Hawaii. This is intended to measure the degree of social disorganization

under varying conditions of racial concentration of population within the city. (A. W. Lind)

13. The Chinese Tong in Hawaii, a study in cultural accommodation. (C. E. Glick)
14. Part-Hawaiians—A study from the standpoint of social psychology. (E. B. Reuter and Doris Lorden)
15. The Racial Factor in the Vote in Hawaii. (C. E. Glick)

II.

HAWAII EXPERIMENT STATION

(Conducted jointly by the University of Hawaii and the U. S. Department of Agriculture, combining the resources of the former Federal Experiment Station with those of the University.)

AGRONOMY

1. Green Manure Crops: A Study of the Factors Affecting Seed Production. (J. M. Westgate)

SOIL PHYSICS

2. A Study of Factors Affecting the Rate and Magnitude of Capillary Movement of Water Through Colloidal Soils When Supported Over a Free Water Table. (H. A. Wadsworth)

AGRICULTURAL CHEMISTRY

3. Avocado: Chemical Studies with Special Reference to the Factors Inhibiting Its Successful Commercial Preservation. (L. N. Bilger)
4. Chemical Studies of Macadamia Nuts. (J. C. Ripperton)
5. Coffee Fertilizer Experiments. (J. C. Ripperton)
6. Starch Investigations: Production, Extraction, Properties. (J. C. Ripperton)
7. Chemical Composition of Coffee Berries at Various Stages of Ripeness. (F. T. Dillingham)

GENETICS

8. Pigeon Pea: Breeding and Selection Work. (M. Takahashi)
9. Lettuce Breeding. (M. Takahashi)
10. Coffee Breeding Investigations. (M. Takahashi)

NUTRITION

11. Vitamin Studies of Hawaiian Foods and Feeds. (C. D. Miller)
12. Nutritive Value and Use of Some Japanese Foods Commonly Used in Hawaii. (C. D. Miller)

HORTICULTURE

13. Tropical Fruit Investigations: Akala Berry, Avocado, Mango, Papaya, Banana, etc. (W. T. Pope)
14. Coffee Culture Investigations. (W. T. Pope)

ANIMAL HUSBANDRY

15. The Effect of Feeding a Concentrate Mixture Containing Twenty-five Per Cent Cane Molasses to Dairy Cows. (L. A. Henke)
16. Value of Sprouted Oats for Sterile Cows and Brood Sows. (L. A. Henke)
17. Raw Sugar for Fattening Livestock. (L. A. Henke)

POULTRY HUSBANDRY

18. Baby Chicks: Sore Head or Fowl Pox Control. (C. M. Bice)
19. Baby Chicks: Sex Determination in Day-Old Pure-Bred Chicks. (C. M. Bice)
20. Poultry Feeding: Value of Hawaiian Minerals for Poultry. (C. M. Bice)
21. Cane Molasses for Baby Chicks and Laying Hens. (C. M. Bice)
22. The All Mash Method of Feeding Laying Hens. (C. M. Bice)
23. A Study of Hawaiian-Grown Fruits as an Important Constituent of Poultry Rations. (C. M. Bice)

III.

MISCELLANEOUS PROJECTS BY FACULTY MEMBERS

1. The Shoal Water Fauna of Hawaii. An illustrated book of local marine animals. (C. H. Edmondson)
2. Monograph of the Snapping Shrimps of the Central Pacific Area. (C. H. Edmondson)
3. Post-larval Development of Hawaiian Corals. (C. H. Edmondson)
4. Experiments in Grafting Corals. (C. H. Edmondson)

5. Comparison Between Fossil and Recent Marine Mollusca of Tongatabu. (J. M. Ostergaard)
6. Food Habits of the Cockroach. (M. K. Riley)
7. Nitrifying Organisms in Hawaiian Soils. (R. S. Bean)
8. Studies of the Hawaiian Flora, to Extend Our Present Knowledge of Hawaiian Ferns and Flowering Plants. (H. St. John)
9. Monograph of the Genus Elodea. (H. St. John)
10. Studies of Plants of Northwestern United States. (H. St. John)
11. A New Species of Pilea from Rarotonga. (H. St. John)
12. History and Development of Irrigation in Hawaii. (H. A. Wadsworth)
13. New Chaulmoogra Oil Remedies for Leprosy. (R. Wrenshall)
14. Irradiated Chaulmoogra Oil for Leprosy. (E. M. Bilger, L. N. Bilger, et al.)
15. Isolation and Quantitative Determination of Phytosterol in Chaulmoogra Oil. (E. M. Bilger, L. N. Bilger, et al.)
16. Determination of the Iodine Content of Hawaiian Air, Soil, Water, and Foods. (E. M. Bilger)
17. Effect of Radiation on Optical Properties of Asymmetric Molecular Structure. (L. N. Bilger)
18. Conductivity of Liquids as Affected by Radiations. (W. H. Eller)
19. Polarization Measurements in the General X-Ray Spectrum of Tungsten. (P. Kirkpatrick)
20. Means for Accurate Measurement of Very High Voltages. (P. Kirkpatrick)
21. Geology of the Honolulu Artesian System. (H. S. Palmer)
22. Determination Whether the Volcanic Centers of the Hawaiian Islands Lie Along a Great Circle or a Small Circle. (H. S. Palmer)
23. Geologic History of the Island of Oahu. (H. S. Palmer)
24. A Re-examination of the Evidence in Hawaii for a Eustatic Shift of Sea-Level in Recent Times. (H. S. Palmer, in coöperation with Dr. Powers of the Hawaiian Volcano Observatory)
25. Population Distribution in Hawaii in 1850. (J. W. Coulter)
26. Racial Achievement in Education. (T. M. Livesay)
27. Entrance Criteria for University Freshmen. (T. M. Livesay)
28. Economic Aspects of the "Tourist Industry." (M. K. Cameron)
29. Economic Aspects of the Pineapple Industry in Hawaii. (V. W. Bennett)
30. Public Utilities in Hawaii. (M. K. Cameron)

31. History of the Relations of the United States with Hawaii. (T. A. Bailey)
32. Economic History of Hawaii Before 1850. (R. S. Kuykendall)
33. A Study of the Leguminous Crops of Hawaii in Relation to Their Use as Nitrogen Fixers and the Source of Organic Matter. (O. C. Magistad and O. N. Allen)
    The object of this project is threefold: (1) to study the common Hawaiian legumes which appear promising as intercycle crops in pineapple culture with reference to their ability to fix atmospheric nitrogen under various soil conditions, such as soil reaction and nitrate nitrogen level; (2) to study the efficiency coefficient of the various species of Rhizobia isolated from the leguminous plants; and (3) to study the value of the leguminous plants as sources of organic matter.
34. A Taxonomic Study of the Myxomycetes in the Island of Oahu. (W. C. Davis and O. N. Allen)
35. Studies of the Immunization of Fowls Against Chicken-Pox. (Epithelioma contagiosum) (C. M. Bice and O. N. Allen)
    1. A Study of the Antigenic Properties of the Virus with Respect to the Age of the Fowl.
    2. Studies of the Properties of the Virus "in vitro".
    3. A Study of the Characteristics of the Virus with Respect to Host Specificity.
36. A Bacteriologcial Study of the Fermentation of Poi. (Ethel K. Allen and O. N. Allen)
37. The Influence of Iodine on the Differentiation of the Thyroid of Trout. (C. J. Hamre)
38. Sexual Dimorphism of the Pelvis of the Bat. (C. J. Hamre)
39. Differentiation of the Pituitary of Trout. (C. J. Hamre)

PUBLICATIONS

The University published during the year the following Quarterly Bulletins:

Vol. IX. No. 3 Register of Officers and Students, 1930-1931.
Vol. IX. No. 4 Report of University of Hawaii, 1929-1930.
Vol. X. No. 1 Summer Session Announcement, 1931.
Vol. X. No. 2 Catalogue and Announcement of Courses, 1931-1932.

Textbooks:

Introduction to Colloquial Japanese, by Tasuku Harada and G. T. Kunitomo, pp. VIII, 105, December, 1930.

Miscellaneous:

The Psychological Clinic of the University of Hawaii, by its Director, S. D. Porteus. (Univ. Hawaii Occasional Papers, No. 11, August, 1930.)

The Constitution of the Hawaiian Republic, by Thos. Marshall Spaulding. (Univ. Hawaii Occasional Papers, No. 12, April, 1931.)

Studies of Food and Nutrition, a summary of the work of the Nutrition Laboratory. (University Leaflet, No. 5, August, 1930.)

Learning Through Seeing, a summary of the work of the Visual Education Department. (University Leaflet, No. 6, September, 1930.)

From the President's Report, a brief summary of the University Year, 1929-30. (University Leaflet, No. 7, October, 1930.)

Ten Years of Progress. Growth and Development of the University of Hawaii, 1920-1930.

Graduate School of Tropical Agriculture, announcement.

The Coöperative Extension Service has issued the following bulletins:

No. 6 Milk, An Important Food for All the Family, by M. Elmina White.

No. 7 A Simple Egg Record for the Hawaii Home Flock, by H. L. Chung.

No. 8 Program, First Territorial 4-H Club Week.

No. 9 Insects Affecting Coffee in Kona, Hawaii.

No. 10 Program, Second Territorial 4-H Club Week.

No. 11 Problem of Soil Saving in the Hawaiian Islands, by T. C. Zschokke.

No. 12 Rabbit Raising in Hawaii, by H. L. Chung.

No. 13 A Guide to Coöperative Organization for Hawaii, by A. S. T. Lund.

No. 14 Woodlots in Hawaii, by T. C. Zschokke.

No. 15 Commercial Potato Production in Hawaii, by F. G. Krauss.

Hawaii Experiment Station:

Report of the Hawaii Agricultural Experiment Station for 1930. (Government Printing Office, Washington, D. C., June, 1931.)

Bulletin No. 61. Papaya Culture in Hawaii, by Dr. W. T.

Pope, Horticulturist. (Government Printing Office, Washington, D. C., Oct., 1930, 40 pp. 30 Illustrations.)

Circular No. 1. Management and Control of Baby Chicks in Confinement, by C. M. Bice, Poultry Husbandman. (University of Hawaii, March, 1931, 15 pp. 9 Illustrations.)

A.H.P.C. Experiment Station:

The Pineapple Quarterly and Pineapple News are publications issued privately by this station for the benefit of the Hawaiian pineapple industry.

Faculty members are publishing widely in magazines and professional journals, a thing which we are encouraging in every possible way, for it indicates an increasing interest in original research. Following is a list of titles and authors:

Allen, O. N. (and I. L. Baldwin). A Method for Isolating Cultures of Rhizobium Species Directly from the Soil. (Journal of Bacteriology, Vol. 19, 39-40, 1930.)
(with I. L. Baldwin). The Direct Isolation of Rhizobia from Soil. (Journal of the American Society of Agronomy, Vol. 23, 28-31, 1931.)
(with I. L. Baldwin). The Effectiveness of Rhizobia as Influenced by Passage Through the Host Plant. (Univ. Wis. Res. Bul. 106, 56 pages, January, 1931.)
(with L. A. Dean and O. C. Magistad). Yields and Analyses of Pigeon Pea Plants and Nodules on a Limed and Unlimed Area. (Pineapple News 5:31-33, March, 1931.)

Babcock, Marjorie E. Juvenile Delinquency in Two Industrial School Groups. (Report of Governor's Advisory Committee on Crime, Appendix 5.)
Some Aspects of Child Guidance Work in Hawaii. (Mid-Pacific Magazine, Vol. 30, No. 5.)
How May the Teacher Gain a Better Understanding of the Child. (Chap. VI. Character Education. Dept. of Public Instruction. Hawaii, Sept., 1930.)

Bailey, Thos. A. Congressional Opposition to Pure Food Legislation, 1879-1906. (American Journal of Sociology, Vol. XXXVI, 52-64, July, 1930.)
Japan's Protest Against the Annexation of Hawaii. (Journal of Modern History, Vol. III, 46-61, March, 1931.)
The United States and Hawaii During the Spanish-American War. (American Historical Review, Vol. XXXVI, 552-560, April, 1931.)

Party Irregularity in the Senate of the United States, 1869-1901. (Southwestern Political and Social Science Quarterly, Vol. VI, 1-22, March, 1931.)

Bean, R. S. Laboratory Exercises for General Botany at the University of Hawaii. (Edwards Brothers, Inc., Ann Arbor, Mich.)

Bice, Charles M. The Management of Baby Chicks in Confinement. (Hawaii Agr. Exp. Sta. Cir. No. 1, March, 1931.)

Cost of Raising Pullets to Six Months of Age. (Thirteenth Annual Report, Agricultural Dept., University of Hawaii, pp. 20-33, 1929-1930.)

The Growth of Single Comb White Leghorn Chicks at the Hawaii Experiment Station. (Thirteenth Annual Report, Agricultural Dept., University of Hawaii, pp. 33-41, 1929-1930.)

Bilger, Leonora N. The Composition and Properties of Certain Red and Yellow Plant Pigments. (Bulletin of Basic Science Research, Univ. Cincinnati, Vol. 3, No. 1, February, 1931.)

Cameron, Merton K. Rate Reduction as a Measure of Commission Efficiency. (Public Utilities Fortnightly, Vol. VI, 259-268, September, 1930.)

Chapman, Royal N. (with Robert Wall, Leslie Garlough, and Carl T. Schmidt). A Comparison of Temperatures in Widely Different Environments of the Same Climatic Area. (Ecology, Vol. XII, 305-322, April, 1931.)

Christopherson, Erling. Notes on Joinvillea. (B. P. Bishop Mus. Occ. Paper, Vol. IX, No. 12, February, 1931.)

Vascular Plants of the Leeward Islands, Hawaii. (B. P. Bishop Mus. Bull., 1931.)

(with E. L. Caum). Vascular Plants of Johnston and Wake Islands. (B. P. Bishop Mus. Occ. Paper, Vol. IX, No. 13, May, 1931.)

Coulter, John Wesley. Geography. (Hawaii Educational Review, Vol. XIX, 146-147 and 151, February, 1931.)

Crawford, David L. University Education, the Commencement Address for the University of Hawaii. (Honolulu Star-Bulletin, June 6, 1931.)

Davis, William C. Phenolase Activity in Relation to Seed Viability. (Plant Physiology, Vol. 6, 127-138, 1931.)

Edmondson, C. H. New Hawaiian Crustacea. (B. P. Bishop Mus. Occ. Papers, Vol. IX, No. 10, pp. 1-18, 1930.)

George, Wm. H. Education and International Understanding. (Hawaii Educ. Review, May, 1931, pp. 227-230.)

Glick, Clarence E. A Study of a Residential Suburban Community. (Journal of Educational Sociology, Vol. IV, 317-320, January, 1931.)

Godfrey, G. H. The Host Plants of the Burrowing Nematode Tylenchus similis. (Phytopathology, Vol. 21, 315-322, March, 1931.)

Some Technique Used in the Study of the Root-knot Nematode, Heterodera radicicola. (Phytopathology, Vol. 21, 323-329, March, 1931.)

Hagan, Harold R. Embryogeny of the polyctenid, Hesperoctenes fumarius Westwood, with reference to viviparity in insects. (Jour. Morph. & Physiol., Vol. 51, 116 pages, March, 1931.)

Harada, Tasuku. Early Communications Between Hawaii and Japan. (Mid-Pacific Magazine, January, 1931, pp. 43-48.)

Buddhism and Christianity in Japan. (Friend, April, 1931, pp. 82-84.)

(with G. T. Kunitomo). Introduction to Colloquial Japanese. (University of Hawaii, pp. VIII, 105, December, 1930.)

Henke, L. A. Herefords Produce 90 Per Cent of Beef in Hawaii. (The American Hereford Journal, Vol. 21, 58-60. July, 1930.)

Kuykendall, Ralph S. American Interests and American Influence in Hawaii in 1842. (Thirty-ninth Annual Report of the Hawaiian Historical Society, pp. 48-67, February, 1931.

Linford, Maurice B. Yellow-spot Disease of Pineapples Transmitted by Thrips tabaci. (Science, N. S. Vol. 73, p. 263, March 6, 1931.)

Louttit, Chauncey. Test Performance of a Selected Group of Part-Hawaiians. (Journal Applied Psychology, Vol. XV, 43-52, February, 1931.)

Luquiens, Huc-M. Hawaiian Art. (Bishop Mus. Special Publication, No. 18, 1931.)

Magistad, O. C. Rate of Decomposition of Pineapple Plants. (Pineapple Quarterly, Vol. 1, pages 2-7, 1931.)

(with F. A. E. Abel). An Attempt to Compost Pineapple Plant Residues. (Pineapple Quarterly, Vol. 1, pages 7-10, 1931.)

(with J. M. Horner and L. A. Dean). Chemical Analyses

of Pineapple Soils. (Pineapple Quarterly, Vol. 1, pages 39-45, 1931.)

Palmer, H. S. Soil-Forming Processes in the Hawaiian Islands from the Chemical and Mineralogical Points of View. (Soil Science, Vol. XXXI, 253-265, April, 1931.)

Porteus, S. D. Race and Social Differences in Performance Tests. (Genetic Psychology Monograph. August, 1930, pp. 114.)

The Psychological Clinic of the University of Hawaii. (Occasional Paper No. 11. Univ. Hawaii, Aug., 1930, pp. 17.)

Appendix No. 2. Report of Governor's Advisory Committee on Crime. Feb., 1931, pp. 15.

Among Australian Aborigines. (Mid-Pacific Mag., Vol. 39, No. 5.)

Radir, Paul L. A Demonstration of Monaxial Polarity in the Naked Ameba. (Protoplasma, Vol. XII, 42-51, 1931.)

Reuter, E. B. Race Mixture. (Whittlesy House, New York, 1931.)

The Family. (McGraw-Hill Book Co., New York, 1931.)

Civilization and the Mixture of Races. (Scientific Monthly, November, 1930.)

The Possibility of a Cultural Contribution by the American Negro. (Social Attitudes, Henry Holt and Co., 1931.)

Sideris, C. P. The Proper Taxonomic Classification of Certain Pythiaceous Organisms. (Science LXXI: 323-324, 1930.)

Chomatology, Soil Science. (Science LXXII: 40, 1930.)

Pathological and Histological Studies on Pythiaceous Root Rots of Various Agricultural Plants. (Phytopathologische Zeitschrift 3:137-161, 1931.)

(with G. E. Paxton). Heart Rot of Pineapple Plants. (Phytopathology 20:951-958, 1930.)

Stewart, Jane S. The American College Girl. (L. C. Page Co., Boston, December, 1930.)

Stuart, Graham H. International City of Tangier. (Stanford University Press, 1931.)

St. John, Harold. New and Noteworthy Northwestern Plants, Part 4. (Proc. Biological Society of Washington 44:29-36, 1931.)

New and Noteworthy Northwestern Plants, Part 5. (State College of Washington, Research Studies 2:110-116, 1931.)

(with E. B. Payson). The Washington Species of Draba. (Proc. Biological Society of Washington 43:97-122, 1930.)

Wadsworth, H. A. Further Observations Upon the Nature of Capillary Rise Through Soils. (Soil Science, 32:417-433, Dec., 1931.)

Westgate, J. M., and other members of the Station staff. Annual Report of the Hawaii Agricultural Experiment Station for 1930. (U. S. Dept. Agric., June, 1931.)

Wood-Jones, Frederic. The Non-metrical Morphological Characters of the Skull as Criteria for Racial Diagnosis. (Journal of Anatomy; Part I in Jan., 1931; Part II in April, 1931.)

The Cranial Characters of the Hawaiian Dog. (Journal of Mammalogy, Vol. XII, Feb., 1931.)

Zschokke, T. C. The Problem of Soil Saving in the Hawaiian Islands. (Univ. Hawaii Extension Bul. No. 11, June, 1931.)

OUR GRADUATES

What has become of our graduates? Where are they, and what are they doing? That is a question asked by many who are interested to know what this University has done, for it is by our graduates that we are judged. It is important to remember that our institution is young and, because the early classes were very small, a very great majority of our graduates have been out less than ten years. Those of the past three years constitute about half of the total number. In other words, our alumni are, as a group, still moving about and have not fully "struck their stride."

It is not surprising to find that over half of the graduates are in and near Honolulu. Excluding the 1931 graduates, it appears from a recent survey that 424 of our 737 alumni are on Oahu, and 565 are in the Territory; Hawaii County has 76 of them, Maui 32, Kauai 26, Molokai 4, and Lanai 3. It is somewhat surprising to find that 126 are in mainland states, while 17 have gone to China, 13 to Japan, the few remaining being scattered in other countries—India, Mexico, Philippines, etc. Thus 75 per cent of the total, excluding the class of 1931, are in the Territory.

What they are doing is of even more significance. The teaching profession has claimed 29 per cent of them, the great majority of whom are serving in Island schools, but a few (thirteen) in mainland schools and eight in the Orient. Of the 221 who are in school positions, 18 hold principalships and 11 are on the University staff. Some of them are in our private schools and kindergartens, but the great majority are in the public schools.

Agriculture, speaking broadly, has taken something more than 15 per cent of our graduates, about half of whom are in the sugar

industry, a quarter in the pineapple industry, and the rest in other lines of agriculture. I am including in this group six Smith-Hughes teachers and two extension agents.

A closer scrutiny of this 15 per cent group in agriculture shows that some individuals are achieving distinction: one is manager of a large cattle ranch, three are assistant managers of sugar plantations, one is superintendent of four sugar mills in India, two have gone high up in the local pineapple industry, one has been phenomenally successful as a cane contractor, and a goodly number are advancing steadily in plantation service as agriculturists, etc.

Engineering has attracted about 10 per cent of the total. As most of them are still new in the profession few have achieved distinction, but some have. One is chief engineer for American Factors, and another holds a similar position in the Hawaiian Electric Company.

Clerical and secretarial positions—what most people think of when they talk about our graduates herding into "white-collar" jobs—have attracted only 8 per cent of the total, even when we include some that might well be considered above this level: an office manager of a large cement company, an assistant manager of one of our large hotels, an assistant treasurer of one of our trust companies, etc.

Nineteen of our graduates are in business for themselves, including one who operates a chop suey establishment in Chicago.

Salesmanship has attracted seventeen, one of whom is said to be earning several times as much as his professors who taught him a few years ago.

In the medical profession we find eleven of our graduates who are in actual practice, of whom seven are on the mainland and only four in Hawaii. In addition to these are 37 others who are now in medical colleges or in hospitals as internes.

Graduate study in other lines has drawn 29 of our alumni, one of whom is in a theological seminary.

The newspaper profession has six of our graduates, one of whom is editor of a local Chinese daily.

Law has attracted only two who have "arrived," but more are in training.

Library positions are occupied by seven of our graduates. Social Service has attracted eleven.

Indicative of the times, only fifty of our women graduates announce themselves as being in the homely profession of home-making, although we know that many of those who are earning a salary are also making homes.

Some special lines of employment are worthy of note: One is on the stage in New York, one a patent examiner in Washington, one a postmaster, one a detective, and so on; four are translators and interpreters, a type of job that might well attract more of our bi-lingual alumni.

Death has removed ten of our graduates, this small number again indicating the youthfulness of our alumni as a group. Two others are more or less permanently incapacitated.

The following table is a summary of the foregoing:

Residence:	
Oahu	424
Hawaii	76
Maui	32
Kauai	26
Molokai	4
Lanai	3
Mainland States	126
China	17
Japan	13
Other	6
Deceased	10
Total	737
Occupation:	
Teaching	221
Agriculture	113
Engineering	78
Clerical	60
Salesmanship	17
Business	19
Medicine	11
Newspaper	6
Law	2
Library	7
Medical School	37
Graduate Study	29
Home	50
Miscellaneous	49
Disabled	2
Deceased	10
Unknown	26
Total	737

STUDENT ENROLLMENT

In spite of all efforts to curtail our enrollment of undergraduate students there was an increase of 12 per cent last year over the preceding year. A significant feature of this, however, was the relatively greater increase in the upper grades as compared with the Freshman year, the latter increasing only 7 per cent over the preceding year. The significance of the increase in the upper years is that relatively fewer of our students are now transferring to mainland universities as compared with earlier years when there was a general exodus at the end of the Sophomore year. This trend makes it possible to develop a stronger university here, for it permits us to place relatively more emphasis on upper division and graduate courses instead of merely operating a junior college.

The enrollment of students as degree candidates has passed the thousand mark, a thing which a few years ago was thought would not happen for many years. Nor have we reached the limit of this trend, if we can judge safely from population data and high school attendance. The tide seems to be still rising. How much higher it may rise we do not know, but that we have no funds to take care of a greater enrollment we do know, for the 1931 Legislature made no increase in our appropriation for the new biennium. A bill was considered to limit arbitrarily the enrollment in the University, but apparently the Legislature was not willing to assume the responsibility of such an act, for the bill failed of passage. It is quite obvious, however, that we shall have to adopt a policy which amounts practically to limitation of numbers although there can be less rigidity about it as compared with an act of the Legislature.

In the new Teachers College a more or less rigid limit to enrollment is being fixed, in order that we may adjust supply to demand in this profession, which right now is suffering locally from a surfeit of candidates for jobs which do not exist.

In some other lines it is not clear that there is need for a similar limitation. The agricultural and engineering professions could use more graduates, if they are good, and even in the general field of business the demand seems to exceed our supply. Some rather interesting figures on this are offered in a review of our graduates in another part of this report.

Vocational guidance is becoming one of our major needs as student enrollment increases. In earlier years it was possible for our professors to become rather well acquainted with their students and on that basis they could advise them in their choice of

life work. Now, however, that is less practicable, and the necessity becomes more apparent of having at hand one who is expert in giving such counsel. Some students would be better off if they were not in college and others are trying to make a go of it in some line to which they are not suited. The better handling of such misfits would probably yield large returns for the cost involved.

FACULTY

This University has a strong faculty staff, well equipped for the work expected of them, and thoroughly devoted to their respective tasks. Some have had distinctions accorded them during the year which are worthy of note:

Professor T. M. Livesay was awarded the Ph.D. degree by the University of Washington.

Associate Professor Charles H. Neil was awarded the M.A. degree by Yale University.

Mr. George J. Peavey, Instructor in English, received his M.A. degree from this University, after several years of part-time study.

Professor Paul Kirkpatrick has been invited to teach next year at Stanford University. He has recently been elected a Fellow in the American Physical Society.

Assistant Professor K. D. Lum was sent to China as a delegate to the Constitutional Convention, representing the Chinese community in Honolulu. He has been invited to join the faculty of Hangchow Christian College next year.

Professor Romanzo Adams was invited to teach in the summer quarter at Stanford University.

Miss Jane Stewart of the English Department has been appointed Fellow in English at Smith College.

Because of our isolated position it is important that our faculty staff be augmented from time to time by visiting lecturers and exchange professors. Several have been with us during the past year, adding much to the effectiveness of the University:

Graham H. Stuart, Professor of Political Science at Stanford University, participated in the 1930 summer session and occupied a temporary professorship during the fall semester until the Christmas recess.

Kenneth J. Saunders, well-known Orientalist, filled a lectureship during December and January.

E. B. Reuter, Professor of Sociology at the University of Iowa, spent the entire year with us making certain studies in the field of race relations.

Linden A. Mander, Associate Professor of Political Science at the University of Washington, has occupied Dr. Bachman's position while the latter took his place by exchange at Seattle during the second semester and the 1931 summer session.

S. Herbert Hare, one of the leading landscape architects of the country, spent two months with us conducting special courses in his field, with the coöperation of the Honolulu Academy of Arts, which contributed toward his salary here.

New appointments during the year:

Deans—

Arthur L. Andrews, Ph.D., Dean of the Faculties.

William H. George, Ph.D., Dean of the College of Arts and Sciences, and Professor of History and Political Science.

Royal N. Chapman, Ph.D., Dean of the Graduate School of Tropical Agriculture.

Professors—

Robert B. Faus, M.D., Professor of Physical and Medical Education, from private practice in Honolulu.

Oscar Nelson Allen, Ph.D., Assistant Professor of Bacteriology and Plant Pathology, from the University of Wisconsin.

Christopher J. Hamre, Ph.D., Assistant Professor of Zoölogy, from the University of Wisconsin.

E. Lowell Kelly, Ph.D., Assistant Professor of Psychology, from Stanford University.

Arthur E. Wyman, B.S., Assistant Professor of Dramatic Art, for several years associated with Christopher Morley in New York stage productions.

Instructors—

T. Y. Char, B.A., in Chinese language, from Yenching University, Peiping, China.

Thomas B. Clark, M.A., in English, from Vanderbilt University.

Kenneth L. Culver, M.A., in History, from University of California.

William C. Davis, M.S., in Botany, from University of Iowa.

Eugene Gill, B.S., in Physical Education, from Oregon State College.

Elvin A. Hoy, B.S., in Mathematics, from Oregon State College.

Cecyl B. Lovejoy, A.M., in English, from Columbia University.

George J. Peavey, B.A., in English, from Washington Junior High School in Honolulu.

Donald W. Rowland, Ph.D., in History, from the University of California.

Jane S. Stewart, A.B., in English, from Smith College.

Willard Wilson, M.A., in English, from Columbia University.

Beulah M. Young, A.M., in English, from Kamehameha Schools, Honolulu.

Absent members of the Faculty include the following:

Dean A. L. Andrews, on sabbatical leave during the first semester, visiting universities on the mainland.

Professor John Mason Young, on sabbatical leave, recuperating from illness.

Professor Thayne M. Livesay, on sabbatical leave in the second semester, studying at the University of Washington.

Assistant Professor Paul S. Bachman, on exchange at the University of Washington in the second semester.

Assistant Professor Thomas A. Bailey, loaned to Stanford University for the year.

Assistant Professor Mary K. Chase, on leave for the year to travel in Europe.

Assistant Professor Andrew W. Lind, pursuing studies in University of Chicago.

Instructor Carl G. Stroven, pursuing studies at Duke University.

Separations from the Faculty including the following:

Professor Otis W. Barrett, Horticulture, returning to Porto Rico.

Assistant Professor Thomas A. Bailey, History, to Stanford University.

Instructor Paul L. Radir, Zoölogy.

Instructor Floralyn C. Conway, English.

Instructor Hortense Hallock, English.

When one considers the wide range of institutions in which our faculty members have obtained their degrees, it becomes apparent that the ideas and attitudes of many parts of the world are brought to our students on this campus. The following summary shows that colleges and universities in many parts of the world have helped to educate our faculty, including the several research staffs:

University of Hawaii	25
University of California	15
Columbia University	12
Stanford University	11
University of Wisconsin	11
Yale University	11
Harvard University	10
University of Minnesota	7
University of Washington	7
University of Chicago	6
Cornell University	5
Kansas Agricultural College	5

Three each from Iowa State College, University of Iowa, Oberlin, Occidental, South Dakota State College, Washington State College.

Two each from Boston University, Bryn Mawr, College of the Pacific, Colorado State Teachers College, Massachusetts Institute of Technology, University of Missouri, University of Montana, Ohio State University, Oregon State College, Simmons, Syracuse University, Utah Agricultural College, Wells.

One each from Amherst, Brigham Young University, Brown, Cincinnati, Clemson, University of Colorado, Colorado State College, Dartmouth, De Pauw, Denver University, Emporia, University of Florida, Gettysburg College, University of Illinois, University of Indiana, Jewell College, University of Kansas, Lake Forest, Marietta, University of Michigan, National University, New York University, Northwestern, Oklahoma State College, Pacific University, University of Pennsylvania, University of Pittsburgh, Pomona, Princeton, Purdue, Rose Polytechnic, Smith, University of Southern California, University of South Carolina, St. Olaf College, University of Texas, Tufts, Vanderbilt, Wellesley, Wesleyan University, Western Reserve, Western State College, Worcester Polytechnic.

Several foreign countries have contributed to the education of our staff: Europe—Cambridge, Edinburgh, Brussels, Vienna, Sorbonne, Institute of Accountants and Actuaries (Glasgow), Samos Lyceum (Greece); Australia—Adelaide, Sydney; China—Tsinghua College, Canton Christian College, Yenching; Japan—Doshisha, Aoyama Gakuin College.

THE TEACHERS COLLEGE

Plans for the consolidation of the Normal School with the University are being developed in accordance with the act of the recent Legislature. The work of our School of Education will be transferred to the Teachers College, while the curriculum for the training of elementary teachers will be extended to four years, each of these two constituting a division of the College.

The business affairs will all be centralized in the University Business Office. All registration of students will be handled in one office. The Normal School bookstore and cafeteria will be discontinued and their functions taken over by the University bookstore and cafeteria, respectively.

The two extension divisions will be united under one management on some plan which will provide for a continuation of service to teachers in the schools and to people engaged in business and other callings.

The entire teaching staff of the Normal School has been retained for the forthcoming academic year, a few individuals having been transferred to one of the other colleges. Still further changes may perhaps be made as a result of our experience next year.

The best of coöperation has been received from the Department of Public Instruction and the Normal School staff in working out the many problems incident to the consolidation.

A representative of the Commissioners of Public Instruction would be a valuable addition to the University Board of Regents. It is suggested that the next legislature provide for the enlargement of the University Board, the member to be selected by the Governor from the Commissioners of Public Instruction.

PHYSICAL EDUCATION

Our new plan of requiring all Freshmen and Sophomores to take physical education, regardless of the R.O.T.C. requirement, has worked out quite satisfactorily. It places a heavy burden on the instructing staff and taxes the gymnasium and other facilities to the maximum, but the results are gratifying.

The course offers the student a combination of recreation and instruction, the former by participation in a variety of games and sports and the latter by a formal study of hygiene and physiology. Men students have the option of participating in football, basketball, baseball, track, tennis, swimming, boxing, wrestling, gymnastics, volleyball, or speedball. Women students have a less exten-

sive range: swimming, tennis, basketball, volleyball, hockey, indoor baseball, and dancing.

Swimming has developed into a very popular sport, with over 200 students participating. We shall find it necessary to improve the facilities somewhat, for it seems important that we should encourage this activity which is so natural a part of Hawaiian life. Additional tennis courts are very much needed.

HEALTH SERVICE

The new dispensary and health service has functioned very well. Every new student at the time of entrance was given a thorough physical examination, to discover points of weakness.

The dispensary occupies two small rooms in the gymnasium, originally designed for office purposes. While the facilities are fairly adequate, it is expected that we shall have to provide better quarters in the near future.

This service is maintained by a fee of $5.00 per year paid by all students who are registered for ten or more credit hours per semester. The income was not quite sufficient to meet the entire expense, but next year it probably will be.

THE LIBRARY

It is very gratifying to note that the library of this University is given a relatively excellent rating by the federal Bureau of Education in its recently published survey of the land grant colleges of the nation. Because of our isolated position it is necessary that we build up a collection of books as extensive as possible and as nearly adequate for our research purposes as can be done within our means. We are able to approach more nearly this objective now by reason of the very generous gift of $15,000 by the Carnegie Corporation for the expansion of our collection of reference books. Of this amount about $10,000 has been expended during the year just closed.

Our librarian reports a net increase of 3,000 bound volumes and 12,000 unbound parts (pamphlets, etc.). Some losses are reported but scarcely sufficient in value to warrant expensive protective measures.

UNIVERSITY EXTENSION

This very useful division of the University has done a good year's work, notwithstanding the fact that the extension student enrollments showed a decrease from last year. Excellent service

has been rendered in several other lines: film distribution among schools and clubs, play loan service, lectures and miscellaneous public service.

Except for a small appropriation to pay some of the administrative expense, the work of this division is self-supporting by the fees charged for extension courses, film rentals, etc.

There was a total of 591 individuals enrolled in 52 extension courses on the several islands, as compared with 723 in the preceding year. This decrease probably is due, in part, to the general economic condition. The fees paid were enough to meet the costs of instruction, advertising and other incidental charges, with a very small balance remaining.

Faculty members were generous with lectures, radio talks and other similar public service, 64 of the staff giving of their time for such service in addition to their regular work, without compensation. The travel expenses incurred in going to the other islands are paid by the clubs and communities which benefit. Six of our faculty staff made lecture trips to Maui, six to Hawaii, four to Kauai and two to Molokai. A number of lectures of rather unusual interest were given in Honolulu, as those by Dr. Kenneth Saunders on Gandhi and other outstanding figures of the Orient, and the series by S. Herbert Hare on landscape art.

The high schools are finding our play loan service very useful. Although it is a new service, we have already 467 books of plays, pageants, operettas and stunts, of which 164 were loaned a total of 237 times. I believe we might well invest a little from our miscellaneous funds to enlarge this work.

Our film distribution service seems to be increasingly well received in the schools of the Territory. A small profit earned in the preceding year was invested in additional films, as it is our policy to enlarge the collection as rapidly as funds become available. The shift of interest from the 35 mm. type of film to the smaller 16 mm. size is placing on us a new burden of expense, for it is necessary to carry both in stock. Miss Vernon, who has been in charge of this service, is making special efforts to demonstrate to the schools the value of our visual education aids.

This Division has been handling the distribution of practically all publications of the University, except those of the Coöperative Extension Service and of the Experiment Station. Last year 44,336 separate pieces were mailed out, some of them free, while some were sold. The income derived from these sales is applied on the cost of publishing. Much of this distribution is on an exchange basis with other educational and scientific institutions,

so that our returns are by no means limited to the cash receipts from sales.

THE PSYCHOLOGICAL CLINIC

The Psychological Clinic finds itself in the difficult position of having to meet an increasing demand for service from our public without any increase in its appropriations from the legislature. It is a matter which needs the careful attention of the Board, and I commend to your attention the report of the Director of the Clinic which appears on a later page.

EXPERIMENT STATIONS

Our two agricultural experiment stations have made excellent progress. The united efforts of the U. S. Department of Agriculture with the University are producing results of increasing importance, as set forth in a subsequent portion of this report. The coöperative relationship with the federal government is working out very well. Because neither the land at the Pensacola Street site nor that at the University farm is ideally suited to agricultural experimentation, we should seriously consider the need of acquiring a new site somewhere in the Territory better adapted to the purposes in view. Possibly this should be on the Island of Hawaii, where we would be in close touch with the coffee industry, beef-cattle industry and much of the miscellaneous small farming. In any case, the research laboratories should be on the campus in order that close coöperation may be maintained with the rest of our scientific staff.

The A.H.P.C. Station, under its new Director, R. N. Chapman, has made excellent progress. Its staff, already strong, has become still stronger and is doing some research work of great importance for the pineapple industry. Its building program is moving forward rapidly, affording splendid equipment for the scientific staff. Although this station is supported wholly by the Association of Hawaiian Pineapple Canners, it is a valuable asset to the University and to the Territory. We are gratified at the results thus far of our coöperative arrangement with this Station.

U. S. BUREAU OF ENTOMOLOGY

A staff of several entomologists and zoölogists of the United States Bureau of Entomology moved into the new laboratory built for them on our campus last year by the University. Their full time is devoted to the study of the life-history, habits and

control of the Mediterranean Fruit Fly. While the chief objective is to obtain scientific data concerning this pest for general use throughout the country, it is inevitable that Hawaii will receive a large proportion of the benefits of the work of this new laboratory.

THE AQUARIUM

The Aquarium at Waikiki continues to be an attraction of special interest to visitors and an educational asset of value to our local schools. Over 3,500 school children came last year in study groups, with 96 teachers.

I would recommend that we allow the Superintendent to increase his expenditures for exhibition specimens.

BUILDINGS

There have been no major building activities during the past year. The completion of the new lecture hall overlapped into the year so that our accounts show about $22,000 spent from the Loan Fund, this being the balance of the $40,000 appropriation for this building by the 1929 Legislature. The building has been very satisfactory and is filling a need which had become very urgent.

A new laboratory building was erected for use by the U. S. Bureau of Entomology in connection with studies on the Mediterranean Fruit Fly. This is a one-story building, costing about $15,000, and yields some income to the University from rentals paid by the federal government.

The A.H.P.C. Experiment Station has invested about $50,000 in new buildings on its new site adjoining our campus. This is the beginning of a more extensive plan which will be completed during the next few years.

It is a source of much disappointment that the 1931 Legislature did not see fit to appropriate funds for a new unit in our main quadrangle, for our need for more classrooms is acute. It is hoped that some means of relieving this can be found without waiting for the 1933 meeting of the legislature.

COSTS AND INCOME

It costs something to operate a university with the varied activities characteristic of ours. The expenditures of last year amounted to a total of $689,555.26, the details of which are presented in the Treasurer's report, which follows. Those who carry our burden of taxation will be interested to know that only

half of this total expense was paid from territorial appropriations, the other half having been met from student fees, gifts, federal aid funds, etc. In addition to the total amount indicated above, we should note that the pineapple industry spends about $250,000 a year on its experiment station at the University and the U. S. Department of Agriculture adds $40,000 to the funds of the Hawaii Experiment Station.

This expenditure covers many activities: instruction of regular and extension students to a total of over 2,500, a broad program of extension service throughout the Territory, operation of the Hawaii Agricultural Experiment Station with branches on Maui and Hawaii, conducting research in several other fields of local importance, maintenance of a psychological clinic, operation of student dormitories, cafeteria and bookstore, maintenance of aquarium and others.

It has been estimated that the average taxpayer of Hawaii contributes about $5.00 per year to the maintenance of the university, including the varied activities just noted. For this he receives direct and indirect benefits which would seem to be worth many times what it costs him.

GIFTS

While we are on the subject of income it is appropriate to note several gifts which have been made during the past year. The most outstanding is the new residence hall for men to be erected as a memorial to the late Charles H. Atherton by the Atherton family. This will be a fireproof building, three stories high, with accommodations for fifty men, and will face University Avenue opposite the main quadrangle. The cost will probably be about $100,000.

Other gifts include $30,000 from the Rockefeller Foundation to be used for our racial studies; $20,000 from the Carnegie Corporation, $5,000 of which is for our 1932 School of Pacific and Oriental Studies and $15,000 for our library; $830 from the National Research Council; several additions to our scholarship funds:

Honolulu Chamber of Commerce Freshman Scholarship	$100
Honolulu Chamber of Commerce Agricultural Scholarship	100
Hilo Chamber of Commerce Scholarship	100
Maui Woman's Club Scholarship	100
Hawaiian Woman's Club of Maui	100
Daughters of American Revolution Scholarships (2)	200

Daughters of American Revolution of Maui Scholarship	25
Mrs. Florence Tucker Spaulding Scholarship	150
Ruth C. Scudder Memorial Scholarship	50
Leora Parmelee Dean Scholarship	100
Hawaiian Girls' Club, Honolulu Y.W.C.A. Scholarship	75
Maui Woman's Club Scholarship (Special)	25
Wakaba Kai Scholarship	50
Yang Chung Hui Scholarship	50
Associated Women Students Scholarship	50
Hui Pookela Scholarship	50
Chinese Students Alliance	300
Others	300

Several notable gifts of books are reported: A collection on China to the value of about $550.00 through the kindness of K. N. Chang of the Bank of China, Shanghai; two lots from the Yale University Press to the value of about $350.00.

Respectfully submitted,

DAVID L. CRAWFORD,
President.

Report of the Registrar

During the summer of 1930, 577 applications for admission to the Freshman class were received, 349 of which were accepted. There were ten holdovers from previous years and at the beginning of the second semester three additional students were admitted, making a total of 362 Freshmen, an increase of only 7 per cent over 1929-1930, as against an increase of 16 per cent in the preceding year. Excluding the "holdovers," 23 per cent of the Freshmen came from high schools on the other islands, 6 per cent from high schools on the mainland with eight states and the District of Columbia represented. Two Freshmen came from England, while Nova Scotia, the Philippine Islands and Japan are represented by one student each. Among local schools, McKinley High School sent the largest group, Punahou the second, and Hilo and Maui tied in third place.

Forty-five, or 12.4 per cent, of these 362 Freshmen were dropped during the year for poor scholarship, while 8.2 per cent voluntarily withdrew, making a total "mortality" of 20.6 per cent. This is higher than for the class entering in September, 1929. The increase in "mortality" is divided about equally between the two groups—those dropped and the voluntary withdrawals. Finances and illness are the reasons most frequently given in connection with the voluntary withdrawals, but in some of these cases poor scholarship undoubtedly influenced toward withdrawal.

Thirty-one students entered the upper classes with advanced standing, seven from the Territorial Normal School and the remainder from universities and colleges on the mainland.

Enrollment for the year 1930-1931 shows an increase in undergraduate candidates for degrees of 110, or 12 per cent, an increase of 19, or 23 per cent, in candidates working for Master's degrees, and an increase in total candidates for degrees of 13 per cent. Following is a tabulation of the year's enrollment:

Graduate Division	100
Seniors	151
Juniors	211
Sophomores	274
Freshmen	362
Total	1,098
Deduct	6*
TOTAL DEGREE CANDIDATES	1,092
Part-Time Students	396
TOTAL	1,488

There were 388 non-credit students enrolled in the Extension Division during the year.

The 1931 Summer Session enrollment is 584, not including the class in Nature Study conducted at the Kilauea Volcano Camp. This shows an increase of 12 per cent over the 1930 session. Twenty-six per cent of the enrollment, or 152, hold Bachelor's or Master's degrees; 36 per cent, or 211, are regular undergraduates at the University of Hawaii or elsewhere; 28 per cent, or 169, are normal school graduates or the equivalent, and the remaining 10 per cent are Unclassified Students and Auditors. Seventy-four people, representing thirteen states, came from the mainland to attend the session; Alaska, China and Japan are represented by two each, and the Philippine Islands and South Africa by one each.

At the June Commencement 158 degrees were awarded:

Master of Science	2
Master of Arts	13
Bachelor of Science	35
Bachelor of Arts	108

Eight candidates expect to complete the work for the Bachelor's degrees at the end of the 1931 Summer Session and will go on record as of the class of 1931, and one candidate for the Master of Arts degree. These, added to the June candidates, will give a slightly larger total than for 1930.

*** Received B.A. degree at end of first semester and enrolled in Graduate Division.**

One hundred and nine, or 45 per cent, of those that entered as Freshmen in 1927 completed the work for the Bachelor's degrees here, two of whom finished the work in 1930. This is 3 per cent higher than for the class of 1930. An additional 38, or 15 per cent, made application for transfer to other universities and colleges during the four years and it is reasonable to suppose that most of these have completed the work for the degree elsewhere. This percentage of transfers is slightly lower than for the class of 1930. Considering the above two groups together, there is an approximate "mortality" of 40 per cent in the class entering in 1927 and graduating in 1931. In addition, 18 who entered as Freshmen in 1927 were in attendance at the University during 1930-1931, 16 as regular Juniors who will probably receive the degree in 1932, having dropped back because of change of course, illness or poor scholarship; one as a Sophomore and one as a Part-Time student.

The graduating class again this year has among its members several teachers in service who have built upon work begun in other institutions and completed the requirements for our degrees, eleven receiving the B.A. degree and four the M.A. degree. The private-school teachers are also represented by four who received the M.A. degree.

During the second semester 55 students in attendance at the University requested transcripts of record to be sent to other collegiate institutions. Five of these were Seniors and six Graduate students. Eleven students are transferring to medical schools.

HELEN B. MACNEIL,
Registrar.

The University Library

The past year has been an unusually busy one for the University library, partly because of the increased number of students and the increasing use by the general public, and partly because of the unusually large book orders made possible by the generous gift of the Carnegie Corporation.

The books previously received from the Carnegie Art Education collection have been catalogued and placed on the regular shelves for circulation. The 2,529 pictures in this gift have been catalogued so that they are now available to certain organizations and departments and may be found under period, artist or subject. The Yale University Press again sent us their very valuable publications for the year and the International Mind Alcove; the Carnegie Institute of Washington, the Bishop Museum and many other organizations have put us on their lists to receive all their publications. The library has also received an unusual number of gifts from individuals. One of the most interesting gifts this year was the two-volume reproduction of the Gutenberg Bible presented to the University Library by the late Mr. Towse. The University Library is indeed fortunate to possess this.

The instruction given by members of the library staff in the use of the library as part of the Freshman English has proved so valuable it has become a regular part of the library work, and each year there is a demand for the Summer School course in library training for teacher librarians.

Although the past year has been unusually busy, next year promises to be much more so. All the Carnegie orders will be coming in to be catalogued, there will be more students using the reading rooms and periodicals as well as the books. As the special collections grow, such as the Government Depository, Hawaiian, Oriental literature, etc., they are increasingly called upon not only by residents of Oahu but also by those of the other islands.

The University now has probably the largest collection of State Agriculture bulletins in the Territory and also the most complete collection of Government material. Every effort is being made to collect valuable material on agriculture, chemistry, race problems and Pacific problems so that there may be built up a strong background for research workers along these lines.

A summary of the additions to the University library follows:

SUMMARY STATEMENT

Additions during the year—Bound volumes (General)			2,981
Additions during the year—Unbound parts (General)			11,934
Additions during the year—Bound volumes (Government)			320
Additions during the year—Unbound parts (Government)			6,429
Bound volumes in library 1929-30 (General)		34,168	
Additions 1930-31		2,981	
		37,149	
Books missing for two years & withdrawn	236		
Books transferred	60		
	296	296	
		36,853	
Total bound volumes (General) June 30, 1931			36,853
Bound volumes in library 1929-30 (Government)		16,026	
Additions 1930-31		320	
		16,346	
Duplicate copies transferred		2	
Total bound volumes (Gov't.) June 30, 1931		16,344	16,344
TOTAL BOUND VOLUMES (GENERAL & GOVERNMENT) June 30, 1931			53,197
Total pamphlets (All sources) June 30, 1930		198,538	
Additions pamphlets (All sources) June 30, 1931		18,363	
		216,901	
Pamphlets transferred & discarded		6,475	
TOTAL PAMPHLETS June 30, 1931		210,426	210,426

Books in circulation 1929-30	29,204
Books in circulation 1930-31	32,970
Increase in circulation 1930-31	3,766
Reserve books circulation (not included in above) for 1930-31 (Estimated)	69,237
Books temporarily missing for year 1930-31	459
Catalogued pamphlets missing for year 1930-31	55
Books reported missing in 1930, recovered in 1931	133
Catalogued pamphlets reported missing in 1930, recovered in 1931	54
Evening attendance (6-9 P.M.) Sept., 1930-May 31, 1931	6,212
Gifts year 1930-31 Bound volumes	1,321
Gifts year 1930-31 Unbound parts	6,257

MARY P. PRINGLE,
Librarian.

University Extension Division

Although the year 1930-1931 shows a decrease in the number of students enrolled in University extension courses, due partially to the general business depression, we feel that some progress in other ways may be cited: (1) the offering of a variety of courses which have never before been given by the Extension Division and in which the public seemed interested; (2) the addition of several excellent instructors as members of the instructional staff; and (3) the offering of University credit courses in districts on the other islands that had never been served before.

Ten new courses were included in the schedule for the first semester and five in the second. Fifty per cent of the courses represented new material and new talent, a factor which must be considered if we would hold the interest of students of past years as well as attract new ones.

A summary comparison between the courses, enrollments, costs, etc., during last year and the preceding year is as follows:

	1929-30	1930-31
Total Number of Classes	63	52
Total Number of Instructors	30	34
Enrollments for Credit	367	296
Enrollments on Non-credit Basis	601	459
Total Enrollments	968	755
No. of Individuals Enrolled as Credit Students	244	203
No. of Individuals Enrolled as Non-credit Students	479	388
Total No. of Individuals Enrolled	723	591
Receipts Collected from Fees, etc.	$8,426.00	$8,340.85
Expenses in Connection with Courses	7,629.66	8,315.00
Balance	796.34	25.85

Public Lectures

Faculty members and a few others as guest speakers gave a total of 154 lectures on the several islands and 66 radio talks.

Perhaps the most popular public lectures ever offered by the University were those given by Dr. Kenneth Saunders in the University Lecture Hall in January. The titles of his lectures were as follows: The Buddha and His Religion, Asoka and His Empire, Gandhi and His Social Program, Kagawa and Social Reform in Japan. The Lecture Hall was filled to capacity, and many persons expressed their appreciation of the opportunity to hear these splendid lectures free of charge. We believe that this series of lectures brought the University to the favorable attention of many persons who had never before attended a University function and perhaps had never before been on the University grounds.

Another public lecture which was well attended was that given by Dr. Julius L. Collins, accompanying the showing of the Canti film. This was given under the joint auspices of the University Extension Division and the Hawaiian Academy of Science.

The great crowd of people who attended this lecture would seem to indicate that lectures on scientific discoveries and developments have a wider appeal than is generally supposed, and when presented in popular rather than technical language, with illustrative material, will meet with great favor. Efforts should be made to secure a few lectures of this type in the future, with speakers who are of the type who can present scientific information in a style that can be understood and enjoyed by the average audience.

PLAY LOAN SERVICE

The Play Loan Service, maintained as a free service to schools, churches, little-theatre groups, and other organizations interested in dramatics, is more and more being called upon for advice in the selection of plays suitable for presentation. Demands have come largely from junior and senior high schools this year, with occasional requests from elementary schools. The little really worthwhile material which we have available for the elementary schools has made it difficult to give good service to the elementary schools.

We have now for distribution a collection of 467 plays, pageants, operettas, stunt books for special occasions, etc. This is 163 more copies than we had available for loan the previous year. This past year 164 of these plays were loaned a total of 237 times.

What is needed to improve the service is the purchase of new material which appears in collections especially prepared for elementary, junior and senior high schools, as well as the addition of new plays suitable for adults. Up to the present time, we have relied upon the generosity of the publishers to furnish us copies

gratis, for inclusion in our library, with the understanding that production copies would be purchased by our borrowers direct from the publishers. It is not to be expected, however, that publishers will furnish the more expensive items free of charge, and we would recommend that $75.00 to $100.00 be spent for the purchase of new material.

FILM RENTAL SERVICE

Further additions were made during the year to our collection of films for rental distribution. A summary of the year's activity follows:

DISTRIBUTION

Honolulu (Public Schools)	1,392 reels
Honolulu (Private Schools)	202 "
Rural Oahu Schools	423 "
Kauai Schools	161 "
Maui Schools	208 "
Hawaii Schools	509 "
Organizations and Individuals	326 "
Total number of films distributed	3,221 "

September	20 reels	February	451 reels
October	237 "	March	485 "
November	376 "	April	429 "
December	305 "	May	430 "
January	437 "	June	51 "

Including the cost of purchasing new films, the expenditures of the year for this service exceeded the receipts by $639.56, this deficit being covered by a credit balance of the preceding year. The service is planned to just about pay for itself, as there is no desire to make a profit at the expense of the schools and clubs whom we serve.

The expansion of this film service is all a matter of education. When the school executives and teachers are trained to see its value and prepare and use a systematic program, the children will not only respond to such a program but the benefits that will be derived therefrom will be great.

The lack of proper equipment is one reason given for not using this service in some schools. When those in authority are sure of

the results, equipment will be forthcoming. It has been proved that a classroom can be made dark enough with the ordinary opaque window shade if a good reflecting screen is used. The practice of excluding all the light and air from the room is no longer necessary. The 16mm. film is the most suitable for classroom use; it has the advantages over the 35mm. film as regards cost, transportation, and handling. The projector for such films is simple to operate. No projection booths are necessary, as all 16mm. films are of safety stock, thus eliminating the fire hazard.

There is no question that the motion picture which shows movements and processes, how animals feed their young, how birds build nests, how people live, etc., cannot be surpassed as a teaching device. Nothing is comparable to it except the actual field excursion. The motion picture produces the results of many excursions, and the observer gets the benefits of the time lapse which would be impossible by actual observation during a class period. Our purpose as a department is to provide schools with the best educational material, that the student may thereby acquire right habits, attitudes, and skills, while he is learning useful information, and not just facts for facts' sake, whether the method of approach is from the text or from an activity program.

ETTA R. WASHBURN,
Assistant Director, in Charge.

The Psychological Clinic

I wish to present a report on the activities of the Psychological Clinic for the year ending June, 1931.

In addition to the number of individual examinations which are listed in Miss Babcock's summary, the director of the Clinic carried out a study of a number of the inmates of the Oahu Prison. This study consisted of an extensive psychological analysis of each case with a view to discovering the reasons for the individual's failure as a member of society. If the resources of the Clinic were greater, this service should undoubtedly be extended, but as funds for additional assistance were not provided, the plans for this work must remain in abeyance.

It should also be pointed out that the list of clinical examinations does not by any means give a complete picture of the work. In many cases concerning adult mal-adjustment, it is not a matter for mental examination but for a careful analysis of the whole problem, carried out in coöperation with the individual himself. This may necessitate a dozen interviews. In the case of some children, repeated visits to the clinic are also necessary. The list of individual examinations merely gives the number of individuals with whom the clinic has been in touch during the year, and gives an inadequate idea of the amount of clinical work involved. As a general rule, however, the cases which come to the University for examination are the ones which take the most time and labor. The children examined in the schools usually require a psychometric examination only.

The large number of referring agencies gives evidence of the fact that our work is very closely coördinated with other social agencies. It should also be noted that the public schools refer the greatest number of cases. With the passing of the Department of Research in the school system, more requests for help in classifying children may be expected. If this service by the University to the public schools is to continue, additional assistance must be supplied to the Clinic.

The policy of assuming responsibility for assisting in wider projects for social betterment has been continued. Miss Babcock accepted an invitation to sit on the Governor's Committee on Education and assisted very materially in surveys conducted on behalf of the Crime Commission, of which the director was also a member. In the present year two projects are likely to require considerable attention. One is a committee appointed by the Governor to investigate mental defect in the Territory. The other is a committee on street and highway safety.

The demands for the services of the Clinic in some form or another are steadily increasing, but our resources are not being increased proportionately. Our funds are only sufficient to employ Miss Webb as additional assistant for this year, and that only because Miss Babcock is on leave of absence. Hence there is to be expected a considerable falling off in the amount of work that can be carried on during this present biennium.

The statements by Miss Babcock and Miss Webb are appended. Mr. Russell Leiter, though not paid by Clinic funds, carried out 157 clinical examinations. In addition, 2,550 children were examined for research purposes.

SUMMARY OF CLINICAL WORK FROM JUNE, 1930, TO JUNE, 1931

(M. E. Babcock)

Referring Agency	No. of Cases
Queen's Hospital Training School	62
Schools	56
Parents	50
Social Service Bureau	50
Juvenile Court	45
Board of Health	27
Hospital Social Service	25
Visiting Teacher	23
Girls' Industrial School	19
Palama	17
Emergency Hospital	10
Boys' Industrial School	7
Waimano Home	7
All others	17
Individual Examinations—Total Cases	415

The work this year has been concerned with two major projects. The first was a study of a group of girls at the Girls' Industrial School, carried out with Miss Bergen for Governor's Crime Commission, and also of a group of boys at the Boys' Industrial School, to see what were the major factors contributing to delinquency in these two groups as far as was possible through a coöperative plan of work. This study was reported and published in the report of the Crime Commission.

The second study of major importance has been carried on at the Queen's Hospital Training School, for a period since the first of February. During that time all of the first-year student nurses have been examined to see what value a testing program would have in selecting students for future training. The Hospital has found that the standard of work done by its graduates is not wholly in accord with the aims of the school; and this realization was brought to mind because more than half of the graduates of 1930 failed to pass the examination given by the Territory for Registered Nurses. As a result it seems advisable to raise the standard of the work; and at the same time ensure that only girls who are capable of profiting by the training be allowed to enter. All of the applicants for admission to the school for 1931 have been examined, and recommendations made as to the advisability of accepting them. In addition, for comparative purposes, a group of Queen's Hospital graduate nurses who have been employed at the Hospital for at least a year were given these same tests. The work is continuing still, in the hope that a plan of admission for future years may be worked out that will ensure a certain fitness of the candidates for this type of professional work.

The increasing number of children brought for examination by their parents means that a good deal of time has been taken for interviews with them, and in many cases the parents have returned to the Clinic many times to talk over the problems of child training.

A definite effort has been made to discourage indiscriminate examinations, and to see that as far as possible a definite value to the child and to the person dealing with that child may arise out of the psychological examination.

SUMMARY OF ALL CLINICAL WORK DONE FROM JUNE, 1930, TO JUNE, 1931

The following is a summary of the individual clinical work done from June 15, 1930, to June 15, 1931, by the members of the staff of the Psychological Clinic:

Referring Agency	Number of Cases
Public Schools	734
Board of Health	77
Queen's Hospital Training School	68
Parents	51
Social Service Bureau	50
Juvenile Court	49
Maui Children's Home	41
Hospital Social Service	26
Visiting Teacher	23
Girls' Industrial School	19
Palama Settlement	17
Kalihi Orphanage	14
Waimano Home	7
Boys' Industrial School	7
All others	31
Total Individual Mental Examinations for Clinical Purposes	1,214

The major projects may be determined by references to the individual reports of the three members of the staff. During the year work on the other islands has involved two trips to Maui, and one to Kauai and to Hawaii. Requests for help in rural Oahu have been given consideration, with the result that work was done at Waipahu, Wahiawa, Aiea, Kaneohe, Waiahole.

The increasing number of parents bringing their children to the Clinic means that more direct contact is being made with the persons directly responsible for the welfare of the child, and, for this reason, the value of the examinations is increased markedly.

This report does not include the examinations given at the prison by Prof. Porteus; nor does it record specifically those to which he has given time except indirectly.

REPORT OF WORK DONE FROM JUNE, 1930, TO JUNE, 1931
(Alice L. Webb)

Referring Agency	Number of Cases
Public Schools	569
Board of Health Preventorium	48
Kalihi Orphanage	14
Juvenile Court	3
Queen's Hospital for Admission to Training School	3
Parents	1
Children's Hospital	1
Total Individual Examinations	642

The work done in the Public Schools has been at the request of the principals of the various schools, and has been rather heavily concentrated. All of the children at the Ala Moana Opportunity School who had not been previously examined within a three-year period were given individual tests, and a report was made. As a result of this work it was recommended that 15 children should be returned to the regular grades, though whether the transfers have been made or not is problematical, since that depends upon the various principals involved.

Another large group of dull seventh-year students at Washington Junior High School were examined to help in the problem of classification there. These children were selected on the basis of the low scores in the Terman Group Intelligence Test.

At the request of Dr. Doolittle of the Board of Health, every child is referred for a mental examination before admission to the Preventorium, and this work has been almost entirely in Miss Webb's hands. Because care at the Preventorium is expensive, the Board of Health considers that those children who are sufficiently intelligent to profit by the training in healthful living that is given there should be selected for care of this type. The theory of Preventorium care is to give children who have been in contact with a tubercular person good care and rest for a period and then teach them health habits so that they can return home and continue as far as possible the habits developed at the Preventorium, thus avoiding actual tubercular infection. Since the program is of this type, naturally children who cannot carry out the health habits in their homes will eventually require hospitalization and the value of the training and care at the Preventorium would be nil.

SUMMARY OF RESEARCH

(By R. G. Leiter)

Individual Examinations for research purposes	1316	(Performance Tests)
Group Examinations for research purposes	375	(Seashore Music Tests)

(By Ralph Piddington)

Individual Examinations for research purposes	140	(Performance Tests)
Porteus Footprint Test	120	

(By Alice Webb)

Dot Estimation Test	599
	2550

CLINICAL EXAMINATION

(By R. G. Leiter)

Binet and Maze Tests	157
Vocational Tests (Stenquist and Porteus Maze)	6
	263

S. D. PORTEUS,
Director.

Co-operative Extension Service in Agriculture and Home Economics

The Extension Service has continued to conduct its activities during the past year under the same general policies and plans that were followed during the preceding year. The main objectives, broadly stated, are to aid in the development and maintenance of a prosperous agriculture in Hawaii; to assist in the solution of problems in home making and community life, and to encourage and contribute to the safe and economic production of the food supply of the consuming public. This we aim to accomplish by the means laid down in the Smith-Lever Act, which makes clear the purpose of the Extension Service as follows: "This coöperative agricultural extension work shall consist of the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities and imparting to such persons information on said subjects through field demonstrations, publications and otherwise."

The Extension Service is organized as a state-wide educational service with the University and the Experiment Station as the foundation and central part of the structure, the United States Department of Agriculture as a coöperating party and county units in each county. The extension staff is organized in the divisions of administration, technical specialists and county agents. This gives a coördinate plan of organization and eliminates the main dangers of duplication of effort.

The past year has brought to the attention of the Coöperative Extension Service a number of important new problems in addition to the continuance of most of the old established projects, some of which were carried over from the Agricultural Extension Division which preceded the present Extension Service.

The following major projects together with some of the more outstanding county projects, will give a fair idea of the scope and importance of the Service's present activities.

Agronomy Division

This division deals primarily with the production of field crops, soil management, cropping systems and land utilization generally.

At the present time surveys are under way to determine (1) the best utilization of our abandoned rice lands which are no longer profitable for rice culture primarily because the mainland rice can be bought more cheaply than it can be grown locally. The rice-borer and rice-blast are important contributing causes to the decadence of this once-important industry. It has been found that some of these inherently fertile soils are well adapted to the growing of a number of vegetable crops, including Irish potatoes. Such crops, because of their relative high prices, are especially to be recommended for culture on these high-priced lands. The Extension Service has two comprehensive truck-crop demonstrations planned for the rice areas of the Island of Oahu, one of which is already under way and the other is to be planted in October. Another possible use for these lands is the intensive culture of forage crops for dairy cows and swine. Altogether several thousand acres of valuable lands may be affected by the outcome of this project.

The B. P. Bishop Estate with its numerous tenants is especially concerned in this project and is lending every aid in the carrying out of this work.

Another important land utilization problem which will challenge the best efforts of the Extension Service in the coming year is finding ways and means for the rehabilitation of our marginal pineapple lands which are gradually being thrown out of culture because of overproduction and consequent low prices of pineapple. It is predicted by several of the leading pineapple concerns on the Islands of Maui, Kauai and Oahu that by 1932-33 several thousands of acres of land, now being farmed by small independent pineapple growers, will not be used for pineapples next year, as the growers will not be able to renew their contracts with the canneries, and consequently will have no market for their produce. It is these lands which the Agricultural Extension Service must now concern itself with, and a survey is now under way to determine how best to utilize them. A preliminary investigation suggests the following possible procedures:

(1) Let the lands revert naturally to their former wild state of grass and shrub. This makes a safe and cheap protective covering against erosion, when conditions are favorable and at the same time builds up the organic content of the soil while the land is resting. Such areas will often afford considerable amounts of pasturage for cattle.

(2) A more definite but more costly approach to the problem and one which needs careful planning beforehand, especially where both good arable and poor marginal lands are involved, is to follow

a well-defined plan of forestation for the poorer lands and develop superior pastures or some rational cropping scheme such as the growing of pigeon peas for seed, feed, or green manuring for the good areas. Should the pineapple industry revive later the best of the pastured and cropped areas could readily be conditioned for the pineapple culture, while the forest and woodlot areas would remain permanent as should have been the prevalent practice in the first place.

To carry out economically and efficiently either of the two plans, especially if the land is to be utilized as pasturage, might necessitate the combination of a number of the smaller units into larger ones with the necessary coöperation of all parties concerned.

In the working out of this project, the Forestry, Animal Husbandry, Farm Management and Marketing Divisions are working in close coöperation with the Agronomy Division.

The general Pasture Improvement project inaugurated at the beginning of the Extension Service's organization is gaining rapidly in importance and is destined to become one of the major enterprises of the Service. At this writing close coöperative pasture improvement projects are under way with Parker, Kapapala and Shipman ranches on the Island of Hawaii, and many other minor pasture improvement projects on all of the islands. So important has this work grown that the Hawaii Agricultural Experiment Station has undertaken important forage and pasture research work which will be of great value to all concerned. Likewise has our Mr. Roy A. Goff, county agricultural extension agent for East Hawaii and a pioneer in the more intensive pasture improvement work, been visiting institutions on the mainland for the past three months where pasture research is being done with a view to acquainting our ranchmen with the latest findings in improved pasture practices. It is hoped that circumstances will permit Mr. Goff to devote his entire time to the pasture improvement and management project. Mr. H. L. Chung, Extension Animal Husbandman, formerly agronomist with the Hawaii Agricultural Experiment Station, is giving much valuable aid in this project, as are the county agricultural extension agents on the various islands.

The rice work is confined almost entirely to the Island of Kauai, where County Agent Thompson has done notable work in combating the rice borer and likewise aided in marketing the crop.

The coffee and cotton crops are confined almost exclusively to the Kona region of Hawaii County. This important work, especially in coffee, is under the able supervision of county agricul-

tural extension agent Y. B. Goto, who is in fact our coffee specialist.

The last and what may become one of the most important of the major agronomic projects is Irish potato culture. After a year's survey of the potato situation the writer has become convinced that there is no other truck or field crop which offers such large and quick cash returns for farmers suitably located as does the potato crop. Hawaii's uplands, especially the Kula district on Maui and the Waimea and Waikee districts on Hawaii, are well adapted to potato-growing. It is not generally known that the Kula district at one time (1850-1853) exported up to 71,000 barrels of potatoes annually, this being almost equivalent to half of our imports for 1930, valued at $365,960. Hawaii's present very limited production (10,750 bushels, valued at $16,125) is generally of a superior quality and brings a higher price in the local markets than does the imported product.

A survey of our available lands suitable for potato culture indicates that Hawaii might readily produce all the potatoes consumed locally and that there is additional land for the production of "new, early" potatoes for export at a season when the Pacific Coast states are bare of this high-priced commodity. A comprehensive bulletin on "Commercial Potato Production in Hawaii" is now available.

ANIMAL HUSBANDRY DIVISION

The Animal Husbandry Division, in charge of Mr. H. L. Chung, Extension Animal Husbandman, has continued its poultry, dairying, live stock and meat consumption survey during the past year. From this survey we present the following data covering the entire Territory for the year 1930:

Beef Cattle. Number of ranches: 40. Number of acres in use for grazing: 1,115,200 acres. Total number of beef cattle: 140,300. Value of cattle: $8,500,000.

Dairy Cattle. Number of dairy cows: 12,000 head. Value of dairy cattle: $1,800,000. The increase of dairy cattle in 1930 over 1929 is 1,000 head.

Hogs. Total number of hogs: 43,000, or about 4,000 more than in 1929. The total value of hogs in 1930 was $645,000.

Poultry. Including chickens, ducks and pigeons, total number: 347,900 valued at $659,000. Chicken eggs: 1,648,700 dozens valued at $758,400.

Data covering some of the minor products, such as bees and honey, have not yet been determined.

Outside of the live stock and poultry surveys, the Animal Husbandman has given major attention to the rapidly developing poultry industry of the Territory. Especially has his campaign for improved fowl and increased egg production through careful breeding and close and incessant culling brought about results hardly believed possible a decade ago. For much of this success credit is due Mr. Charles M. Bice of the Poultry Division of the University and also the Hawaii Agricultural Experiment Station. Not the least important work in poultry has been to stress the utilization of home-grown feed, a thing which also applies to dairy cows and swine.

Mr. Chung has been especially active in encouraging poultry and pigeon shows and in the holding of an annual poultry conference for the furtherance of the poultry industry.

In addition to the above major activities the director has called upon Mr. Chung for assistance in various agronomy projects, including pasture improvement and the growing of forage crops.

Minor projects have had to do with caponizing, with turkey-, squab-, rabbit-, and even frog-raising, and administering first aid in a hundred and one ways.

4-H poultry, pigeon, and frog clubs have received due attention from this division during the past year.

Mr. Chung is also "official" photographer for the Coöperative Extension Service.

FARM MANAGEMENT AND MARKETING DIVISION

This division was added to the Extension Service September 1, 1930. Mr. A. S. T. Lund, a former student in the University of Hawaii and a graduate of the University of Minnesota where he also did graduate work in Agricultural Economics, was appointed as Agent in charge of this work.

One of the first projects undertaken by Mr. Lund was to collect and assemble all available statistical data covering agricultural imports and exports and foodstuffs raised and consumed in Hawaii.

These data are now being compiled for publication and should prove valuable to our local public. It will also aid in answering comprehensively and reliably the many inquiries from outside the Territory, as did the University publications "Imports and Exports of Agricultural Products in Hawaii, 1929," compiled by Professor L. A. Henke (Agricultural Studies, No. 4), and "Some Observations on the Agricultural Situation in Hawaii," by President

David L. Crawford, published as No. 8 of Occasional Papers in 1930.

Another important project under way in this division is a series of land classification and land utilization maps covering the entire Territory of Hawaii. These maps are overlays on the large U. S. Geological Topographic Survey maps made in coöperation with the Territory of Hawaii. The exceptionally full and comprehensive data which will appear in the Extension Service agricultural maps have been assembled and compiled from many sources, including the valuable but little known detailed mapping of agricultural crops areas done, partly at the suggestion of the writer, by the late Albert O. Burkland, Topographic Engineer, U. S. Geological Survey. Likewise have invaluable data been compiled from the Report of the Superintendent of the Bureau of Appraisal of the Territorial Tax Board for 1931. Lastly has the Intelligence Section of the General Staff of the Army, quartered at Fort Shafter, greatly assisted in the work by supplying data and also placing at the disposal of the Extension Service several trained draftsmen for our map making.

The poultry management, production-cost accounting project, which has for its object the determination of comparative production and costs of eggs and poultry in Hawaii, is being carried on with eleven collaborators, representative poultrymen on the islands of Oahu, Maui, and Kauai. The first quarterly and semi-annual summaries of all factors considered have been compiled and give valuable information to the producers for their further guidance. Too little is known about the costs of producing most of Hawaii's minor agricultural products. When the poultry costs accounting project is well established, similar studies of other agricultural commodities will be undertaken.

During the past year much attention has been given to the study of grades and standards of agricultural produce, and in the encouragement of producers to market their produce coöperatively. To further this work there has been prepared by Mr. Lund a treatise entitled, "A Guide to Coöperative Organization for Hawaii," which should do much to encourage better coöperating and marketing among our diversified agricultural interests to the benefit of all concerned, including the ultimate consumer. Direct assistance has been given the Hawaii Poultry Producers Association in their proposed reorganization as a strictly coöperative association.

The publication of the Weekly Market Review, including a monthly summary of the average retail prices of the principal

articles of food in Honolulu as compiled by the Federal Bureau of Labor Statistics, continues to be an important function of this division of the Extension Service.

FORESTRY DIVISION

The forestry division, established simultaneously with the Extension Service in 1928, with Mr. T. C. Zschokke in charge, has published three bulletins as follows: "A Manual for Tree Planters in the Hawaiian Islands" (Bulletin No. 5, January, 1930); "The Problem of Soil Saving in the Hawaiian Islands" (Bulletin No. 11, June, 1931) and "Woodlots in Hawaii" (Bulletin No. 14, June, 1931).

Much encouragement and practical advice has been given to farmers and ranchmen throughout the Territory in the matter of planting trees for windbreaks wherever such protection was thought beneficial.

Not only has this division occupied itself with such strictly forestry matters as the above but also with closely related enterprises which have to do with soil conservation through the control of erosion. Lastly, because of the lack of a horticultural specialist on the staff, certain phases of orcharding and ornamental tree planting have been assigned to Mr. Zschokke. This is a procedure not in strict accordance with the terms of the Clarke-McNary Act but in full spirit of its edict. Much favorable comment has resulted from the work of this division.

HOME ECONOMICS AND 4-H CLUB WORK DIVISION

By Miss J. Hazel Zimmerman
Assistant Director of Home Economics

Purpose: To furnish information relating to improved home practices in clothing, nutrition, home improvement, home sanitation and child welfare, and the economics of the home, so that the rural people of Hawaii will have better health and living conditions and enjoy in fuller measure the good things of life.

Goals: (a) Long-time goals for 1935. To have 3,000 homes adopt better practices with regard to the use of fruit, vegetables, whole cereals and milk; to contribute to the reduction of tuberculosis in the Territory; to reduce the number of underweight children to the lowest practical point and to contribute to the reduction of infant mortality. (b) Goals for 1931 to 1932: To have 1,000 homes adopt some improved food habits with regard to the use of vegetables, fruits and milk and to have 1,000 boys and girls carry on some part of a good growth and development project.

Community Organization: The home program is developing organizations in rural communities. These organizations are called Home Demonstration Clubs or University Extension Clubs. Each club has club officers, including an interpreter. A simple program is outlined. The women consider it a great honor to be an officer of a club. It often takes much persuasion on the part of the county agent to get women to become leaders, as most of the women are shy and very retiring. The following adult clubs have been organized in the Territory:

	Home Demonstration Clubs
East Hawaii County	4
West Hawaii County	5
Honolulu County	12
Maui County	7

Other adult work is done through the health clinics, through the coöperation of the Territorial Board of Health. All of the adult work on Kauai is done through health clinics or mothers' clubs.

Seventeen groups on Kauai are working with foods. Three groups in Honolulu are working on child feeding. Coöperation is given to health centers in the other three counties in child feeding. The health clinics offer a fine opportunity for meeting large groups of women but there is little time left to develop community spirit or leadership, as most of the time is given to the nurse and home agent in actual demonstrations.

Leaders' Training: Leaders' training meetings in 4-H Club work have been held on all the islands. Leaders were given special training at the Territorial 4-H Club Week held in June. A Territorial Leaders' Organization was formed at this time.

Program Development: The Home Economics Project for the Territory includes three phases of the work, namely, clothing, foods and home improvement. During the past two years when we were initiating the extension program on the various islands, clothing work was stressed as being better suited as a means of original contact than the other projects. As the agents have become acquainted with the people in the Territory, they find that the interest has been mainly in foods rather than in clothing, and the enrollment during the past year for both adult and junior groups is greater in food work than in clothing. However, we are continuing the clothing program as outlined the past two years

and are finding that it fills a need in a very satisfactory manner. No major changes have been made in the plan adopted.

In the adult program children's garments, general construction of clothing, foundation patterns, color harmony and the care and use of the sewing machine are included in the program for this year.

Reports from doctors, nurses and teachers show that a large percentage of children are underweight. The average diet is high in carbohydrates, lacking fruit, vegetables and milk. Many of the women work in cane and coffee fields and cannot give enough time to the preparation of foods for their many small children. There is a lack of understanding about the necessity of minerals and vitamins in the diet. Visible teeth defects in mothers and children show unbalanced diets. School dentists report that from 95% to 98% of school children have dental defects.

Through conferences with local people and home visits in different counties the home agents have found the women and girls interested in the preparation and serving of meals.

Partial surveys have been made to find out the number of people having home gardens, chickens and a milk supply. Food preparation work has been given for about two years. It is almost impossible to make mainland people understand how simple the demonstrations on food preparation have to be. Women and 4-H girls do not know how to poach an egg or make creamed soup. It is not the plan of the Extension Service to have the people in the Territory of Hawaii adopt the mainland standard of living. Much time will have to be given to studying the value of foods, grown and used here, so that an adequate diet can be demonstrated. Japanese hospitals are patronized by Japanese people because of the food problem more than because of a desire for the professional service of Japanese doctors and nurses.

Method of Procedure: (1) Grow more vegetables; (2) garden campaign in every county; (3) home flocks; (4) use more fruits, every family planting papaias, figs, pears, etc.; (5) increase use of milk by using canned milk but stressing the greater value of good fresh milk; (6) make a study of foods used by Orientals; (7) coöperate with the University Home Economics Department in giving publicity and demonstrations on food tested at the University laboratory; (8) continue food work with the Territorial Board of Health, and (9) prepare illustrative material such as charts and posters; (10) instructions to be translated into the language of the people receiving the instruction; (11) have 4-H girls

give public demonstrations on foods, and (12) have 4-H girls give public exhibits of foods.

Home Management, Home Improvement Program: This program has been worked along with the food project for the past year and a half. Women were interested in such home conveniences as double boilers, pastry boards, measuring cups, strainers, mixing bowls, kettles, paring knives, teaspoons and tablespoons. All the kitchens have running water and sinks, as every home has to depend on tank water for home use. None of the kitchens has shelves or cupboards; supplies and equipment are piled on tables. Most of the cooking is done on Kudos (small stoves built outside where coffee wood is used). Sometimes Kudos are in the kitchens. However, many women are now buying oil stoves. In some communities the home agents have given help with curtains, painting of floors and walls, and the arrangement of kitchens. While the people do not own their homes, in many communities there is a great desire to improve them, especially in the coffee lands of the Kona district.

The Japanese women are good followers. If one woman of a home demonstration club improves her home in any way the others will soon follow, making the same improvement. The agent has to plan details very carefully in all home improvement work.

Yard improvement is needed in many communities. While flowers grow very easily the people are a little slow to make the improvements. This is due to lack of knowledge in regard to yard improvement. Yard-improvement campaigns could be worked out successfully. The people living in plantation camps have fairly good places to live. In most camps the plantation managers make reasonable improvements or furnish paints and other supplies at a very low cost. Yard and garden space is allowed in most camps.

Boys' and Girls' 4-H Club Work: Senior Boys' and Girls' Club work is being stressed more and more as a means of bridging the gap that has heretofore existed between the periods when the youth finished 4-H Club work and entered upon apprenticeship to life work on the farm and in the home. This new approach to our 4-H Club work is meeting with gratifying results.

F. G. KRAUSS, *Director.*

Hawaii Agricultural Experiment Station*

During the year substantial progress was made in connection with the amalgamation of the various experiment station activities formerly locally carried on independently by the University of Hawaii and the United States Department of Agriculture. The year just closed marks the second year of the amalgamation. Attention has been given primarily to the problems in connection with the minor agricultural crops as well as with the live stock and poultry industries which are becoming of increasing importance as the population of the islands continues to increase. The fact that $5,000 of the Adams fund money became available for the first time at the beginning of the year enabled the station to make a substantial start in connection with fundamental investigations for which the Adams funds, as appropriated by Congress, are available. During the year the station has acquired the use of several additional tracts of land for its plantings at different elevations and under varying climatic conditions. The work at the Waiakea substation on the island of Hawaii was closed out and the equipment moved to the newly established Kona substation on the western side of the island of Hawaii, where planting operations were commenced in November, 1930. A 4.2-acre tract of land adjoining the Prisoners' Camp near Olinda, where extensive plantings of pigeon peas were commenced at a 3,500-foot elevation on the island of Maui, was set aside by Executive Order No. 476, dated March 31, 1931, for utilization as a part of the Haleakala substation. Three additional tracts of privately owned land in the same vicinity, but at higher elevations, were made available for plantings of high-elevation pigeon peas and other forage crops. In coöperation with the Territorial Department of Forestry plantings were made within the Territorial Forest Reserves at the higher elevations on the island of Oahu. The effect of a variation in elevation on the growth and behavior of many species is found to be so marked that increased attention to planting the various species at different elevations seems essential to a proper study of the various trees, plants and crops under test.

The agronomic projects of the station were carried out at the University Farm, the Pensacola Street Station, as well as at the Haleakala substation with its 4 experimental tracts at different elevations ranging from 3,500 to 6,400 feet, in addition to the original substation site near Makawao with an elevation of 2,100 feet. In addition to the 591 different varieties, hybrids and selec-

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

tions of pigeon peas (*Cajanus indicus*) which were under test at the three principal stations, some 366 additional selections were made and added to the tests under way. The forms giving the greatest promise of succeeding at the higher elevations were planted at the four high-altitude tracts on the slopes of Haleakala. These plantings included several lots obtained from the slopes of the Himalaya Mountains in India. Seed-production studies of 62 different species and varieties of green-manure crops were continued. These experiments included planting the hills at varying distances apart in the row and with varying numbers of plants in each hill. About 50 species and varieties of economic grasses were tested. They were used in part for feed and in part to provide a source of planting material for those desiring to make plantings of any of these grasses for feeding dairy cattle or other classes of live stock. Experiments with root crops such as taro, cassava, sweet potatoes, ginger and edible canna were continued. Plantings of 10 different varieties of hot red peppers and 12 varieties of garden beans were also made during the year.

The work of the Animal Husbandry Division has been primarily concerned with live stock-feeding experiments. The seventh year of a long-time dairy-feeding experiment to determine the effect of ration containing 25% of cane molasses on milk production and reproductive functions has been completed. The feeding of sprouted oats to test the efficiency of this practice in overcoming breeding trouble with dairy cows and brood sows has been continued, but no definite conclusions can as yet be drawn.

Chemical studies in connection with avocados, Macadamia nuts and pasture grasses, and fertilizer experiments with coffee were important lines of work prosecuted during the year. The bitter principle which develops on heating the avocado for canning was isolated and identified. Methods of avocado-oil extraction were further developed and sterol isolation was successfully accomplished. Oil-content studies of the avocado were facilitated by the use of the rapid refractometer method of oil-content determination. It was found that Macadamia nuts present a wide variation in oil content, and this promises to have an important bearing on further breeding and selection work with this promising crop. Analytical and fertilizer studies were conducted in connection with the more promising pasture grasses on several of the large ranches. Fertilizer experiments with coffee were established on the island of Hawaii and a preliminary soil survey was undertaken primarily in connection with the coffee investigations of the station. Miscellaneous analyses in connection with local problems in fruit preservation, gardening and food-composition studies were completed. Further studies as to the physical and

chemical properties of starch were made in connection with the edible-canna investigations.

The work of the Horticultural Division has consisted primarily of propagation studies concerning tropical fruit and nut trees, maintenance of plantings of the same, and establishing block plantings of the more important economic species in sufficient number to furnish ample planting material for fertilizer and cultural experiments. This last line of work is in line with the newly planned tropical arboretum which it is proposed to develop in coöperation with the newly established Graduate School of Tropical Agriculture of the University of Hawaii. Special attention has been given to the problems arising in connection with the Macadamia nut, pistachio nut and cashew nut. Plantings of the more important tropical fruit and nut trees have been made during the year at the Kona substation on the island of Hawaii, where climatic conditions are quite different from those at the station in Honolulu, where most of the previous plantings have been made. Continued attention has been given to the development of various species of Rubus (raspberries and blackberries) for growth at the higher elevations.

The Nutritional Laboratory concerned itself primarily with vitamin determinations in connection with locally produced food products such as Chinese cabbage (*Brassica sinensis*), local oranges, rice bran, and the Hawaiian edible shellfish known as the opihi. Some progress was also made in connection with a dietary study of the biological value of the protein of the pigeon pea (*Cajanus indicus*). Large and healthy colonies of white rats and guinea pigs have been built up for use in connection with the nutritional investigations.

The Poultry Division continued further work in connection with the control of sorehead (fowl pox) of baby chicks, especially in determining the efficiency of the "stick method" of vaccination with "live virus" vaccine. Observations have been continued to endeavor to discover some sex-linked readily observable character which will make possible the determination of the sex of day-old chicks. Studies have also been made in connection with the battery-brooding of chicks, comparing fireless battery brooders with electrically heated battery brooders. There was no cannibalism noted in connection with the canopy type of electrically heated brooder, but some cannibalism was observed in both the fireless and electrically heated battery brooders. A feeding test was inaugurated to determine the relative nutritive value of Hawaiian-grown papayas, avocado pears, bananas and sweet potatoes in laying and fattening rations for poultry. An experiment to determine the feeding value of 5% and 10% of raw cane

sugar in rations for baby chicks was inaugurated and will be continued.

The division of Soil Physics has confined its attention to two projects of fundamental scientific importance. The first has been a study of the peculiar nature of the capillary rise of water through soils where a marked discontinuity of the rate of rise is to be observed at a certain stage. The second project has involved a study of the correlation between the ratio between the moisture equivalents and wilting coefficients of a set of economically important soils and the silica-sesquioxide ratios of the extracted colloids of those soils.

Over 600 different lots of pigeon peas were under test at the Haleakala substation during the year as well as numerous grasses, green-manure crops, root crops, berries, fruit and vegetables. Extensive experiments with pineapples to test the relative efficiency of certain green-manure crops in connection with different methods of planting and culture have been under way. Ripe pineapple fruits have been matured on an experimental plot at 3,300 feet elevation near Olinda, Maui. The acclimatization and selection work with pigeon peas and other forage plants has necessitated the establishment of 4 additional experimental sites at intervals above the substation on the slopes of Haleakala. These sites are located at elevations of approximately 3,500, 4,800, 5,500 and 6,400 feet. The results obtained at these relatively high elevations will presumably be applicable to approximately 20,000 acres on the island of Maui alone as well as to extensive areas on other islands of the group. Coöperation with the Agricultural Extension Service in facilitating the extension work and contacts of the county agents has proved very satisfactory.

A noteworthy feature of the year was the establishment of the Kona substation on the southwestern portion of the island of Hawaii. A residence for the superintendent, water tanks, minor buildings, and necessary roadways were constructed and 2 acres of the 3-acre tract were cleared and planted to 103 different species, varieties or strains of economically promising tropical fruit and nut trees or plants. Most of the planting survived the very severe drought of 1930. In addition to the actual plantings made on the site itself the substation serves as a center for a number of outlying coöperative experiments with coffee, grazing grasses, fruit and nut trees on privately owned land. These outlying experiments are conducted under the general direction of the respective project leaders at the Central station in Honolulu, but the substation superintendent is able to keep in touch with the various lines of work as the occasion may require.

J. M. WESTGATE, *Director.*

Experiment Station of the Association of Hawaiian Pineapple Canners*

The year 1930-31 was marked by putting into effect changes which had been contemplated previously. Several additions were made to the staff so that in all at the present time there are twenty-five professional members, nine of whom hold the degree of Doctor of Philosophy. A comprehensive building program was outlined and inaugurated on the five acres of land which was acquired adjacent to the University campus. This is to be landscaped and developed as a part of the University campus. Four greenhouse buildings, a service building, a quarantine building and the Entomology and Nematology Laboratory units were erected at a total cost of about $65,000.00.

The results of the work of the Experiment Station are published in two series: a private series including the monthly publication, "Pineapple News," which is an announcement to the pineapple industry of the progress of the month's work; and the "Pineapple Quarterly," giving the results of the completed research projects. A technical series is also maintained which consists of the reprints of papers published in scientific journals. In addition, bulletins are published from time to time. This policy of publication has seemed advantageous because it makes it possible for members of the staff to publish the practical application of their results directed at the field men without being embarrassed by the reactions which scientific men might have to such papers. It also makes it possible to publish purely scientific papers for scientific journals without being embarrassed by the reactions which field men might have to the technical language.

The Agricultural Department has carried on numerous field tests and has been making a study of the histories of the yields of the pineapple fields of the various plantations. When this history is compiled it will be a valuable guide to both the Experiment Station and the plantations themselves.

The Chemistry Department, in addition to its routine experi-

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

ments, has been working on the adaptation of the Neubauer and Mitscherlich technique to the study of the fertility of pineapple fields. With the new greenhouse space which is now available, it is hoped to work out a pot test method of determining the fertilizer requirements of the various areas of the Islands.

The Entomology Department has devoted much of its attention to the relationship between the mealy bug, *Pseudococcus bromelii,* and the so-called wilt of pineapple plants. Some phases of the work have been rather spectacular and it looks at the present time as if the mealy bug were definitely correlated with at least certain types of wilt of the pineapple plant. Through a program of oil sprays it looks as if the industry would be able to protect itself against one of its greatest losses of the past.

The Genetics Department has continued the study of the crossing of pineapple plants and has discovered at least three triploid crosses of pineapples between Smooth Cayenne and other varieties which promise to give us something new in the pineapple line. In addition they have discovered evidence of resistance of certain varieties to nematode attack.

The Nematology Department is engaged in a comprehensive quantitative study of nematode control whereby they have used trap plants to indicate the reduction in the population of nematodes. They are thus able to measure the results of certain cultural practices and the use of certain toxic substances in the soil.

The Pathology Department has been engaged in three types of work: first, the study of yellow-spot, which has been found to be transmitted by the *Thrips tabaci* from various weeds in the pineapple fields to the pineapple plants. Virus diseases have never before been reported as transmitted by thrips, and this particular virus disease had not been known or described. While methods of control have not yet been perfected, the industry is greatly relieved to know that the disease which formerly was a mystery is now understandable. The Entomology Department is now coöperating and is endeavoring to introduce parasites to control the thrips. The second division of work in the Pathology Department has had to do with heart rot in the pineapple. A technique for determining very rapidly and accurately the extent of infection of soil has been perfected and it has been shown that the dipping of planting material in Bordeaux Dip 1-1-3 was very effective against heart rot. The third division of the work has had to do with the diseases of the fruits themselves. Up to the present time the methods have been largely confined to surveys to determine the extent and nature of the damage of these diseases.

The Physiology Department has been engaged in the study of the action of certain rare elements in the soil, notably iron. The iron sulphate spray which is used in connection with growing of pineapples to prevent chlorosis gives rise to many problems with regard to the iron metabolism of the plants. Experiments have shown that pineapple plants grow much more efficiently when a certain minimum amount of iron is present. Other rare elements are also suspected of playing a similar rôle.

It is to be noted that the research activities of this Experiment Station are directed mainly at fundamental results. Inasmuch as the pineapple field superintendents are very largely college graduates, and the equivalent of county agents, this Experiment Station is more nearly a pure research experiment station than is ordinarily the case.

ROYAL N. CHAPMAN, *Director.*

The Aquarium

With the installation last year of the new 25,000-gallon, cement-lined storage tank, we now have an abundant supply of sea water at all times. The size of the tank enables us to shut down the pump at high tides, when the water is more or less murky, and do our pumping only at low tides, when the water is usually clean. This has made a great improvement in the appearance of the fish tanks; and, except at times of unusual weather conditions, the water is very clear. This is a matter of the first importance.

In addition to the tank we have a new electric pump. This extra unit provides a factor of safety which has been needed for a long time. Aside from some minor repairs to the walls of the fish tanks, which may be required before the end of the year, the plant and equipment is in splendid condition.

The Exhibits

There are usually on display about 500 specimens of from eighty to one hundred species of fishes and other marine creatures. The fact that we have no regular collectors is a handicap in keeping the tanks filled, but it also means a material saving in the cost of operation. There are two or three market fishermen who understand what we require and, by doing most of our buying from their boats, we are able to give them enough business to keep them interested. As we spend less than twenty-five dollars per month on our replacements it does not allow much of a revenue for any one fisherman. The reason why they are willing to go to the extra trouble of bringing fish to Waikiki to sell in such limited numbers is that those we buy are mostly of little food value and bring a very low price at the fishmarket. Thus, what they receive from the Aquarium is extra money. During the past year we have developed another source of supply through the exchange of specimens with the Sydney Aquarium. For years we have attempted to collect sea horses from Pearl Harbor, but the fishermen catch them so seldom and handle them so carelessly that we have never been able to keep them except for a short time.

They are plentiful about Sydney Harbor and the director of the aquarium is willing to furnish us all we can use if we will send him our own colored fishes in exchange. We now have a tank of sea horses as a regular part of our exhibit, and they arouse almost as much interest as the octopi.

ATTENDANCE

While the number of visitors has fallen off somewhat, the attendance has kept up surprisingly well. While the attendance in 1930 was somewhat lower than that of the preceding year, the receipts exceeded the average of the previous eight years. The first half of 1931 has shown a further drop in attendance.

One very gratifying feature of the situation is the response of the schools to the free-day privilege. During the past school year the Aquarium has been visited by 3,589 pupils, accompanied by 96 teachers. In the school year 1929-1930 the magnificent aquarium in Golden Gate Park, San Francisco, was visited by 6,113 pupils and 216 teachers. The record for the New York Aquarium was 626 teachers and 16,959 pupils. Thus, considering the ratio of attendance to school population, Honolulu is far ahead of either of the two large centers of population mentioned.

Ours is a small institution. We can never hope to compete in the matter of size with the larger aquaria of the world, as, for example, the John G. Shedd Aquarium in Chicago, which has a building fund of $3,000,000. But by gradually improving the quality of our exhibits through the expenditure of more money for the collection of rarer specimens, we should be able, with the material at hand in our coral reefs, to maintain an exhibit of marine fishes second to none in the world; and this without any enlargement of our present plant. It may be of interest to know that, based upon the number of linear feet of glass-wall tanks, which seems to be the usual standard of comparison, the Honolulu Aquarium is almost the exact size of the celebrated aquarium at Naples—187 feet at Naples as against our 180 feet. The world-wide fame of that institution is ample evidence that mere size is not so important after all.

F. A. POTTER, *Superintendent.*

Report of the Treasurer

I have the honor to present herewith the report of the Treasurer for the fiscal year ending June 30, 1931, in which is set forth the financial history of the University for the year and its financial condition as of July 1st, 1931.

Increase in Assets

The year closed with a net increase to Buildings, Structures and Improvements of $45,357.82, a net increase to Equipment and Live Stock of $21,757.53, and a shrinkage in Land and Land Improvements of $638,391.29, or a total reduction in plant assets of $571,275.94.

It was felt that the Assessor's valuation on University campus land was excessive, and that the actual cost to the Territory of the Kapaakea tract of 25.00 acres at precisely $8,000.00 per acre represented a maximum valuation for all land adjacent to it. The Waahila tract, acquired by the University in 1928 (Executive Order No. 348), comprising 193.93 acres, has been carried at the Tax Assessor's valuation of $150.00 per acre on 97 acres of farm land and $5.00 per acre on the remaining pali land. Under the terms of Executive Order No. 399, the University lost possession of the Waiakea lands, totalling in excess of 94 acres, when its 1931 sugar crop was harvested. Executive Order No. 492 withdrew an additional 28,270 square feet of land from the University's custody. The shrinkage in value above mentioned has been brought about jointly by these withdrawals of land and the revised valuation. The average value per acre of University land holdings approximates $3,170.00.

The net increase in the valuation of buildings, structures, improvements, equipment and live stock does not, of course, reflect the capital expenditures of the year. Depreciation very greatly offsets disbursements of this nature for the fiscal year.

Current Operations

Both income and expenditures show a large increase over previous years. Excluding the loan fund for physical plant extensions (which is highly variable) income and available funds of

$748,288.04 were higher by $64,984.72 than the equivalent total for the year 1929-30. Expenditures, likewise exclusive of loan fund disbursements, were $666,367.81, or $80,444.96 greater than last year's disbursements of $585,922.85.

The increased income is derived from several sources. Student fees increased by $13,715.92, of which $4,627.50 was from medical fees, hitherto not levied. The remainder resulted from the enlarged student body. Federal funds of $124,402.68 were greater than last year by $22,136.86. Departmental income increased $11,120.42 chiefly as a result of the Summer Session income, which combines in the same fiscal year the receipts of two Summer Sessions. Gifts showed an increase of $5,166.24 and interest earned was greater by $68.41. Available Territorial appropriations were less by $18,773.33; sales were lower by $2,178.76, and the miscellaneous income was less by $405.80. These changes account for the net increase of $64,984.72 above mentioned.

Expenditures continue to show the creditable trend of the past. Administration and general expenses have been reduced from 5.3% to 4.8% of the total, and operation and maintenance of the plant has dropped from 6.4% to 6.0%.

Deleting expenditures for physical plant extensions and all auxiliary enterprises, it is possible to compare the current expenditures of the University of Hawaii with the average of the fifty-two reporting institutions covered by the Land Grant College Survey of 1930. In part III, Volume I, of Bulletin No. 9, this statement is made: "Resident instruction, general library, extension, experiment station, and other organized research make up expenditures for strictly educational purposes. . . . Administration and general expenses and physical plant operation and maintenance include expenditures contributory to educational work." A comparison of the percentages expended for each purpose for both the University of Hawaii and the average of all land-grant colleges and universities is submitted herewith:

Purpose	University of Hawaii	Average
Administration and General	5.9	6.8
Resident Instruction	49.3	50.3
General Library	4.9	2.5
Extension	15.2	15.4
Experiment Station and Organized Research	17.2	14.0
Physical Plant Operation and Maintenance	7.5	11.0
Total	100.0%	100.0%

This table tells its own story. Disbursements contributory to educational work total only 13.4% as compared with the general average of 17.8%, a most gratifying situation. Resident instruction and research aggregate 66.5% as compared with the general average of 64.3%. What are considered "strictly educational" expenditures total 86.6% as compared with the general average of 82.2%. This is in accordance with the desire of the University to expend as much as possible on instruction, research, extension and experiment station work, the cost of administration and plant upkeep being only such as is necessary to insure efficiency.

AUXILIARY ENTERPRISES

Aquarium

The Aquarium has had rather a hard year, resulting chiefly from a reduced attendance by tourists in these depressed times. Income from adult admissions fell off by $1,286.75, or in excess of $100.00 per month. Expenditures from available Aquarium funds were reduced by $813.17, but, in spite of this economy, disbursements of $6,131.14 were greater than the income of $5,513.10 by $618.04. Not since 1926 have receipts been so low, and that was prior to the adoption by the Legislature of our recommendation to eliminate the "free day."

Book Store

Book Shop sales increased over last year's total by $3,757.75. Aggregate receipts of $23,116.40 were in excess of disbursements by $3,141.97. This cash balance resulted largely through the economy of quantity purchasing of a year's supply of standardized stock and retailing it as needed by departments throughout the year. Inasmuch as such a procedure saves the University a great deal, and as the margin on such supplies is a very great aid to the Book Store in absorbing the loss on book stock, it is of distinct advantage to all concerned.

Book estimates were rather less accurate than usual and the inventory of $5,561.11 on hand as of July 1, 1931, was greater than last year by $2,305.40. As an enterprise for profit with due consideration for the cost of goods sold as determined by inventory at the beginning and end of the fiscal period, the Book Shop would show a net balance of $5,447.37 for the year's operation.

The Shop is now so congested that it is no longer possible to house adequately even the active and moving stock.

Cafeteria

Cafeteria receipts were $23,035.54 and disbursements were $22,453.26, resulting in a cash balance of $582.28. This is the first time the Cafeteria has shown a profit since its inception. Though serving a larger group, both the food cost and personal service cost were reduced. Disbursements were lower than last year by $2,333.19.

Dormitories

Dormitory receipts were lower and disbursements were higher than last year. As customary, however, they showed a profit of better than $2,000.00.

NEW CONSTRUCTION

The past year has witnessed the completion of the new Lecture Hall at a total cost of $45,295.00, a Kona Experiment Station at a cost of $4,440.00, and other sundry building and land improvements as noted on Schedule II. Work-in-Progress, as listed on the Balance Sheet, represents payments to date for construction on the Entomological Laboratory, which when completed will cost approximately $15,500.00.

SCHEDULES AND EXHIBITS

Particular attention should be directed to the Condensed Statement of Income and Expense, the Balance Sheet, and Exhibits I and II. For those more interested, a survey of all supporting statements, schedules and exhibits should prove fruitful.

Respectfully submitted,

G. R. KINNEAR, *Treasurer.*

CONSOLIDATED BALANCE SHEET

JULY 1, 1931

ASSETS

Plant Assets:	
Land and Improvements (Exhibit XI)	$1,050,695.65
Building, Structures and Improvements (Exhibit XI)	764,843.71
Work-in-Progress (Exhibit XI)	11,690.58
Equipment and Live Stock (Exhibit XI)	433,415.94
Permanent Fund Assets:	
Investments (Exhibit III)	6,200.00
Current Assets:	
Cash on Hand	3,764.16
Cash in Banks	21,686.83
Treasury Deposits:	
University Fund	56,574.32
Auditor's Office:	
Current Account (Exhibit V)	644,070.00
Notes Receivable	475.00
Accounts Receivable (Exhibit VI):	
Accounts, not due	1,242.92
Accounts, past due	934.09
Accrued Interest (Exhibit IV)	75.68
Materials and Supplies (Exhibit VII)	22,156.90
	$3,017,825.78

CONSOLIDATED BALANCE SHEET (Continued)

JULY 1, 1931

LIABILITIES

Fixed Capital Surplus:	
Invested in Plant (Exhibit XI)	$2,260,645.88
Endowment:	
Scholarship Trust (Exhibit VIII)	6,306.82
Student Loan Fund (Exhibit VIII)	521.58
Current Funds and Liabilities:	
Non-lapsing Treasury Deposits (Exhibit I)	75,367.67
Trust Funds (Exhibit I)	576.90
Federal and Offset Funds (Exhibits I, IX, X)	5,927.34
Unallotted Appropriations (Exhibit V)	542,612.50
Unexpended Allotments (Exhibit V)	101,457.50
Reserve for Doubtful Accounts Receivable (Exhibit VI)	387.96
Deferred Credits (Exhibit VI)	7,425.84
Working Capital (Exhibit VII)	16,595.79
	$3,017,825.78

CONDENSED STATEMENT OF INCOME AND EXPENSE

INCOME

Student Fees:		
Registration (Schedule XL)	$ 22,526.95	
Tuition (Schedule XL)	29,986.90	
Laboratory (Schedule XXXIII)	8,776.79	
Medical (Schedule XXXVIII)	4,627.50	
Locker (Schedule XL)	112.25	
Graduate and Other Fees (Schedule XL)	2,767.00	
Total Available from Student Fees		$ 68,797.39
Available from Territorial Loan Fund:		
New Lecture Hall (Schedule XLIII)		22,424.35
Available from Territorial Appropriations:		
General Administration (Schedule I)	30,827.29	
Additions and Improvements to Plant (Schedule II)	11,166.30	
Upkeep of Plant, Buildings and Equipment (Schedule III)	29,098.75	
Shop Operations (Schedule IV)	5,874.70	
Instructional Expenditures (Schedule V)	173,238.34	
Library (Schedule VI)	24,814.35	
Psychological Clinic (Schedule VII)	13,129.41	
Extension Division (Schedule VIII)	5,815.91	
Hawaii Experiment Station (Schedule IX)	17,094.30	
Agricultural Experiment Station, Kona (Schedule X)	4,753.15	
Agricultural Extension (Schedules XI, XII, XIII, XIV, XIX)	21,000.00	
Total Available from Territorial Sources		336,812.50
Available from Federal Sources:		
Smith-Lever (Schedule XV)	$ 22,936.00	
Supplementary Smith-Lever (Schedule XVI)	4,969.20	
Capper-Ketcham (Schedule XVII)	20,594.80	
Additional Coöperative (Schedule XVIII)	2,500.00	
Hatch (Schedule XXII)	15,000.00	
Adams (Schedule XXIII)	5,000.00	
Morrill-Nelson (Schedule XXIV)	50,000.00	
Military Commutation (Schedule XXV)	1,197.52	
Smith-Hughes (Schedule XXXV)	2,205.16	
Total Available from Federal Sources		124,402.68
Interest Earned:		
Federal and Offset Funds (Schedules XIX, XXI, XXII, XXIII, XXIV)	$ 1,464.27	
Trust Funds (Schedule XLII)	407.04	
Student Loan Fund (Schedule XLI)	8.08	
* University Fund (Schedules XXXIII, XL)	320.28	
Total Interest Earned		2,199.67

* Interest on laboratory deposits and bank balances in excess of $5,000.00

CONDENSED STATEMENT OF INCOME AND EXPENSE

INCOME (Continued)

Gifts:		
Rockefeller Foundation — Research Projects (Schedule XXXII)	$ 30,000.00	
Scholarship (Schedule XLII)	1,281.00	
Carnegie and Other (Schedules XXXIV, XL)	6,060.00	
Total Gifts		37,341.00
Departmental Income:		
Aquarium (Schedule XXVI)	$ 5,513.10	
Extension (Schedule XXX)	9,257.48	
Library (Schedule XXXIV)	1,723.39	
Summer Session (Schedule XXXVI)	23,052.50	
Visual Education (Schedule XXXIX)	2,683.73	
Total Departmental Income		42,230.20
Sales:		
Bookstore (Schedule XXVII)	$ 23,116.40	
Cafeteria (Schedule XXVIII)	23,035.54	
Dormitories (Schedule XXIX)	4,550.00	
Hawaii Experiment Station (Schedule XXXI)	17,821.86	
Waiakea and Kona Demonstration Stations (Schedule XXXVII)	1,990.50	
		70,514.30
Miscellaneous:		
Student Loan Fund (Schedule XLI)	$ 100.00	
Other (Schedule XL)	3,201.66	
		3,301.66
Carry-over of Nonlapsing Funds, July 1, 1930:		
University Fund (Schedule XL)	$ 59,694.34	
Student Loan Fund (Schedule XLI)	418.50	
Scholarship Trust Fund (Schedule XLII)	421.86	
Federal Funds	2,153.94	
Morrill-Nelson (Schedule XXIV) $240.12		
Capper-Ketcham (Schedule XVII) 977.73		
Agricultural Extension Contingent Fund (Schedule XXI) 849.63		
Hatch (Schedule XXII) 86.46		
Total Carry-over		62,688.64
Grand Total of All Available Funds		$770,712.39

CONDENSED STATEMENT OF INCOME AND EXPENSE

EXPENDITURES

Disbursements from Federal Funds:		
Morrill-Nelson (Schedule XXIV)	$ 50,750.00	
Smith-Lever (Schedule XV)	22,311.41	
Supplementary Smith-Lever (Schedule XVI)	4,960.97	
Capper-Ketcham (Schedule XVII)	20,154.83	
Additional Coöperative (Schedule XVIII)	1,112.77	
Hatch (Schedule XXII)	15,079.55	
Adams (Schedule XXIII)	4,951.14	
Military Commutation (Schedule XXV)	1,194.16	
Smith-Hughes (Schedule XXXV)	2,490.01	
Total Expenditures, Federal Funds		$123,004.84
Disbursements from Territorial Loan Fund:		
New Lecture Hall (Schedule XLIII)		22,424.35
Disbursements from Territorial General Fund:		
General Administration (Schedule I)	$ 30,827.04	
Additions and Improvements to Plant (Schedule II)	11,166.30	
Upkeep of Plant, Buildings and Equipment (Schedule III)	29,098.75	
Shop Operations (Schedule IV)	5,874.28	
Instructional Expenditures (Schedule V)	173,238.34	
Library (Schedule VI)	24,814.31	
Psychological Clinic (Schedule VII)	13,129.39	
Extension Division (Schedule VIII)	5,815.24	
Hawaii Experiment Station (Schedule IX)	17,094.25	
Agricultural Experiment Station, Kona (Schedule X)	4,752.86	
Agricultural Extension (Schedules XI, XII, XIII, XIV, XIX)	20,289.17	
Total expenditures, Territorial General Fund		336,099.93
Disbursements from University Funds:		
Aquarium (Schedule XXVI)	$ 6,131.14	
Book Store (Schedule XXVII)	19,974.43	
Cafeteria (Schedule XXVIII)	22,453.26	
Dormitories (Schedule XXIX)	2,544.94	
Extension Division (Schedule XXX)	9,679.89	
Hawaii Experiment Station (Schedule XXXI)	14,342.86	
Organized Research (Schedule XXXII)	31,829.07	
Agricultural Extension Contingent (Schedule XXI)	84.39	
Laboratory Fees and Deposits (Schedule XXXIII)	7,659.88	
Library (Schedule XXXIV)	2,888.02	
Visual Education (Schedule XXXIX)	3,323.99	
Summer Session (Schedule XXXVI)	9,732.49	
Waiakea and Kona Demonstration Farms	3,859.35	
Dispensary (Schedule XXXVIII)	5,683.78	
Miscellaneous (Schedule XL)	65,062.55	
Total Expenditures, University Funds		205,250.04

CONDENSED STATEMENT OF INCOME AND EXPENSE

EXPENDITURES (Continued)

Disbursements from Trust Funds:			
Trust Fund (Schedule XLII)	$1,533.00		
Student Loan Fund (Schedule XLI)	480.00		
Total Expenditures, Trust Funds		$ 2,013.00	
Grand total expended			$688,792.16

RECAPITULATION

Available from Federal Sources	$124,402.68		
Available from Territorial Sources	359,236.85		
Total Income from all Sources	224,384.22		
Carry-over, all Funds, July 1, 1930	62,688.64		
Total available		$770,712.39	
Expenditures from all funds		688,792.16	
			$ 81,920.23
Less balances lapsed to Territory			1.74
*Cash Balance on hand, June 30, 1931			$ 81,918.49

*This total of $81,918.49 is composed of the University Fund balance of $75,367.67, the Federal fund balances and offsets of $5,927.34, and the Trust and Student Loan fund balances of $576.90 and $46.58 respectively.

SCHEDULE I

GENERAL ADMINISTRATION

Receipts:		
Territorial Appropriation, G-5861 (balance July 1, 1930)		$ 30,827.29
Disbursements:		
Salaries	$ 23,662.50	
Supplies and Expense	808.02	
Equipment	1,811.60	
Travel	1,340.00	
Automobile Maintenance	211.40	
Dues, Memberships, etc.	255.65	
Commencement and Public Occasions	259.43	
Publications and Publicity	1,838.64	
Radios, Wireless and Cable Messages	67.60	
Postage	476.43	
Miscellaneous and General	95.77	
Total Expenditures		30,827.04
Balance Lapsed to Territorial General Fund		$ .25

SCHEDULE II

ADDITIONS AND IMPROVEMENTS TO PLANT

Receipts:			
Territorial Appropriations, G-5862 (balance July 1, 1930)			$ 11,166.30
Disbursements:			
Building Improvements		$3,419.64	
Remodeling Observatory	$1,600.00		
Other Building Improvements	1,819.64		
Improvements to Land		125.00	
Furniture and Furnishings		5,670.96	
Scientific Equipment		869.72	
Plant Upkeep Equipment		1,080.98	
Total Expenditures			11,166.30
Balance Lapsed to Territorial General Fund			—

SCHEDULE III

UPKEEP OF PLANT, BUILDINGS AND EQUIPMENT

Receipts:			
Territorial Appropriation, G-5863 (balance July 1, 1930)			$ 29,098.75
Disbursements:			
Supervision:			
Salaries		$ 2,100.00	
Upkeep of Buildings and Furniture		14,025.04	
Salaries and Wages (Janitors)	$9,510.00		
Supplies and Expense	1,951.09		
Repairs, Replacements and Maintenance	2,563.95		
Upkeep of Grounds		7,566.01	
Salaries and Wages (Yardmen)	6,880.00		
Supplies and Expense	510.88		
Truck Upkeep	175.13		
Sundry Services		5,407.70	
Electricity and Small Power	2,853.14		
Telephone	1,474.21		
Gas	1,034.15		
Ice	46.20		
Total Expenditures			29,098.75
Balance Lapsed to Territorial General Fund			——

SCHEDULE IV

SHOP OPERATIONS

Receipts:		
Territorial Appropriation (Balance July 1, 1930)		$5,874.70
Disbursements:		
Salaries	$4,140.00	
Supplies and Expense	1,728.78	
Equipment	5.50	
Total Expenditures		5,874.28
Balance Lapsed to Territorial General Fund		.42

SCHEDULE V

INSTRUCTIONAL EXPENDITURES

Receipts:			
Territorial Appropriation, G-5865 (Balance July 1, 1930)			$173,238.34
Disbursements:			
†Salaries		$141,938.33	
†Supplies and Expense		9,106.71	
†Equipment		5,992.31	
Supervision		16,200.99	
Salaries	$ 15,250.00		
Supplies and Expense	830.59		
Equipment	120.40		
Total Expenditures			173,238.34
Balance Lapsed to Territorial General Fund			—

† Represents instructional expense from appropriation only. See Federal and Special Funds for other instructional expenditures.

SCHEDULE VI

LIBRARY

Receipts:		
Territorial Appropriation, G-5866 (Balance July 1, 1930)	$ 24,812.85	
Refund a/c overpayment	1.50	
Total Available		$ 24,814.35
Disbursements:		
Salaries and Wages	$ 16,977.42	
Supplies and Expense	606.26	
Equipment	279.00	
Office	$112.00	
Other	167.00	
Books and Periodicals	6,951.63	
Total Expenditures		24,814.31
Balance Lapsed to Territorial General Fund		.04

SCHEDULE VII

PSYCHOLOGICAL CLINIC

Receipts:		
Territorial Appropriation, G-5867 (Balance July 1, 1930)		$ 13,129.41
Disbursements:		
Salaries	$ 11,340.00	
Supplies and Expense	296.15	
Equipment	581.03	
Instructional and Scientific	$204.03	
Office	377.00	
Motor Vehicles	519.00	
Publications	85.00	
Travel	115.55	
Communication and Postage	79.33	
Automobile Upkeep	113.33	
Total Expenditures		13,129.39
Balance Lapsed to Territorial General Fund		$ .02

SCHEDULE VIII

UNIVERSITY EXTENSION DIVISION*

Receipts:		
Territorial Appropriation, G-5868 (Balance July 1, 1930)		$5,815.91
Disbursements:		
Salaries	$5,020.00	
Supplies and Expense	195.32	
Equipment	313.75	
Films	$ 70.00	
Office Furniture and Furnishings	243.75	
Postage and Communication	239.67	
Printing and Publications	46.50	
Total Expenditures		5,815.24
Balance Lapsed to Territorial General Fund		$ .67

* The larger part of the work of this Division is self-supporting and is included in Schedules XXX and XL.

SCHEDULE IX

HAWAII EXPERIMENT STATION

Receipts:			
Territorial Appropriation, G-5869 (Balance July 1, 1930)			$ 17,094.30
Disbursements:			
Administration—Project 50		$ 775.00	
Salaries	$ 660.00		
Travel	115.00		
Reserve—Project 54		7.50	
Repairs	7.50		
Agronomy—Project 100		6,700.00	
Salaries	2,100.00		
Labor	2,400.00		
Fertilizer	314.20		
Gasoline and Oil	306.03		
Feed	183.52		
Other Supplies and Expense	303.91		
Equipment	1,092.34		
Fordson Tractor $875.00			
Bean and Pea Thresher 195.00			
Other 42.34			
Dairy Project 200		1,127.47	
Labor	770.00		
Supplies and Expense	54.47		
Equipment	303.00		
Piggery—Project 300		900.00	
Labor	900.00		
Poultry—Project 400		7,584.28	
Labor	2,160.00		
Feed	2,118.03		
Supplies and Expense	1,183.53		
Electric Current	447.00		
Truck Upkeep	167.32		
Equipment	1,508.40		
Chevrolet Truck 325.00			
Incubator 341.93			
Power line and transformers 407.00			
Other 434.47			
Total Expenditures			$ 17,094.25
Balance Lapsed to Territorial General Fund			$ .05

SCHEDULE X

AGRICULTURAL EXPERIMENT STATION, KONA, HAWAII*

Receipts:			
Territorial Appropriation, G-2937 (Balance July 1, 1930)			$4,753.15
Disbursements:			
Kona Building (Project 19)		$4,440.00	
Personal Services		142.00	
Supplies and Expense		151.26	
Feed	$103.45		
Telephone	23.00		
Other	24.81		
Equipment		19.60	
Total Expenditures			4,752.86
Balance Lapsed to Territorial General Fund			$ .29

* See, also, Schedule XXXVII.

SCHEDULE XI

AGRICULTURAL EXTENSION, APPROPRIATION G-5870
(Smith-Lever Territorial Offset)

Receipts:			
†Territorial Allotment			$ 12,553.07
Disbursements:			
Administration—Project I		$6,007.50	
Salaries	$6,000.00		
Miscellaneous	7.50		
Publications—Project II		436.00	
Printing and Binding	324.48		
Postage	111.52		
Farm (County Extension Agents)—Project III		5,824.52	
Salaries and Wages	47.00		
Supplies and Materials	459.80		
Stationery and Office Supplies	$ 247.85		
Other	211.95		
Communication Service	173.80		
Postage	169.75		
Telegraph, Telephone	4.05		
Travel	4,845.86		
County Extension Agents	4,645.60		
Subject Matter Agents	168.26		
Clerical and Non-Scientific	32.00		
Transportation Service	28.49		
Equipment	188.55		
Furniture and Fixtures	157.75		
Library	2.05		
Other	28.75		
Miscellaneous	81.02		
Home (County Extension Agents)—Project IV		238.65	
Supplies and Materials	16.50		
Travel	167.90		
Supervising Agents	32.00		
County Extension Agents	135.90		
Furniture and Fixtures	54.25		
Total Expenditures—All Projects			$ 12,506.67
Balance Carried Forward, July 1, 1931			$ 46.40

† Interest earned in 1929-30 of $178.38 and carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XII

AGRICULTURAL EXTENSION, APPROPRIATION G-5870
(Supplementary Smith-Lever Territorial Offset)

Receipts:				
†Territorial Allotment				$4,969.20
Disbursements:				
Publications—Project II			$ 162.90	
Printing and Binding		$ 162.90		
Farm (County Extension Agents)				
Project III			2,103.27	
Personal Services (County Extension Agents)		1,500.00		
Supplies and Materials		79.75		
Stationery and Office Supplies	$ 19.99			
Other	59.76			
Telephone and Telegraph		.30		
Travel		521.22		
District Supervising Agents	158.47			
County Extension Agents	362.75			
Miscellaneous		2.00		
Home (County Extension Agents) Project IV			2,684.29	
Personal Services (County Extension Agents)		265.00		
Supplies and Materials		319.80		
Stationery and Office Supplies	111.30			
Other	208.50			
Commuication Service		15.90		
Telegraph and Telephone	5.75			
Postage	10.15			
Travel		1,882.83		
District Supervising Agents	425.30			
Subject Matter Agents	103.75			
County Extension Agents	1,353.78			
Freight		8.39		
Equipment		176.37		
Furniture and Fixtures	135.25			
Library	11.00			
Scientific	10.47			
Other	19.65			
Miscellaneous		16.00		
Total Expenditures—All Projects				$4,950.46
Balance Carried Forward, July 1, 1931				$ 18.74

† Interest earned in 1929-30 of $81.67 and carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XIII

AGRICULTURAL EXTENSION, APPROPRIATION G-5870
(Capper-Ketcham Territorial Offset)

Receipts:			
* Territorial Allotment			$977.73
Disbursements:			
Publication—Project II		$ 303.04	
Printing and Binding	$ 303.04		
Home (County Extension Agents) Project IV		529.60	
Stationery and Office Supplies	529.60		
Total Expenditures—All Projects			832.64
Balance Carried Forward, July 1, 1931			$ 145.09

* Interest earned in 1929-30 of $28.55 and carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XIV

AGRICULTURAL EXTENSION, APPROPRIATION G-5870
(Clarke-McNary Territorial Offset)

Receipts:			
* Territorial Allotment			$1,500.00
Disbursements:			
Forestry—Project VII		$1,500.00	
Personal Services	$1,200.00		
Supplies and Materials	24.45		
Travel	272.30		
Subject Matter Agents	$247.30		
County Extension Agents	25.00		
Freight	3.25		
Total Expenditures—Project VII			1,500.00
Balance Carried Forward, July 1, 1931			——

* Interest earned in 1929-30 of $22.07 and carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XV

SMITH-LEVER FEDERAL FUND

Receipts:			
* Federal Allotment			$ 22,936.00
Disbursements:			
Administration—Project I		$3,986.44	
Personal Service (Clerical and non-scientific)	$1,891.25		
Supplies and Materials	483.30		
Stationery and Office Supplies	$ 436.04		
Other	47.26		
Telegraph and Telephone	65.70		
Travel (Director)	1,159.40		
Transportation Service	9.47		
Freight	5.42		
Express	4.05		
Equipment	372.67		
Furniture and Fixtures	333.75		
Library	8.05		
Scientific	18.27		
Other	12.60		
Miscellaneous	4.65		
Publications—Project II		278.20	
Printing and Binding	278.20		
Farm (County Extens. Agents) Project III		3,366.38	
Personal Services (Clerical and Non-Scientific)	2,015.00		
College	230.00		
County	1,785.00		
Supplies and Materials	269.39		
Stationery and Office Supplies	205.19		
Other	64.20		
Telephone and Telegraph	258.55		
Travel (County Extension Agents)	195.00		
Freight	22.59		
Equipment	290.85		
Furniture and Fixtures	160.00		
Library	19.03		
Scientific	111.82		
Miscellaneous	315.00		
Home (County Extens. Agents)— Project IV		9,190.50	
Personal Services	4,981.95		
Territorial Supervising Agents	2,266.67		
County Extension Agents	775.12		
Clerical and Non-Scientific	1,936.66		
Other	3.50		
Supplies and Materials	915.20		
Stationery and office Supplies	652.09		
Other	263.11		

SCHEDULE XV
SMITH-LEVER FEDERAL FUND

Disbursements (Continued):			
Communication Service		208.76	
Telephone and Telegraph	182.10		
Postage	26.66		
Travel		2,294.51	
Terr. Supervising Agents	54.50		
County Extension Agents	2,240.01		
Transportation Service		21.58	
Freight	19.00		
Express	2.58		
Equipment		531.20	
Furniture and Fixtures	492.45		
Library	28.00		
Other	10.75		
Miscellaneous		237.30	
Animal Husbandry—Project VI			5,000.54
Personal Services (Subject Matter Agents)		4,000.00	
Supplies and Materials		108.75	
Stationery and Office Supplies	33.36		
Other	75.39		
Telephone and Telegraph		7.95	
Travel		825.21	
Subject-Matter Agents	780.86		
County Extension Agents	44.35		
Equipment		52.63	
Furniture and Fixtures	15.00		
Library	37.63		
Miscellaneous		6.00	
Forestry—Project VII			489.35
Personal Services (Clerical)		2.70	
Supplies and Materials		171.79	
Stationery and Office Supplies	144.44		
Other	27.35		
Telegraph and Telephone		4.50	
Travel (Subject Matter Agents)		256.70	
Freight		11.36	
Equipment		42.30	
Furniture and Fixtures	15.00		
Library	6.80		
Other	20.50		
Total Expenditures—All Projects			22,311.41
Balance Carried Forward, July 1, 1931			$ 624.59

* Accumulated interest earned of $206.37 carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XVI

SUPPLEMENTARY SMITH-LEVER FEDERAL FUND

Receipts:			
† Federal Allotment			$4,969.20
Disbursements:			
Publications—Project II		$ 101.25	
Printing and Binding	$ 101.25		
Farm (County Extens. Agents)—Project III		3,253.15	
Personal Services (County Extens. Agents)	3,253.15		
Home (County Extens. Agents)—Project IV		1,606.57	
Personal Services (County Extens. Agents)	1,550.00		
Supplies and Materials	12.44		
Stationery & Office Supplies	$4.71		
Other	7.73		
Travel (County Extens. Agents)	43.13		
Transportation Service (Freight)	1.00		
Total Expenditures—All Projects			4,960.97
Balance Carried Forward, July 1, 1931			$ 8.23

† Interest earned in the amount of $37.63 carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XVII

CAPPER-KETCHAM FEDERAL FUND

Receipts:†			
Balance on hand, July 1, 1930		$ 977.73	
Federal Allotment		20,594.80	
Total Available			$ 21,572.53
Disbursements:			
Farm (County Extens. Agents)—Project III		$ 9,532.94	
Personal Services (County Extension Agents)	$ 8,841.06		
Supplies and Materials	254.84		
Stationery and Office Supplies	$ 181.65		
Other	73.19		
Travel (County Extens. Agents)	419.64		
Transportation Service (Express)	.70		
Equipment	16.70		
Library	6.75		
Scientific	7.20		
Other	2.75		
Home (County Extens. Agents)—Project IV		10,621.89	
Personal Services	10,568.99		
County Extens. Agts.	$ 9,508.34		
Clerical and Non-Scientific (College)	660.65		
Clerical and Non-Scientific (County)	400.00		
Travel (Supervising Agents)	52.90		
Total Expenditures—All Projects			20,154.83
Balance Carried Forward, July 1, 1931			$ 1,417.70

† Accumulated interest of $306.64 carried forward as of July 1, 1930, has been covered into the Agricultural Extension Contingent Fund.

SCHEDULE XVIII

FEDERAL ADDITIONAL COOPERATIVE FUND

Receipts:		
Federal Allotment		$2,500.00
Disbursements:		
Farm Management—Project V		
Personal Services (Subject Matter Agents)	$ 926.67	
Supplies and Materials	137.10	
Stationery and Office Supplies $120.50		
Other 16.60		
Travel (Subject Matter Agents)	48.00	
Equipment (Library)	1.00	
Total Expenditures—Project V		1,112.77
Balance Carried Forward, July 1, 1931		$1,387.23

SCHEDULE XIX

ADDITIONAL COOPERATIVE TERRITORIAL OFFSET

Receipts:		
Interest earned allotted as offset	$ 500.00	
Supplementary Offset from University Fund	1,000.00	
Total Available		$1,500.00
Disbursements:		
Farm Management—Project V		
Personal Services (College clerical)	160.00	
Supplies and Materials	51.30	
Stationery and Office Supplies $45.85		
Other 5.45		
Travel (Subject Matter Agents)	53.85	
Equipment (Furniture and Fixtures)	234.25	
Total Expenditures—Project V		499.40
Balance Carried Forward, July 1, 1931		$1,000.60

SCHEDULE XX

HAWAIIAN HOMES FEDERAL OFFSET

†**Receipts:**			
Federal Offset Pledge			$1,000.00
†**Disbursements:**			
Farm Management—Project V			
Clerical and Non-Scientific Services		$ 240.00	
Supplies and Materials		173.56	
Stationery and Office Supplies	$ 87.66		
Other	85.90		
Communication Service (Postage)		1.00	
Travel		321.18	
Supervising Agents	12.50		
Subject Matter Agents	308.68		
Printing and Binding		38.25	
Equipment		212.11	
Furniture and Fixtures	186.50		
Library	25.61		
Total Expenditures—Project V			986.10
Balance Unexpended			$ 13.90

† Hawaiian Homes Offset Pledge money could not be transferred to the University; consequently approved invoices were sent to the Hawaiian Homes Commission and vouchered through in manner identical with their own invoices.

SCHEDULE XXI

AGRICULTURAL EXTENSION CONTINGENT FUND

Receipts:			
Balance on Hand, July 1, 1930		$ 849.63	
Interest earned in excess of $500.00—pledged to Project V (See Schedule XIX)		208.63	
Total Available			$1,058.26
Disbursements:			
Supplies and Materials		$ 7.91	
Telephone and Telegraph		1.36	
Travel		69.92	
Supervising Agents	$16.00		
County Extension Agents	53.92		
Miscellaneous		5.20	
Total Expenditures			84.39
Balance Carried Forward, July 1, 1931			973.87

SCHEDULE XXII

HATCH FEDERAL FUND

Receipts:			
Balance on hand, July 1, 1930		$ 86.46	
Federal Allotment		15,000.00	
Interest earned		81.74	
Total Available			$ 15,168.20
Disbursements:			
Administration—Project 50		$ 431.86	
Personal Services	$ 156.50		
Stationery and Supplies	8.50		
Travel	201.61		
Equipment	65.25		
Furniture and Fixtures	$ 54.00		
Scientific	11.25		
Agronomy—Project 100		2,478.05	
Personal Services	2,278.55		
Stationery and Supplies	23.00		
Equipment (Furniture and Fixtures)	176.50		
Dairy—Project 200		584.12	
Feed	500.12		
Transportation Service	15.00		
Equipment	69.00		
Scientific	45.00		
Other	24.00		
Pigs—Project 300		186.91	
Feed	186.91		
Poultry—Project 400		3,839.24	
Personal Services	2,939.67		
Feed	513.34		
Travel	35.00		
Transportation Service (Freight)	25.69		
Equipment	325.54		
Scientific	225.54		
Livestock	100.00		
Nutrition—Project 500		3,632.93	
Personal Services	2,647.50		
Stationery and Supplies	12.13		
Scientific Supplies	67.24		
Feed	207.64		
Other sundry supplies	84.87		
Fertilizers	2.00		
Transportation Service (Freight)	3.68		
Equipment	607.87		
Library	5.50		
Scientific	485.37		
Other	117.00		

SCHEDULE XXII

HATCH GENERAL FUND

Disbursements (Continued):			
Soils—Project 600		421.70	
Personal Services	219.83		
Scientific Supplies	36.43		
Sundry Supplies	27.96		
Telegraph	1.50		
Transportation Service (Freight)	11.96		
Equipment	124.02		
Scientific 63.80			
Other 60.22			
Avocado—Project 700		1,975.13	
Personal Services	1,641.46		
Stationery and Supplies	2.40		
Scientific Supplies	23.39		
Sundry Supplies	3.53		
Equipment	304.35		
Furniture and Fixtures 6.60			
Scientific Equipment 297.75			
Coffee—Project 800		1,450.06	
Personal Services	1,320.00		
Travel	130.06		
Interest		79.55	
Repairs	79.55		
Total Expenditures—All Projects			15,079.55
Balance Carried Forward, July 1, 1931			$ 88.65

SCHEDULE XXIII

FEDERAL ADAMS FUND

Receipts:			
Federal Allotment		$ 5,000.00	
Interest Earned		66.97	
Total Available			$5,066.97
Disbursements:			
Nutrition—Project 500		$ 572.80	
Personal Services	$ 250.00		
Scientific Equipment	308.00		
Repairs and Alterations	12.00		
Feed	2.80		
Soils—Project 600		4,378.34	
Personal Services	1,078.50		
Stationery and Supplies	.80		
Scientific Supplies	383.71		
Other Supplies	20.74		
Transportation Service (Freight)	31.02		
Equipment	2,863.57		
Furniture and Fixtures	$ 7.64		
Library	13.50		
Scientific	2,842.43		
Total Expenditure—All Projects			4,951.14
Balance Carried Forward, July 1, 1931			$ 115.83

SCHEDULE XXIV

MORRILL-NELSON FEDERAL FUND

Receipts:		
Balance on hand, July 1, 1930	$ 240.12	
Federal Allotment	50,000.00	
Interest earned	606.93	
Total Available		$ 50,847.05
Disbursements:		
Agriculture	4,800.00	
Mechanic Arts	14,050.00	
English Language	5,000.00	
Mathematical Sciences	4,800.00	
Natural and Physical Sciences	22,100.00	
Total Expenditures		50,750.00
Balance Carried Forward, July 1, 1931		$ 97.05

SCHEDULE XXV

MILITARY COMMUTATION

Receipts:		
Federal Commutation Received	$ 993.33	
Student refund of Commutation	30.02	
† Student Receipts	174.17	
		$ 1,197.52
Disbursements:		
Uniforms, insignia, belts, shoes and suiting		1,194.16
Balance Carried Forward, July 1, 1931		$ 3.36

† In Excess of Commutation Provided.

SCHEDULE XXVI

AQUARIUM

Receipts:		
Entrance Fees:		
Adults	$5,081.00	
Children	432.10	
Total Available		$5,513.10
Disbursements:		
Personal Services	5,130.00	
Supplies	181.16	
Travel	26.10	
†Repairs and Upkeep	52.75	
Light and Power	429.73	
Fish	311.40	
Total Expenditures		6,131.14
Net Deficit, July 1, 1931		*$ 618.04*

† Represents Maintenance Outlay from Aquarium Income Only.

SCHEDULE XXVII

BOOK STORE

Receipts:		
Sales of books and stationery		$ 23,116.40
Disbursements:		
Personal Services	$ 695.72	
Book stock	15,523.47	
Paper stock	3,473.12	
Communication Service	54.30	
Transportation Service	219.72	
Miscellaneous	4.50	
Equipment	3.60	
Total Expenditures		19,974.43
Balance Carried Forward, July 1, 1931		$ 3,141.97

SCHEDULE XXVIII

CAFETERIA

Receipts:		
Cafeteria Sales		$ 23,035.54
Disbursements:		
Personal Services	$ 5,464.68	
Groceries and Foodstuffs	15,795.22	
Supplies	247.70	
Repairs and Maintenance	441.81	
Fuel Oil	132.75	
Electricity	234.07	
Laundry	106.15	
Telephone	27.50	
Equipment	3.38	
Total Expenditures		22,453.26
Balance Carried Forward, July 1, 1931		582.28

SCHEDULE XXIX

DORMITORIES

Receipts:		
From rental of rooms		$4,550.00
Disbursements:		
Personal Services	$1,560.00	
Supplies	89.23	
Repairs and Maintenance	209.17	
Telephone	212.50	
Electricity and Gas	291.76	
Laundry	108.43	
Equipment	73.85	
Total Expenditures		2,544.94
Balance Carried Forward, July 1, 1931		$2,005.06

SCHEDULE XXX

EXTENSION DIVISION
(University Fund Account)

Receipts:		
Fees from Extension Courses and Miscellaneous Income		$9,257.48
Disbursements:		
Personal Services	$7,860.23	
Publications and Circulars	650.29	
Travel	368.00	
Postage	304.30	
Advertising	204.15	
Radios and Cables	19.64	
Other Supplies and Expense	171.64	
Equipment	101.64	
Total Expenditures		9,679.89
Deficit, July 1, 1931		*$ 422.41*

SCHEDULE XXXI

HAWAII EXPERIMENT STATION
(University Fund Account)

Receipts:			
Agronomy		$ 57.25	
Dairy		12,141.47	
Poultry		3,663.17	
Swine		1,959.97	
Total Receipts			$ 17,821.86
Disbursements:			
Administration—Project 50		$ 660.00	
Personal Services	$ 660.00		
Agronomy—Project 100		2,850.91	
Personal Services	2,561.40		
Feed	16.76		
Transportation Service	.25		
Communication Service			
Postage	26.00		
Repairs	89.00		
Miscellaneous	2.50		
Land Improvements	155.00		
Dairy—Project 200		8,427.80	
Personal Services	2,538.00		
Supplies	1,247.48		
Feed	3,827.59		
Transportation Service	109.94		
Electricity and Small Power	402.65		
Repairs	70.72		
Miscellaneous	55.15		
Motor Vehicle Upkeep	176.27		
Swine—Project 300		1,409.87	
Supplies	549.46		
Feed	825.68		
Transportation Service	31.08		
Miscellaneous	3.65		
Poultry—Project 400		994.28	
Personal Services	37.58		
Supplies	197.07		
Feed	749.62		
Communication Service	1.40		
Motor Vehicle Upkeep	8.61		
Total Expenditures			14,342.86
Balance Carried Forward, July 1, 1931			$ 3,479.00

SCHEDULE XXXII

ORGANIZED RESEARCH

Receipts:			
Rockefeller Foundation Grant			$ 30,000.00
Disbursements:			
Psychological Research			
Personal Services	$7,335.67		
Supplies	381.12		
Communication Service	8.55		
Travel Expenses	432.63		
Transportation Service	31.50		
Printing and Binding	13.50		
Repairs	5.50		
Equipment	77.26		
Total Psychological Research		$ 8,285.73	
Sociological Research			
Personal Services	$9,150.59		
Supplies	179.21		
Communication Service	2.02		
Travel Expenses	384.85		
Transportation Service	1.09		
Repairs	7.55		
Total Sociological Research		9,725.31	
Biological Research			
Personal Services	$9,879.33		
Supplies	960.52		
Communication Service	69.66		
Travel Expenses	2,419.49		
Transportation Service	48.83		
Repairs	8.75		
Miscellaneous	2.25		
Equipment	429.20		
Total Biological Research		13,818.03	
Total Expenditures—all projects			31,829.07
Deficit, July 1, 1931			†$ *1,829.07*

† Although a deficit appears for the operations of the fiscal year, there is available a sufficient balance unexpended in previous years.

SCHEDULE XXXIII

LABORATORY FEES AND DEPOSITS

Receipts:			
Laboratory Fees (net)		$7,840.79	
Deposits against Laboratory Breakage	$2,862.16		
Less Refunds	1,926.16		
Deposits covered into Treasury		936.00	
Interest earned		48.54	
Total Available			$8,825.33
Disbursements:			
Personal Services		$1,555.36	
Supplies		4,184.90	
Communication Service		23.45	
Transportation Service		21.01	
Advertising and Publication of Notices		2.00	
Electricity and Small Power		57.44	
Rents		340.00	
Repairs		21.58	
Miscellaneous Current Expense		12.64	
Equipment		1,441.50	
Total Expenditures			7,659.88
Balance Carried Forward, July 1, 1931			$1,165.45

SCHEDULE XXXIV

LIBRARY SPECIAL FUND

Receipts:		
Fees, Fines and Penalties	$1,723.39	
Gifts to the Library	60.00	
Total Available		$1,783.39
Disbursements:		
Personal Services	$1,052.83	
Supplies	13.41	
Communication Service	1.36	
Transportation Service	7.05	
Repairs	25.50	
Book stock	1,724.87	
Equipment	63.00	
Total Expenditures		2,888.02
Deficit, July 1, 1931		†*$1,104.63*

† Fiscal year deficit only. Accumulated unexpended library special funds total $1,486.08. For the current year, $1,000.00 was pledged from other sources, consequently there is still available to the library $1,381.45.

SCHEDULE XXXV

VOCATIONAL EDUCATION

Receipts:		
Reimbursement from Smith-Hughes Funds		$2,205.16
Disbursements:		
Personal Services	$1,950.00	
Supplies	16.12	
Travel Expense	445.10	
Rentals	46.65	
Motor Vehicle Upkeep	32.14	
Total Expenditures		2,490.01
Deficit, July 1, 1931		*$ 284.85*

SCHEDULE XXXVI

SUMMER SESSION

Receipts:		
Tuition and Registration		$23,052.50*
Disbursements:		
Personal Services	$9,055.00	
Supplies	310.20	
Communication Service	46.26	
Printing and Binding	90.00	
Advertising and Publication of Notices	106.40	
Miscellaneous Current Expense	37.04	
Equipment	87.59	
Total Expenditures		9,732.49
Balance Carried Forward, July 1, 1931		$13,320.01*

* This includes the receipts of two years, 1930 and 1931, both having fallen within the same fiscal year. The disbursements reported here are for the 1930 summer session, hence the relatively large balance carried forward.

SCHEDULE XXXVII

WAIAKEA AND KONA DEMONSTRATION FARMS

Receipts:		
Kona	$ 150.00	
Waiakea	1,840.50	
Total Available		$1,990.50
Disbursements:		
Personal Services	$3,287.50	
Supplies	164.32	
Communication Service	26.50	
Transportation Service	326.50	
Repairs	12.50	
Miscellaneous Current Expense	7.50	
Motor Vehicle Upkeep	10.30	
Equipment	24.23	
Total Expenditures		3,859.35
Deficit, July 1, 1931		*$1,868.85*

SCHEDULE XXXVIII

DISPENSARY

Receipts:		
Medical Fees		$4,627.50
Disbursements:		
Personal Services	$4,850.00	
Supplies	219.38	
Miscellaneous Current Expense	34.12	
Equipment	580.28	
Total Expeditures		5,683.78
Deficit, July 1, 1931		*$1,056.28*

SCHEDULE XXXIX

VISUAL EDUCATION

Receipts:		
Rental of Films		$2,683.73
Disbursements:		
Personal Services	$ 336.98	
Supplies	238.26	
Communication Service	144.30	
Transportation Service	165.56	
Printing and Binding	86.00	
Rentals	627.49	
Repairs	104.21	
Miscellaneous Current Expenses	4.10	
Equipment	1,617.09	
Films	$1,491.12	
Other	125.97	
Total Expenditures		3,323.99
Deficit, July 1, 1931		*$ 640.26*

SCHEDULE XL

UNIVERSITY FUND—MISCELLANEOUS

Receipts:			
Fees			
Registration	$ 22,526.95		
Tuition	29,986.90		
Locker	112.25		
Graduate and Other Fees	2,767.00		
Total Fees		$ 55,393.10	
Gifts		6,000.00	
† Other Miscellaneous Income		3,473.40	
Balance Brought Forward, July 1, 1930		59,694.34	
			$124,560.84
Disbursements:			
Additions and Improvements to Plant			
New Lecture Hall (Univ. Fund Portion)	$ 4,793.56		
Entrance lights—H. H. Front Steps	281.27		
Sidewalks and Road Construction (U. L. H.)	2,495.83		
Entomology Laboratory	11,664.33		
Other Improvements	91.75		
Total Additions and Improvements to Plant		19,326.74	
Plant Upkeep and Maintenance			
Personal Services	2,007.33		
Supplies	822.91		
Communication Service	126.85		
Heat, Light and Power	312.63		
Repairs	217.94		
Miscellaneous Current Expense	12.50		
Equipment	85.60		
Total Upkeep and Maintenance		3,585.76	
Shop Operations			
Personal Services	1,595.00		
Supplies	222.96		
Repairs	3.00		
Total Shop Operations		1,820.96	
Instructional Expenditures			
Personal Services	29,778.38		
Supplies	17.93		
Communication Service	10.39		
Travel Expenses	120.98		

† Excludes income of $258.50 derived from sale of government property and transferred to Territorial General Fund. Includes bank interest of $271.74.

Transportation Service	37.16		
Repairs	19.00		
Miscellaneous Current Expense	10.05		
Equipment	9.90		
Total Instructional Expenditures		30,003.79	
Publications and Publicity			
Personal Services	1,416.67		
Supplies	630.98		
Travel Expense	57.41		
Transportation Service	19.58		
Printing and Binding	372.00		
Advertising and Publication of Notices	158.09		
Rents	2.00		
Miscellaneous Current Expense	2.35		
Total Publication and Publicity Expense		2,659.08	
Student Welfare			
Supplies	526.22		
Communication Service	3.00		
Transportation Service	5.50		
Advertising and Publication of Notices	14.55		
Repairs	86.01		
Miscellaneous Current Expense	310.93		
Equipment	361.65		
Total Student Welfare Expense		1,307.86	
Miscellaneous			
Personal Services	3,385.58		
Supplies	441.04		
Communication Service	60.15		
Travel Expenses	24.00		
Transportation Service	307.00		
Advertising and Publication of Notices	26.25		
Repairs	62.00		
Miscellaneous Current Expense	131.20		
Equipment	921.14		
Transfer to Agricultural Extension Offset	1,000.00		
Total Miscellaneous Expenditures		6,358.36	
Total Expenditures—All Purposes			65,062.55
Balance Carried Forward, July 1, 1931			$ 59,498.29

SCHEDULE XLI

STUDENT LOAN FUND

Receipts:			
Interest Earned on Outstanding Loans	$ 8.08		
Balance Brought Forward, July 1, 1930	418.50		
		$426.58	
Loan Repayments		100.00	
Total Available			$526.58
Disbursements:			
Loans to Students		$480.00	
Total Disbursed			480.00
Balance Carried Forward, July 1, 1931			$ 46.58

SCHEDULE XLII

TRUST FUND

Receipts:			
Scholarship Donations and Additions to Uninvested Principal		$1,281.00	
Income from Investments		391.56	
Bank Interest Earned		15.48	
Balance Brought Forward, July 1, 1931		421.86	
Total Available			$2,109.90
Disbursements:			
Scholarship Awards		$1,475.00	
Prince Fushimi Scholarships (5)	$300.00		
Stephen Spaulding Scholarships (2)	300.00		
Chinese Community Scholarships (3)	225.00		
Honolulu Chamber of Commerce (2)	200.00		
Hilo Chamber of Commerce (1)	100.00		
D. A. R. Scholarships (3)	200.00		
Maui Women's Club Scholarship (1)	50.00		
Castle Scholarship (1)	50.00		
Dean Prize	50.00		
Premium, Commission and Interest (Mutual Tel. Bond)		58.00	
Total Expenditures			1,533.00
Balance Carried Forward, July 1, 1931			$ 576.90

SCHEDULE XLIII

TERRITORIAL LOAN FUND

Receipts:			
Balance Brought Forward			$ 22,424.35
Disbursements:			
New Lecture Hall		$ 22,424.35	
Total Expenditures			22,424.35

EXHIBIT I

UNIVERSITY OF HAWAII

SUMMARY STATEMENT OF ACCOUNTS

July 1, 1930

	Ledger Control Accounts	Allotments or Available Balances July 1, 1930	Receipts	Total	Expenditures	Balance
G-5861	General Administration	$ 30,827.29	$	$ 30,827.29	$ 30,827.04	$ * .25
G-5862	Additions and Improvements to Plant	11,163.30	.....	11,166.30	11,166.30	.....
G-5863	Upkeep of Plant, Bldgs., and Equipment	29,098.75	.....	29,098.75	29,098.75	.....
G-5864	Shop Operations	5,874.70	.....	5,874.70	5,874.28	* .42
G-5865	Instructional Expenditures	173,238.34	.....	173,238.34	173,238.34	.....
G-5866	Library	24,812.85	.....	24,812.85	24,812.81	* .04
G-5867	Psychological Clinic	13,129.41	.....	13,129.41	13,129.39	* .02
G-5868	Extension Division	5,815.91	.....	5,815.91	5,815.24	* .67
G-5869	Hawaii Experiment Station	17,094.30	.....	17,094.30	17,094.25	* .05
G-5870	Agricultural Extension	19,022.27	.....	19,022.27	19,022.27	.....
G-2937	Kona Experiment Station	4,753.15	.....	4,753.15	4,752.86	* .29
S-5886	University Special Fund	59,694.34	223,587.49	283,281.83	207,914.16	75,367.67
S-5887	Morrill-Nelson Fund	240.12	50,606.93	50,847.05	50,750.00	97.05
L-5856	Territorial Loan Fund	22,424.35	.....	22,424.35	22,424.35	.....
S.L.F.	Smith-Lever Fund	.....	22,936.00	22,936.00	22,311.41	624.59
S.L.O.	Smith-Lever Offset	.....	12,553.07	12,553.07	12,506.67	46.40
S.S.L.	Supplementary Smith-Lever	.....	4,969.20	4,969.20	4,960.97	8.23
S.S.L.O.	Supplementary Smith-Lever Offset	.....	4,969.20	4,969.20	4,950.46	18.74
C.K.	Capper-Ketcham	977.73	20,594.80	21,572.53	20,154.83	1,417.70
C.K.O.	Capper-Ketcham Offset	977.73	.....	977.73	832.64	145.09
C.M.O.	Clarke-McNary Offset	.....	1,500.00	1,500.00	1,500.00	.....
F.A.C.	Federal Additional Coöperative	.....	2,500.00	2,500.00	1,112.77	1,387.23
A.C.O.	Additional Coöperative Offset	.....	1,500.00	1,500.00	499.40	1,000.60
	Agricultural Extension Contingent	849.63	208.63	1,058.26	84.39	973.87
H.	Hatch Fund	86.46	15,081.74	15,168.20	15,079.55	88.65
A.	Adams Fund	.....	5,066.97	5,066.97	4,951.14	115.83
T-8411	Trust Fund	421.86	1,688.04	2,109.90	1,533.00	576.90
	Military Commutation	.....	1,197.52	1,197.52	1,194.16	3.36
	Student Loan Fund	513.50	8.08	521.58	.....	521.58
	Student Deposit Fund	.....	2,912.70	2,912.70	2,912.70	.....

* Lapsed to Territorial General Fund.

EXHIBIT II

CLASSIFICATION OF EXPENDITURES

	Grand Total	Per Cent
General Administration	$ 32,692.77	4.8
Resident Instruction	273,978.05	39.8
Organized Research	95,793.31	13.9
Extension	84,739.41	12.3
Library	27,360.33	4.0
Plant Operation and Maintenance	41,648.65	6.0
Auxiliary Enterprises	54,583.54	7.9
Physical Plant Extensions	77,996.10	11.3
	$688,792.16	100.0

EXHIBIT III

INVESTMENTS

(Scholarship Trust Endowment)

6%	Hawaiian Electric Bond No. 1192	$1,000.00	
6%	Koloa Sugar Co. Bond No. 369	1,000.00	
6%	Koloa Sugar Co. Bond No. 370	1,000.00	
6%	Sutter Building Bond No. 222	500.00	
7½%	Real Estate Mortgage Note	600.00	
7%	Real Estate Mortgage Note	100.00	
6%	Mutual Telephone Co. Bond No. M-532	1,000.00	
5½%	T. H. Davies Co. Bond No. 1640	1,000.00	
			$6,200.00

EXHIBIT IV

ACCRUED INTEREST

6%	Mutual Telephone Co. Bond No. 532	$27.50
6%	Hawaiian Electric Co. Bond No. 1192	15.00
6%	Koloa Sugar Co. Bonds No. 369 and No. 370	20.00
6%	Sutter Building Bond No. 222	12.50
7%	Real Estate Mortgage Notes	.68
		$75.68

EXHIBIT V

AUDITOR'S OFFICE

General Fund:		
Administration and General	$ 58,150.00	
Physical Plant Extensions	5,000.00	
Physical Plant Operation and Maintenance	58,600.00	
Shop Operations	12,405.00	
Resident Instruction	346,750.00	
Library	51,860.00	
Psychological Clinic	21,200.00	
Extension Division	9,040.00	
Hawaii Experiment Station	29,465.00	
Agricultural Extension	48,000.00	
Aquarium	3,600.00	
Total Appropriation, 1931-33		$644,070.00
Less Unexpended Allotments		101,457.50
Total Unallotted Appropriations		$542,612.50

EXHIBIT VI

DEFERRED CREDITS

Accounts Receivable:			
Accounts not yet due	$1,242.92		
Accounts past due	934.09		
		$2,177.01	
Less Reserve for Doubtful Accounts		387.96	
			$1,789.05
Accrued Interest			75.68
Book Shop Stock for Sale			5,561.11
Total Deferred Credits			$7,425.84

EXHIBIT VII

WORKING CAPITAL

Materials and Supplies Available for Use in 1931-32:			
Administration and General:			
Business Office	$ 783.50		
President's Office	45.00		
Registrar's Office	225.00		
		$ 1,053.50	
Instructional Departments:			
Agriculture	$ 446.26		
Art	102.65		
Botany	903.24		
Chemistry	6,083.19		
Education	58.68		
Engineering	895.49		
Geology	320.59		
Household Art	53.20		
Household Science	655.89		
Military Science	5.40		
Physics	652.68		
Sociology	47.75		
Zoology	838.84		
		11,063.86	
Other Departments:			
Agricultural Extension	$1,211.97		
Aquarium	15.05		
Cafeteria	981.36		
Dramatic Laboratory	21.63		
Hawaii Experiment Station	512.72		
Library	456.20		
Maintenance Supplies	543.16		
Psychological Clinic	34.07		
Shop	502.96		
University Extension	199.31		
		4,478.43	
Total Working Capital			$16,595.79
Book Shop Stock:			
Books	$4,435.09		
Paper Stock and Supplies	1,126.02		
		5,561.11	
Total Materials and Supplies			$22,156.90

EXHIBIT VIII

SCHOLARSHIP TRUST

Chinese Community Trust	$3,047.82	
Stephen Spaulding Trust	2,500.00	
Dean Prize Fund	759.00	
Total Scholarship Trust		$6,306.82
Student Loan Fund		521.58
Total Trust Endowment		$6,828.40

EXHIBIT IX

FEDERAL FUNDS

Morrill-Nelson Fund	$ 97.05	
Smith-Lever Fund	624.59	
Supplementary Smith-Lever Fund	8.23	
Capper-Ketcham Fund	1,417.70	
Federal Additional Coöperative Fund	1,387.23	
Hatch Fund	88.65	
Adams Fund	115.83	
Military Commutation	3.36	
		$3,742.64

EXHIBIT X

AGRICULTURAL EXTENSION AND EXPERIMENT STATION

(Territorial Offset)

Smith-Lever Offset	$ 46.40	
Supplementary Smith-Lever-Offset	18.74	
Capper-Ketcham Offset	145.09	
Clarke-McNary Offset	.....	
Agricultural Extension Contingent	973.87	
Additional Coöperative Territorial Offset	1,000.60	
		$2,184.70

EXHIBIT XI

PLANT ASSETS

Land:		
Lands of Puahia	$224,400.00	
Alvaraz Property	21,200.00	
Highland Park	369,600.00	
Kauwalaa	135,200.00	
Kapaakea (portion)	72,560.00	
Kapaakea (portion for use of Normal School)	127,440.00	
Waahila	15,035.00	
Kapiolani Park—Lots 127 and 128	33,625.00	
Kapaakea (portion)	4,640.00	
Honuanio—North Kona, Hawaii	870.00	
Ocean View Tract—Lot 23, Block 62 (Donation)	1,280.00	
Total Land		$1,005,850.00
Land Improvements		44,845.65
Buildings, Structures and Building Improvements:		
Concrete Fireproof Buildings	$626,532.52	
Wooden Buildings and Other Structures	132,327.94	
Building Improvements	5,983.25	
Work-in-Progress	11,690.58	
Total Buildings and Improvements		776,534.29
Equipment and Live Stock:		
Instructional and Other	$271,131.64	
Library Stock	143,247.00	
Live Stock	19,037.30	
Total Equipment and Live Stock		433,415.94
		$2,260,645.88

UNIVERSITY LAND

Title of Land Tract	Date Acquired	Manner Acquired Executive Order	Area	Assessment Rate of Adjoining Property	Appraisal Value
Lands of Puahia	6/ 7/11	#3	28.05	$8,000.00 per A.	$ 224,400.00
Alvaraz Property	3/26/15	#28	2.65	" "	21,200.00
Highland Park	7/29/15	#34	46.20	" "	369,600.00
Kauwalaa	7/29/15	#34	16.9	" "	135,200.00
Kapaakea (portion)	6/ 3/27	#278	9.07	" "	72,560.00
Kapaakea (portion) for use of Normal School	6/ 3/27	#279	15.93	97 A. @ $150 per A.	127,440.00
Waahila	12/15/28	#348	193.93	96 A. @ $ 5 "	15,035.00
Kapiolani Park—Lots 127 and 128	2/14/30	#390	.77	$1.00 per Sq. Ft.	33,625.00
Kapaakea (portion)	3/25/30	#401	.58	$8,000.00 per A.	4,640.00
Honuanio—North Kona, Hawaii	4/ 8/30	#407	3.28	" "	870.00
Ocean View Tract—Lot 23, Block 62 (Donation)	5/28/30	#414	.16	" "	1,280.00
					$ 1,005,850.00