

The  
University of Hawaii  
**PAYS DIVIDENDS**  
TO THE PEOPLE OF HAWAII



- EDUCATION
- RESEARCH
- SERVICE

## UNIVERSITY OF HAWAII BULLETIN



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*"When we build let us think that we build forever. Let it not be for present delight nor for present use alone. Let it be such work as our descendants will thank us for. And let us think as we lay stone on stone that a time is to come when those stones will be held sacred because our hands have touched them and that men will say as they look upon the labor and the wrought substance of them, 'See! This our father did for us!'"*

—JOHN RUSKIN

## FOREWORD



EVERYBODY knows that the University of Hawaii teaches and turns out a class of graduates each spring equipped to take their place in various business and professional fields. They are good citizens in whom we can feel safe to trust the future of the Territory. They take their place in life as teachers, farmers, engineers, government workers, writers, laboratory technicians, social workers, nurses, homemakers — space does not permit enumerating them all.

Everybody does not know, however, that the responsibility of the University does not end here — for there are three major jobs in all, that the University is called upon to perform. The education and training of Hawaii's youth is only one — the other two duties are *research* and *service* to the community as a whole.

From time to time the public sees in the newspapers or hears people talk about these "other services" which the University performs. Specifically speaking, what are these "other services"?

The campus of the University of Hawaii is the whole Territory of Hawaii. It is your University. You and every other resident of the Territory receive "dividends" from the University each year. Thousands of adults receive instruction and assistance in their daily work, whether it is directly by means of adult education or the agricultural extension division, or more indirectly through the lectures, research work, publications, community programs or radio broadcasts which the University presents.

The list of extra-curricular services, "by-products of education," that the University performs is by no means a short one. The value of some can scarcely be expressed in monetary terms; those that can, even when conservatively estimated, would mount to a total figure many times higher than their cost.

# I EDUCATION

*"The effort is made to offer instruction of standard quality in as many of the fields usually covered in American universities as there seems to be real need for in Hawaii."*

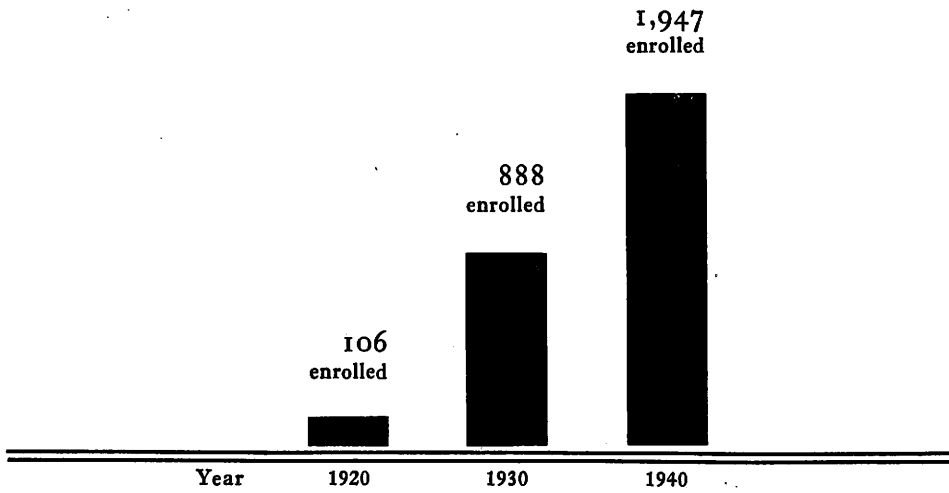
—DAVID L. CRAWFORD,  
President of the University of Hawaii

THERE ARE three definite objectives in the education offered at your University. These are outlined as first, education for citizenship; second, professional or vocational training; and, third, cultural enrichment. To furnish expert instruction to the youth of Hawaii has from the first been the University's primary aim. The educational facilities offered by the University make it possible for the Territory to have trained workers and specialists in many fields. Sound foundation courses for professional careers are offered at the University. The Territory may well be proud of the standards at the University of Hawaii.

From the Association of Medical Colleges we learn that in the past nine years the pre-medical students who have gone from the University of Hawaii to mainland institutions have made a better average record than the graduates of most other universities and colleges in the country — which implies a good deal.

The following graph indicates the growth of the undergraduate enrollment at the University in the last 20 years:

GROWTH OF THE UNIVERSITY OF HAWAII  
NUMBER UNDERGRADUATES ENROLLED



To appreciate the full value of the University's educational program, however, the University must be judged by more than its educational service on the Manoa campus to some 2000 students a year. The following list gives a general idea of the thousands of people residing in all parts of the Territory who received direct or indirect instruction and the opportunity for educational benefit from the University last year. In round numbers they include:

- 2,703 regular students
- 1,074 adult education and non-credit students
- 1,323 summer session students
- 4,711 in 326 extension clubs (4-H and others)
- 16,000 attended 1200 Agricultural Extension Club meetings
- 1,568 problem cases served by the Psychological clinic
- 39,214 farm visits made by 31 county agents
- 19,500 people in 309 public lectures on a wide range of subjects
- thousands hearing radio talks
- thousands reading scientific and other treatises in books and pamphlets published by or for the University
- thousands served in a variety of other ways, by conference, consultation and other contacts.

## HUMAN DIVIDENDS

FOUNDED in 1907, your University has been engaged in the teaching of youth for a little over 30 years. In that time, about 3750 individuals have earned the bachelor's degree. You ask what they are doing? Over 1000 of them are teaching in public and private schools; about 500 others are in business or government jobs, some high in positions of real influence and leadership; a great many, we don't know the number, are engaged in home making, raising the next generation; many are in the professions — 100 or so in engineering, 50 or more in medical practice, over 100 in scientific work in the laboratories of experiment stations, medical centers, board of health, etc.; some are lawyers, ministers, dentists; many are in social service. Over 300 are reserve officers in the U. S. Army, having been trained for this service in the R.O.T.C. Some, also, are trained pilots for the air service.

The sugar industry felt richly repaid for all its research expense when one good variety of cane, H-109, was developed in its experiment station. From among the graduates of your University not one but a number of individuals are proving to be of so great value that the cost of educating all the 3750 is repaid many times over.

# 2 RESEARCH

*"... the best teachers are men to whom investigation is instinctive ..."*

SINCE the time the University of Hawaii was founded its faculty members have tirelessly engaged in research. Research workers are a class of people driven by an inner urge, a sense of "curiosity," to probe the hazy limits of the unknown. All over the world scientists work zealously in laboratories and libraries, trying to extend the boundaries of knowledge. In Hawaii, research workers at the University labor year in and year out, doing their small part of the world-wide program, trying to discover ways of bettering human life.

Of most obvious material value is your University's research work in the field of agricultural sciences, but in other fields, too, its work is important — in human race relations, in clinical psychology, in sociological problems, in marine biology, in human nutrition and health, and others.

A large part of the yearly expenditures of the University of Hawaii is devoted to research to help increase the profits of people engaged in the Territory's agricultural industries. Two departments of the University, the Hawaii Agricultural Experiment Station and the Agricultural Extension Service carry on important work which is territory-wide in its scope.

The economic gains brought about directly and indirectly, by these departments are worth many times their cost. To give but a single example, look at the poultry industry, built largely on work done by your University in disease control, breeding, feeding, housing and marketing practices. When this work began there was but a very small poultry industry here and eggs retailed at \$1.00 per dozen; now the industry is worth much over a million, and you buy better eggs at one-third the earlier price. Add to this the value of growth or improvements in other industries, dairy, beef cattle, swine raising, coffee, papaya, macadamia nut, potato, tomato, vegetable crops and others for which your University is more or less responsible, and the total becomes more impressive.

In addition to this direct help to industries, the experiment station works on problems of a more general and far-reaching nature — problems of soil fertility, disease resistance, nutrition, food processing and others. The agricultural extension service, meanwhile, is teaching all who will learn how to use the knowledge gained by the research work in this and other experiment stations.

At the present time national and international events are having a marked influence on the agricultural life of the Territory of Hawaii. "Emergency subsistence" is seen as a factor which cannot be neglected in the defense program. This has given new emphasis to the importance and necessity of "agricultural diversification in Hawaii." Local production of food has increased considerably of late years, with even greater increases seen in the offing, as a result of this necessity and the foundation work done by your University. That the total quantity of foodstuffs shipped in from the mainland has shown no corresponding decrease is explainable by the great influx of people who have come to Hawaii recently to work on defense projects. More of the things that Hawaii cannot produce are needed now, and this offsets the increase in production of those things that can be grown here.

Because of the possibility that Hawaii may have to feed herself during a period of war emergency, when normal shipping is interrupted, some of the things that your University has been doing take on a special significance: helping cattle ranches to increase the carrying capacity of their ranges by establishment of new and better grasses, and development of new and better methods of pen-fattening with plantation by-products; using molasses far more extensively than was formerly thought possible in the feeding of livestock; developing in the pigeon pea a crop that has proven to be very valuable; experimenting with many varieties of many kinds of crop plants, to find those that might be grown successfully in this climate and in our soils. It is on the basis of this long and tedious work that army authorities and a local committee have been able to develop a plan for feeding the people of these islands beginning on the mythical "M" Day — if it comes.

Between the University's experiment station and the other two, the sugar and the pineapple stations, there is close cooperation, with no overlapping. By consultation between the directors, the three stations are able to attack the problems of Hawaii's great and small agricultural industries with good effectiveness. It costs money to do this, but the returns are large — in better livelihood for many people and in larger tax revenue for the government.

While we do not measure value by the number or extent of publications that result from research work, the following list of bulletins from the University is suggestive of good results:

- Grasses of the Hawaiian Ranges
- Diseases of Truck Crops in Hawaii
- Commercial Egg Production in Hawaii
- Agricultural Land-Use Planning in Hawaii
- Hog Production in Hawaii

Some Fruits of Hawaii, Their Composition, Nutritive Value and Use  
Taro Varieties in Hawaii  
Methods of Evaluating the Macadamia Nut for Commercial Use  
Coffee Cultural Practices in the Kona District of Hawaii  
Protective Foods from Subsistence Gardens  
Observations on the Life History of the Liver Fluke of Cattle in  
Hawaii.

Not all the research work of your University is in the field of agriculture, as indicated by the following list of books:

1. Ralph Kuykendall's *The Hawaiian Kingdom*, a book of 453 pages, covering the years 1778 to 1854 in the history of this group of islands, published by the Honolulu Star-Bulletin. The subsequent years are covered in a second volume now being written.
2. Romanzo Adams' *Interracial Marriage in Hawaii: A Study of the Mutually Conditioned Processes of Acculturation and Amalgamation*, a 353-page book which utilizes the dramatic story of the meeting and amalgamation of the "races" in Hawaii as the organizing theme of the study, published by the MacMillan Company, New York.
3. S. D. Porteus' *Primitive Intelligence and Environment*, a book of 325 pages published by the MacMillan Company, and *The Psychology of Primitive People*, record the results of expeditions among the Bushmen of South Africa and aborigines of Australia.
4. Andrew W. Lind's *An Island Community*, a study (336 pages) of the peoples and races in Hawaii, presenting the results of a part of a research program supported by a Rockefeller grant, published by the University of Chicago Press.
5. H. L. Shapiro's *Migration and Environment*, a book of 594 pages, published by the Oxford University Press, probably the most comprehensive and authoritative piece of work ever done on the physical effects of a people (the Japanese) migrating in large numbers into a new and different environment (Hawaii), a research project which required the services of a number of specialists working several years, under the support of a Rockefeller research grant.
6. Madorah Smith's *Bilingualism in Hawaii*, a study (284 pages, published by the Journal Press) of the effects of very young children being forced by circumstances to use two languages.

7. Felix Keesing's *The Philippines: A Nation in the Making*, a text book published by Kelly and Walsh, Ltd. (Shanghai), written from an extensive acquaintance with the Philippine Islands.
8. Tadao Kunitomo's *Japanese Literature Since 1868*, a book of 260 pages, published in Tokyo.
9. Blake Clark's *Oriental England*, a book of 200 pages published by Kelly and Walsh (Shanghai), presenting a study of Oriental influences in 18th century England as reflected in the drama.
10. Spencer Tinker's *Animals of Hawaii*, a natural history book for use in the schools, published locally.
11. Shao Chang Lee's *Popular Buddhism in China*, published by the Commercial Press, Shanghai and Hong Kong.
12. *Can Nations Be Neighbors?* David L. Crawford's study of internationalism in four dimensions. A 120-page volume published by the Stratford Company in Boston.
13. John Wesley Coulter's *Land Utilization in the Hawaiian Islands*, a detailed study of land-use in Hawaii. Contains 33 maps and graphs. Published by the University of Hawaii.

# 3

# SERVICE

*"The fact that the University brings together for purposes of instruction and research expert personnel and unusual facilities in the form of libraries and apparatus enables it to fulfill its third major purpose — to furnish expert service . . ."*

BY THE combination of education and research, your University of Hawaii is able to serve the Territory of Hawaii in many ways. Some of the benefits are more or less "intangible." But for the most part, the services that the University performs, besides those outlined above, are very practical ones — things with which we come in contact every day. They can be classed for some of the more practical-minded people of the community who look upon the University as an "investment," as a part of the University's definite returns.

## EDUCATION A LIFE-LONG PROCESS

SOME OF US think that the service rendered by your University in stimulating a continuation of the process of education throughout the whole period of life is worth a good deal to the Territory. Some of this has been through formal courses of study, either at the Manoa campus or at other points in the Islands; these courses are valuable, sometimes in a material way by enabling one to advance himself vocationally, sometimes in a cultural way by enriching one's daily living a little.

Some of this stimulus to the continuation of education comes through lectures, or book reviews, or radio talks, or films and slides, or pamphlets. Many of the world's outstanding personalities in the intellectual sphere have been brought to Hawaii, so that our people, in spite of geographical isolation, might see and hear them in person.

Books play a very large part in the education process, and the University library does what it can to serve the public, in addition to meeting the needs of the several thousand students who spend large or small parts of their time on this campus.

That Hawaii, as a community, is reasonably well cultured and has a good perspective on world affairs is proof that geographical isolation does not cause intellectual insulation, when there are active forces, such as the press, the radio, libraries, schools and universities, stimulating people to keep going forward in the process of education.

## HUMAN RACES

PROBABLY no problem confronting mankind today is more difficult of solution than that presented by the existence of many races, with tensions and enmities between them. Because Hawaii offers unique opportunities for a scientific study of some aspects of the race problem, and because in this field your University was in a position to make a real contribution, of value to the world, the Rockefeller Foundation in a period of ten years beginning in 1927 gave us over \$200,000 to augment our research staff and enable us to carry on a much more extensive and thorough study than would otherwise have been possible.

The results of this work are valuable and important, though not spectacular. A number of books and magazine articles have been published, and more are still to come, presenting to the scientific world bodies of facts and findings, in the fields of psychology, anthropology and sociology, which could scarcely have been obtained anywhere else in the world.

## AGRICULTURAL READJUSTMENT

THE turbulent and depressed 1930's witnessed both of our leading industries in distress, reducing acreage and high-lighting the need of more agricultural diversification.

As the University's experiment station was engaged in working on the problem of such diversification, it was the logical agency to undertake a very much enlarged program, with a federal appropriation of \$400,000 derived from the sugar processing tax, to be spent by us over a period of only 3 or 4 years. To enlarge suddenly a small research staff into a large one is difficult enough, but to do this without knowing whether the special federal support would be continued after this first appropriation was used up was even more difficult, for it was not likely that territorial funds could be provided in large enough amounts to continue the program thus begun.

The experiment station, however, rose to the occasion and much that is valuable to the Territory was accomplished under that special federal appropriation.

The entire field of need was surveyed by a committee which included the Governor in its membership, and several projects were laid out which it was thought would be most effective in meeting the Territory's problem of diversification. To prepare the way for enlargement of some minor industries and for the establishment of some new ones was the objective of this work.

The revival of the taro industry was seen as one possibility, and out of work done by the Station has come the wide use of *taroco* and some other products manufactured from this ancient Hawaiian crop.

Because the dairy industry was handicapped by the liver fluke disease, an effort was made to find a practical remedy. A measure of success was achieved, for several drugs have come into use to combat the disease and some progress has been made in eradicating the basic causes.

Of great value to the livestock industries was the painstaking investigation of the digestibility of several important local grasses and other fodders. Because of the relatively large expense of this work it had not previously been undertaken.

Marketing problems received some attention, with good results, as witness the better methods now in use in handling such local produce as tomatoes, papayas, potatoes, etc.

Several new fruit and nut producing industries have been given a start; the macadamia nut may be the basis of a profitable industry here, while the solo papaya looks even more promising. The litchi, mango and other fruits look interesting, too.

## PSYCHOLOGICAL AND PSYCHOPATHIC CLINIC

THE Psychological Clinic is attacking the causes of subnormal minds. Its services are manifold. Children are tested in the schools, in the institutions for the delinquent and feebleminded; prisoners are tested in the jails. Parents and social workers bring children to the clinic for tests and advice; the courts seek counsel on cases involving a psychological "kink." Increasing attention is being given to vocational guidance. A traveling psychologist enables the clinic to extend its services to all the islands.

## TEACHERS FOR KINDERGARTENS

BY a generous gift from the Castle family the University of Hawaii is enabled to take the leadership in the movement toward the development of a territory-wide system of kindergartens which many believe to be essential to the successful solution of some of Hawaii's most pressing social problems. The trustees of the Henry and Dorothy Castle Foundation have given \$350,000 to the University for this purpose, \$150,000 to be for a building, which is now in process of construction and \$200,000 for operating expenses over a period of ten years.

An able staff is being assembled to train future kindergarten and nursery

school teachers in the new unit of Teachers College which will open its doors next September. Not only in the training of teachers but by carrying on research in various aspects of child development will this unit be useful to the people of Hawaii.

## SERVICES OF MANY KINDS

WHILE your University is maintained primarily for the larger objectives of teaching youth and conducting certain organized research and other services, requests come from many sources for help in meeting problems of various kinds. A few examples are given here to suggest how we are able to serve in a wide range of minor ways.

*Aid to Molokai Homesteaders* — In response to a request from a hold-over committee of the 1935 Legislature, the University delegated one of its professors, Felix M. Keesing, to make a careful, scientific study of some of the problems which had developed in the Molokai homesteading project. This study, published as a 130-page booklet, served as the basis for the committee's recommendations submitted later to the Legislature.

*Zoology Laboratory Helps Navy* — During last summer the zoology department was presented with a problem by the head of the Testing Laboratory at the Pearl Harbor Navy Yard.

Certain marine organisms became attached within the propeller bearings of some of the ships. Investigations were begun by the University shortly after on the fouling in the Navy Yard, and are being continued now by Dr. C. H. Edmondson.

Space was allotted at the Coaling Dock where experiments were set up in October. The work, which has been carried on since that time, will probably continue for at least a year. Panels are submerged in the harbor at various depths in order to catch barnacles, serpulid worms, bryozoans and other pests which get on the bottoms of ships. Studies are being made of the relative amount of fouling at different times of the year, the rate of growth of the organisms and their life histories. Tests of certain coatings are being made, which may help to prevent their attachment.

Along with the studies of external fouling, the shipworms in Pearl Harbor are also being investigated.

*Social Problems* — Hawaii's reputation as the Paradise of the Pacific is doubtless justified, but the community still finds plenty of problems in social relations which demand solution. The sociologist as the scientist who is most intimately concerned with the nature of relations between people is

subject to constant demands from the community for information and service. The sociology staff of the University has accumulated a considerable body of current knowledge regarding the Territory of Hawaii which private and government social agencies have turned to, not only for specific facts but also for interpretation and social insight.

A special study of population trends among the Japanese in Hawaii was prepared for the Statehood Plebiscite Committee, and analyses of population and voting trends were prepared for the Congressional Hearings on Statehood for Hawaii in 1935 and 1937.

The assistance of the University sociology department has been requested in several studies of labor relations and unemployment in Hawaii.

The problems of adjustment within and between the various cultural and racial groups call for constant attention in a community as complex as Hawaii's. Immigrant parents are disturbed by the too rapid assimilation among their children of the tawdry aspects of American culture, while schools, churches and government agencies are restive because the immigrant populations acquire a common language and culture so slowly. The sociologist is expected to measure the trends and evaluate the quality of the changes within this field.

*Foods, Nutrition and Health* — At the request of the Central Nutrition Committee of Hawaii Carey D. Miller prepared the text for a nutrition primer *Eating Your Way to Health* which has wide use in the public schools of Hawaii.

Similarly, these same specialists, Carey D. Miller, Martha Potgieter, Katherine Bazole and Helen Lind, have been responding to other appeals — to sit with committees working on health problems, to assist other research workers by sharing with them the knowledge gained in their laboratories.

*Fisheries* — Confronted with popular demands that it do something about the problems of Hawaii's fisheries, the 1939 Legislature formally requested the University to make certain studies and report on them to the 1941 Legislature. This has been done, after an extensive study of cooperatives in other parts of the world.

*How Strong Is It?* — Many times there are problems arising from the need to know the strength of construction material — cement blocks, steel, wood, etc. For such problems the University maintains a testing laboratory, equipped with excellent machinery for testing all sorts of materials. This is a service of inestimable value to the public, for it is a safeguard against faulty construction jobs which can be so destructive of life and limb.

*Widows and Crippled Children* — Service to the public by your University is not limited to its faculty members, for students participate, also. We do not know how many thousands of dollars have been added to the Shriners' fund for crippled children and to the fund for widows and orphans of policemen by the students who have played benefit football games for them. There probably is not another University in the country whose football team is as generous as ours in the playing of benefit games.

*Aid to Census* — Social and government agencies are always in need of an analysis and interpretation of the population trends of Hawaii to guide them in future policies.

The Bureau of the Census asked the University to provide the necessary information, and to assist them in the preparation of the permanent census tract boundaries for the city of Honolulu. These tract boundaries were to be used in the 1940 census and in all federal censuses thereafter.

What did the University do? The Department of Sociology made the necessary studies, then helped draft local recommendations to the Bureau of Census regarding the schedules. Tables were also published on population and occupations.

The result is that the 1940 census will have more detailed population data for Hawaii than that of any previous census. This material will be invaluable to social and governmental agencies, and to students doing research work in race problems and population trends in Hawaii.

## A GOOD INVESTMENT



THE FOREGOING PAGES have explained some of the many services rendered to the Territory by the University of Hawaii. It would be impossible to state in definite monetary terms the value of these services, for in many instances their work is far beyond a mere dollars-and-cents evaluation to the people of Hawaii. The greater profits from an improved industry, the increased output, the founding of new industries, the expansion of already established industries, add not only to the prosperity, but to the well-being and betterment of the people of Hawaii.

It has been said that the world in its present chaotic condition must of necessity leave its intellectual heritage in the safe-keeping of universities. The University of Hawaii will assume its part of that responsibility with the rest.

But beyond the prime duty of keeping the light of education alive and training Hawaii's young people and adults, the University will always play an enthusiastic part in community life. Besides turning out a "crop" of graduates each year, the University contributes in many ways to better citizenship, better industry, better health, better life.

You and every other citizen of the Territory reap benefits, and receive a share of "dividends" from your University, continually.

***"The greatest safeguard to the American way  
of life is education."***

**—University of Chicago,  
*New Frontiers in Education and Research***