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SCIENCE WORK

At

FUKIEN CHRISTIAN UNIVERSITY

Foochow, China,
1928.

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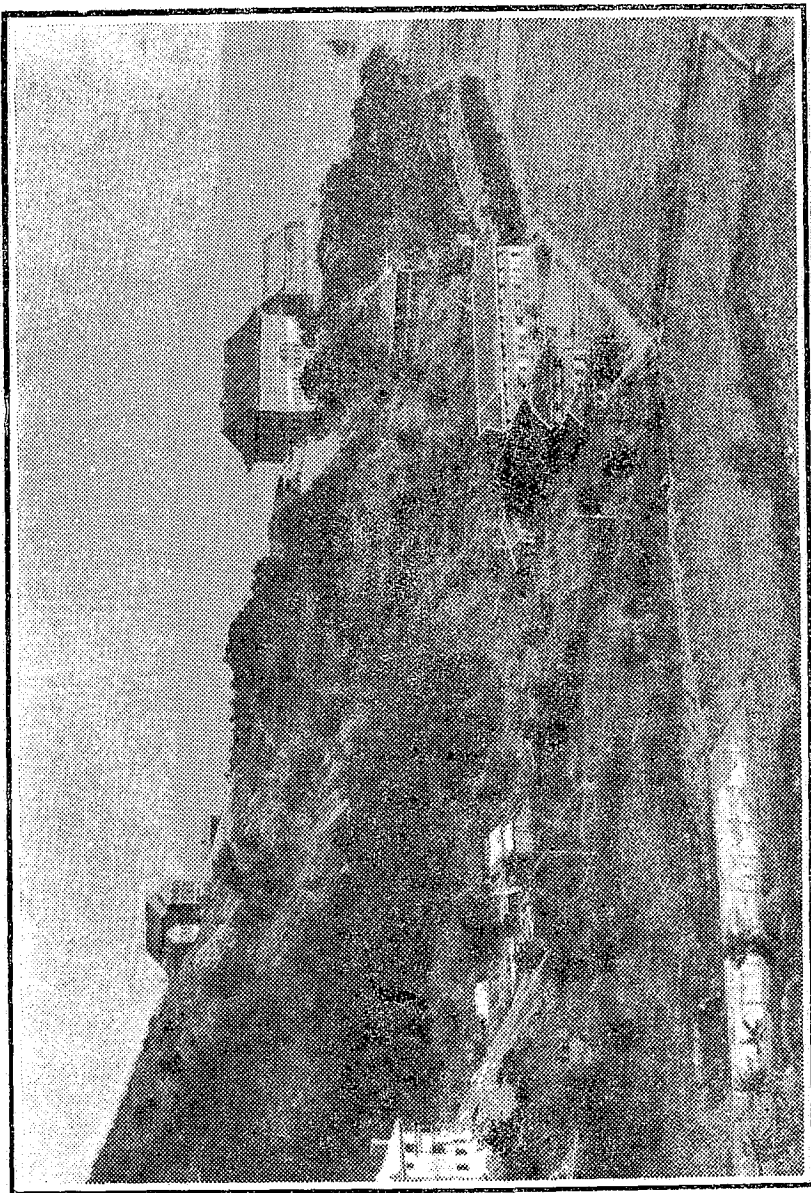
Science Work At Fukien Christian University

By
A FOOCHOW CORRESPONDENT



Reprinted from
THE SHANGHAI SUNDAY TIMES
November 11th, 1928.

The Stony Point Center



Here we have a general view of the Fukien Christian University, Foochow. In the centre of the picture are seen temporary buildings erected after the dormitory was destroyed by fire in May last. In the distance is seen the Edwin C. Jones Memorial Science Building.

SITUATED on a hill overlooking the Min river and at the foot of the famous Kushan mountain, the Science Building of the Fukien Christian University commands a view of river, mountain and plain for ten miles in almost every direction. Visible from Foochow, five miles to the northwest, and from Pagoda Anchorage, an equal distance to the southeast, this beautiful building attracts the attention of all who see it, especially of those who travel on the river. Conspicuous as it is, due to its high elevation, it is far more prominent as a scientific centre and its fame and influence have penetrated far beyond the mountain walls of Fukien province.

The building is named after Edwin C. Jones, the first President of the University, who established the institution on its present site more than six years ago. This location is not only very beautiful, but it has the healthfulness and quietness ideal for any school.

The new age of science is rapidly coming to its own in China, and this fine building with its teachers and excellent equipment, will play its part along with the other leading institutions throughout the country, to hasten the day when science will come to its own. For five years the science laboratories and library of this institution were crowded into small wooden temporary buildings with plaster walls. It is remarkable how the quality of work was maintained during those days and how the spirit of the faculty and students kept up under trying conditions. But this patience and fine spirit have been rewarded by the present building.

Fukien's Vast Resources

Fukien province has a vast store of natural resources which are at present lightly touched, or not at all. Modern industry has hardly entered the region,

with the exception of a few power plants in the larger cities. Some of the most important products are sugar, lumber, paper, fish, tea, minerals, tung oil, tea oil and silk, not to mention numerous agricultural products like fruits, rice and vegetables in large quantities. Native industry produces fine lacquer ware, umbrellas, brick and other ceramic products, brass and pewter ware, and many other things. In general these products are inferior or too expensive, because of the wasteful, unscientific or antiquated methods used to obtain them. Reliable experts have shown that Fukien could produce silk to the value of twenty million dollars per year, in place of the present half million, if proper methods were used. In the province two out of three silkworms die of disease, where in other leading silk-producing lands only one worm in 20 is lost in this way. The yield of rice, the most important foodstuff, could be increased 25 per cent. by simple processes of selection of seed. All through the field of industry and agriculture, to say nothing of sanitation and disease prevention, science can point out the way to prosperity, health and happiness.

The science faculty at Fukien Christian University is meeting this important problem in several different ways. It gives a fundamental training in biology, chemistry and physics. Many students are well prepared to take leadership as teachers, or in medicine, business or government service. The fundamentals of science are emphasized rather than trying to give a few practical applications, because the student having a grasp of a science can master the applications, while the student who knows the applications in one narrow field, cannot readily adapt himself, without the fundamental principles, to another field.

Year Round Growing Season

A second important contribution is by direct contact of the faculty and students with the local people. The climate of Fukien is quite mild, giving a year round growing season. Conditions on the hills are similar to those of central and northern China, with a temperate climate, while in the lower levels the climate is very nearly tropical. The agricultural problem is quite distinct from that at either Canton or Nanking where the present agriculture schools are located. At the present time experimental work is carried out in rice seed selection, fertilizer demonstrations, and in producing disease-free silkworm eggs. About four American acres of mulberry trees and a special building are devoted to sericulture work. The 55 acres of campus provide room on the hills for planting tung oil and other trees, while the lower ground has a nursery, garden, and many kinds of fruit or other valuable trees. Bees of various kinds are imported and tried out, while in the laboratory many insects and parasites are collected and studied. The University herbarium has been built up by collection and exchange during the last five years so that it is now the fourth largest in China.

Co-operation and aid has not only been given to officials, schools and the native people, but also to workers in various countries abroad. Many times have agricultural or other investigators come to the institution and used the science building or its teachers for help in some problem on which they were working. Recently a representative from the Hawaiian Sugar Planters' Association spent three months here collecting insect parasites to destroy the rice border in Hawaii. Many times agents of the United States Department of Agriculture have come here to collect insect parasites

or plant specimens. In addition to plant, seed, insect and parasite collection, work is done on local clays and minerals, colloids and other subjects by the faculty. Special lectures and demonstrations on science and sanitation have been given in the city and the surrounding country.

Preparation of students for medical school has always been an important part of the work done here, and it has received much attention. Interest has increased so that now one-fifth of the students in the University are in the pre-medical course. A very high standard has been set so that graduates of this course are well fitted to enter the best medical schools in China or abroad. The science preparation calls for two years of work in each, biology and physics, and for three years in chemistry. A very large portion of this training consists of individual laboratory work.

The Science Building

The science building is made of brick, cut stone and reinforced concrete, and the outside walls are 54 by 156 feet. The original plans were drawn by Murphy and Dana, of Shanghai and New York, the interior plans of laboratories and fittings were made by the science teachers, and the building was done under supervision of the Fukien Construction Bureau. There are three main floors, but a large attic and a basement provide additional room for storerooms, a classroom, an advanced physics laboratory, a herbarium, a museum, and two biology preparation rooms. The roof, built in Peking Palace style, greatly adds to the architectural beauty of the building. A study of other science buildings was made and many of the modern features have been incorporated in this structure. An elevator connects the various departmental stock rooms,

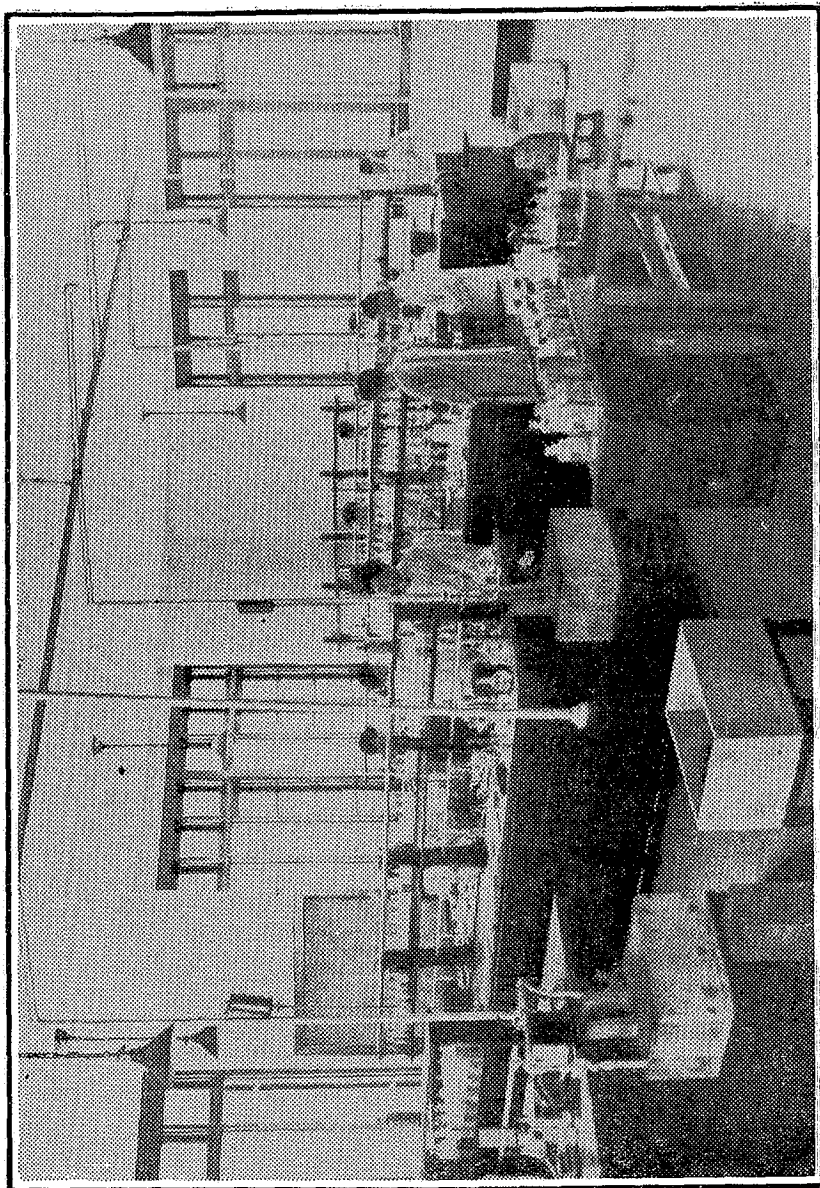
the attic and the basement. A pendulum shaft five stories high provides an ideal place to carry out Foucault's experiment to show the rotation of the earth. A system of hoods, flues and two large exhaust fans takes care of the ventilation so necessary in the Chemistry laboratories. A basement vault provides storage for dangerous chemicals. A photographic darkroom and a special darkened and ventilated physics laboratory provide ample space for all work in photography and experiments on light. Carefully planned systems of water and electricity meet all needs for light, power, water and fire protection. The floors are of reinforced concrete covered with wood, while the walls are of brick, metal lath and plaster. This makes the building practically fireproof.

The science hall contains four laboratories about 40 by 50 feet and a museum and a herbarium of the same size. There are also seven smaller laboratories for advanced work, two balance rooms, four classrooms, seven offices, six storerooms, not including the space given to the library. The main lecture auditorium will seat 170 students. Four of the offices have been fitted out with private laboratories for private research work. With this space available, the building will take care of all the science work, allowing for a large increase in the student body.

Fine Equipment

Not only the science building, but its equipment also, is fine and adequate for the work done here. The value of the property is as follows (all figures in Chinese currency):—

The Science building, exclusive of fixtures ..	\$120,000
Chemistry apparatus	42,000



A chemistry laboratory class in quantitative analysis.

Biology apparatus	30,000
Physics apparatus	13,000
Building fixtures, laboratory shelves, hoods, etc., approximately	45,000
Total valuation of property for science work	<u>\$250,000</u>

These figures do not include the value of books in the library. The apparatus of the physics department will probably be increased more than 50 per cent. during the coming year.

The library at present contains nearly 2,500 volumes, mostly in English, on the various common branches of science. This does not include a large number of bound volumes of scientific journals. The library now subscribes to 38 scientific journals pertaining to biology, chemistry, and physics.

The Science Courses

Most of the regular science courses consist of three lecture-recitation hours and two three-hour laboratory periods per week for 18 weeks, and most of the courses are continuous throughout the year. All students entering this institution are required to take a year's work in each of two out of the three sciences, and many students elect a second year's work in some of their courses, even if they do not plan to prepare for a life work in the field of science. In this way something of the scientific viewpoint and a little practical knowledge is given to all students. Those students specially interested in science are asked to consult with a science teacher who carefully advises them on what course of study to follow best to meet their individual needs. Fukien has some very good

middle schools and so the University at Foochow does not need to maintain its own preparatory school. This is quite fortunate because the faculty can devote its time entirely to men of full University grade.

Courses Offered

The courses offered are listed briefly as follows:—
(Some special advanced courses are given only in alternate years.)

BIOLOGY

- Biology I—5 credits (Elementary Zoology).
- Biology II—5 credits (Elementary Botany).
- Zoology I-II—8 credits.
- Zoology III—3 credits (Entomology).
- Zoology V—3 credits (Parasitology).
- Zoology VI—2 credits (Eugenics).
- Zoology VIII—2 credits (Organic Evolution).
- Botany III-IV—4 credits (Taxonomy).
- Botany V—2 credits (Pomology).
- Biology III—2 credits (Microtechnique).

Special individual problems are often assigned to advanced students.

CHEMISTRY

- Chemistry I-II—10 credits. General Inorganic Chemistry and Qualitative Analysis.
- Chemistry III-IV—10 credits. Elementary Quantitative Analysis and Physical Chemistry.
- Chemistry V-VI—10 credits. Organic Chemistry.
- Chemistry VII-VIII—6 credits. Advanced Physical Chemistry.
- Chemistry IX-X—credits variable. Advanced Organic Laboratory.
- Chemistry XI-XII—credits variable. Advanced Inorganic Preparations.
- Chemistry XIII—3 credits. Industrial Chemistry.
- Chemistry XIV—3 credits. Food and Sanitary Chemistry.

- Chemistry XV—3 credits. Colloidal Chemistry.
- Chemistry XVI—2 credits. Advanced Organic Chemistry Lecture.
- Chemistry XVII—2 credits. Photography.
- Chemistry XIX—4 credits. Advanced Analytical Chemistry.

Special individual problems are often assigned to advanced students.

PHYSICS

- Physics I-II—10 credits. Mechanics and Heat, Electricity and Light—an Elementary course.
- Physics III-IV—10 credits. Intermediate Physics—Sound Theory of Direct and Alternating Current Apparatus and Circuits.
- Physics V-VI—8 credits. Advanced Physics—Kinetic Theory of Gases and the Thermodynamics of change of Physical State. Physical Optics.
- Physics VII-VIII—8 credits. Modern Physics—The Electron with Applications. Radio.
- Physics IX—2 credits. Meteorology.

MATHEMATICS

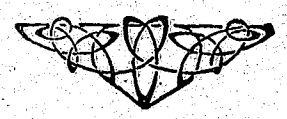
The usual year courses are offered in College algebra and trigonometry, elementary mathematical analysis, and differential and integral calculus. Courses in theoretical mechanics, surveying and statistical methods and nomography are offered from time to time.

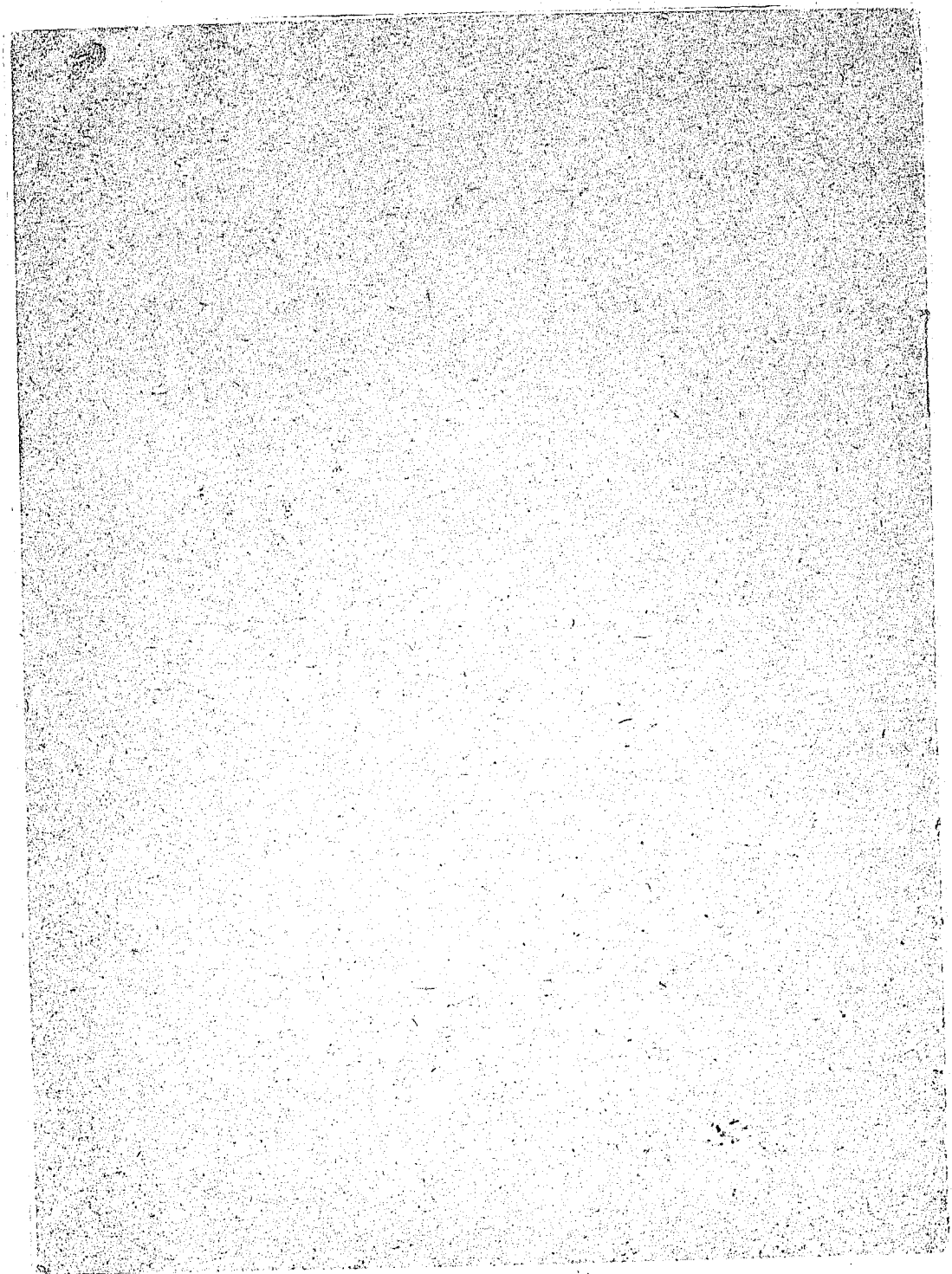
Rebuilding Plans

The dormitory of this University was destroyed by fire in May of this year. Most of the walls and foundations are still sound, and plans for rebuilding have just been completed. Bids for rebuilding as a recitation, library and administration building will soon be received.

[14]

SCIENCE WORK
AT FOKIEN
CHRISTIAN
UNIVERSITY





TRANSFER

THE AGRICULTURAL EXPERIMENTAL STATION
OF
FUKIEN CHRISTIAN UNIVERSITY

1928

*See memo. 10/19/28
W. J. Moore.*

Fukien Christian University, in addition to its academic program, has long felt a responsibility for service to the community about it. In view of that urge, realizing the position of prominence to which China has always raised Agriculture, and cognizant of the fact that over 85% of our Christian Church members are said to live directly on the land, it has been decided to develop an Agricultural Experiment Station which shall limit its scope to research and practical application in those problems which must of necessity be worked out locally, and in no way compete with established agricultural colleges in China.

The plan is simply an extension of work already being carried on in the Biology Department, where the professor of Botany has for several years been offering courses in Pomology and the professor of Zoology has been offering courses in Entomology and Sericulture. With the addition of a professor of Genetics, the Department would be able to offer a better choice of pre-medical subjects and at the same time add work in Plant Breeding and Poultry, while with the addition of a fourth professor, an Agriculturist, work could also be offered in Cereal, Vegetable, and Farm Crops. In practice, the student interested in agriculture would take his major in Applied Biology, rather than in Pure Biology, specializing in one of the above fields, and getting some training in the experiment station work. It would also make it possible for each professor in the Biology Department to carry on research work in one practical line with the hope of finding and applying the solution of some of the more pressing local problems in Agriculture in Fukien.

FUKIEN AGRICULTURAL EXPERIMENT STATION
OF
FUKIEN CHRISTIAN UNIVERSITY

MAJOR IN APPLIED BIOLOGY

FOUR PROFESSORS:- ZOOLOGY (1); BOTANY (2); GENETICS (3);
FARM CROPS (4).

FALL	FRESHMEN	SPRING	
REQUIRED		REQUIRED	
(1) Biology I	5	(2) Biology II	5
Philosophy I	2	Philosophy II	2
English I & III	4	English II & IV	4
Chinese I & III	4	Chinese II & IV	4
ELECTIVE		ELECTIVE	
History	2	History	2
Religion	2	Religion	2
Soc. Sci. I	2	Soc. Sci. II	2
Mathematics	3	Mathematics	3
	<u>2</u> <u>17</u>		<u>2</u> <u>17</u>

SOPHOMORE

REQUIRED		REQUIRED	
(2) Botany I <u>or</u>	3 <u>or</u>	(2) Botany II <u>or</u>	3 <u>or</u>
(1) Zoology I	4	(1) Zoology II	4
Chemistry I	5	Chemistry II	5
Psychology I	3	Psychology VI	3
Social Science III	3	Social Science IV	3
ELECTIVE		ELECTIVE	
(3) Genetics	2	(3) Eugenics	2
(2) Dendrology	2	(2) Pomology	2
Economics	3	(Systematic)	3
(Social Sc.V)	3	(4) Principles of	4
	<u>3</u> <u>17</u> <u>or</u> 18	Horticulture	3
			<u>3</u> <u>17</u> <u>or</u> 18

FALL	JUNIOR	SPRING
REQUIRED Chemistry Analytical Social Science VII (Applied)	5 3	REQUIRED Social Science VIII (Applied) 3
ELECTIVE (1) Zoology I 4		ELECTIVE (1) Zoology II 4
(1) Entomology I 3		(1) Entomology II 3
(2) Pomology II 3		(3) Plant Breeding 3
(2) Botany III (Taxonomy) 3	$\frac{9}{17}$	(2) Botany IV (Taxonomy) 3
(4) Forage Crops 3		(4) Farm Crops 3
(3) Poultry 3		(4) Vegetable Gardening 3
Economics (Social Science V) 3		Soil (physics) 3
(3) Embryology 3		<u>EXPERIMENT STATION WORK in</u> (1) Sericulture: (2) Pomology:
		(3) Poultry: (4) Farm Crops 3 Each
	SENIOR	
REQUIRED Chemistry--Organic 5		REQUIRED
ELECTIVE (1) Economic Entomology 3		ELECTIVE (1) Parasitology 3
(3) Genetics 2		(2) Pomology (System) 2
Soil Fertility 3		(3) Eugenics 2
(2) Dendrology 2		(4) Principles of Horticulture 3
(2) Evolution 2	$\frac{12}{17}$	<u>Experiment Station Work</u> required in <u>two</u> out of the following:-
Farm Mechanics 3		(1) Sericulture: (2) Pomology:
(4) Cereal Production 3		(3) Plant Breeding: (3)
(4) Farm Management 3		Poultry: (4) Farm Crops:
<u>Experiment Station Work in</u> (2) Pomology: (3) Poultry:		5 Each <u>10</u>
(3) Plant Breeding: (4) Farm Crops. 2 Each		15

Required Hours 90	Elective 42	Total Hours Offered 216

PROGRAM FOR FUKIEN AGRICULTURAL EXPERIMENT STATION
OF
FUKIEN CHRISTIAN UNIVERSITY

CAPITAL OUTLAY:

Residence for Agriculturalist - 4th Man	G\$ 7,000.00
Land (besides amount included in 10-year program, F.C.U.) for Experiment Station	
1. For Rice Farm - located on flats across River Min from the University; and Chinese House for Caretaker, including Office for Experiment Station Workers.	3,100.00
2. For Pomology Orchard Land already provided for. Remodling old Temple for Pomology caretaker.	500.00
3. For Poultry Farm. Land and Poultry pens and yards	800.00
4. For Sericulture Already taken care of in 10-year program. Land and Building provided for.	
5. For motorized sanpan and sanpan Gold	600.00 <u>\$12,000.00</u>

MAINTAINANCE - yearly expenditure

1. Salary - Agriculturalist	G\$2,500.00
2. Wages - Rice Farm caretaker and maintainance	500.00
3. Wages - Pomology Orchard caretaker and maintainance	250.00
4. Wages - Poultry Farm caretaker and maintainance	500.00
5. Upkeep Motorized sanpan and expenses	300.00
6. Sericulture expenses, upkeep taken care of in 10-year plan (\$1,000.00)	
7. Agronomy and Farm Crops - Upkeep and wages	500.00
8. Departmental Budget	1,500.00
Total Yearly - - Gold	<u>\$6,050.00</u>

Represents an Endowment of \$110,000.00 GOLD

FUKIEN CHRISTIAN UNIVERSITY

APPROPRIATIONS FOR SCIENCE DEPARTMENTS

Extract from 1929-30 Budget.

Oct. 1, 1929.

SALARIES AND ALLOWANCES

Department of Biology

Kellogg, C.R. (Professor)

Salary	M\$3,600.00	
Port Allow.	300.00	
Children (2)	900.00	
Travel for Virginia	50.00	
Health	<u>100.00</u>	M\$4,950.00

Metcalf, F.P. (Asso. Prof.)

Medical and Freight	527.52	527.52
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Liu, W.T.W. (Asst. Prof.)

Salary (1/3)	600.00	
Medical "	<u>33.34</u>	<u>633.34</u> M.\$6,110.86

Department of Chemistry

Beeman, N. (Professor)

Salary	2,300.00	
Children (3)	550.00	
Insurance	400.00	
Medical	100.00	
Travel	<u>3,250.00</u>	7,100.00

Sutton, W.J. (Asso. Prof.)
(on furlough)

Salary	3,000.00	
Children (2)	400.00	
Insurance	400.00	
Medical	50.00	
Furlo Rent	1,000.00	
Refit	400.00	
Travel	<u>3,000.00</u>	8,250.00

Wang, T.H. (Asst. Prof.)

Salary	1,200.00	
Medical	50.00	
Furniture	<u>200.00</u>	<u>1,450.00</u> <u>16,800.00</u>

Carried forward M.\$22,910.86

Brought forward

N. \$22,910.86

Department of Physics and Mathematics

Martin, F.C. (Asso. Prof.)

Salary	2,800.00	
Medical	50.00	
Insurance	400.00	
Furlo Reserve	<u>1810.00</u>	5,060.00

Chung, C.Y. (Asst. Prof.)

Salary	1,920.00	
Medical	25.00	
Furniture	<u>50.00</u>	1,995.00

Lai, J.C. (Instructor)

Salary	<u>960.00</u>	<u>960.00</u>	<u>8,015.00</u>
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Total of Salaries and Allow. N. \$30,925.86

Ex. @ 2:1 = US \$15,462.93

Total Required 15,000.00

Over and Above Requirement US\$ 462.93

DEPARTMENTAL SUPPLIES AND EXPENSE

Department of Biology N. \$2,513.00

Department of Chemistry 3,177.48

Department of Physics and Mathematics 1,182.00

Total of Maintenance N. \$6,872.48

Ex. @ 2:1 = US\$ 3,436.24

Total required 3,300.00

Over and Above Requirement US\$ 136.24

71
Oct. 22, 1929.

1. DEPARTMENT OF BIOLOGY

While it is generally conceded that the main purpose of a college is that of the training of young people in certain branches of knowledge, either for cultural purposes or so they may go out and teach others what they have learned, it seems to the writer that the college of today has a far wider responsibility than that to fulfill. A few suggestions will be given showing what we believe a college should have as its aims. These are not arranged in order of importance.

1. The training of teachers.- Undoubtedly one of the primary objects of any college should be the training and preparation of its graduates for teaching the work in which they have specialized. The call for qualified teachers in China under the new regime will surely be loud and insistent so our department wishes to do its share in sending out properly prepared teachers of Biology.

2. Renewal of interest and enthusiasm on the part of old teachers.- After teachers have been working in schools for a while, especially in the smaller country schools, away from intercourse with others interested in the same kind of work, they are likely to let down so they need some further training and especially a renewal of interest and enthusiasm for their work. The department favors the plan of having country teachers come back to the school in the summer time, not necessarily to attend formal and set lectures and classes, but rather for an informal extended visit in which they will be encouraged to freely use the libraries and laboratories under proper direction, thus in a most free and informal way to renew their enthusiasm for their subject and also to get the latest information. Such a plan would work but much like a "summer camp"; not only would it help the student to regain his hold on his subject but it would also provide for some of the more mature workers making actual contributions in research work.

3. Preparation for citizenship.- We feel that one of the duties of a college is to train citizens. As probably 85% of the students of our Freshman elementary Biology class will never major in Biology, and many of them may not take any more biology, we feel that in this class the emphasis should be placed upon the basic underlying principles of Biology which would make the student better able to live a successful and happy life after graduation. All technical details should be left out in this course and it should be entirely cultural and preparatory for life.

4. Research and extension.- One of the main functions of every college should be the collection of scientific information and the application of this knowledge for the betterment of the people of the province. In pursuance of this policy the Biology Department has planned to equip and operate a small agricultural experiment station for the study of problems peculiar to this province. With three professors and their more mature students doing research work along practical lines we feel that much would be possible in this line. It is further hoped that there may be a graduate student or two doing actual field and research work under the direction of the department such as a medical student does internship work in a hospital, which would benefit the student and at the same time make it possible to work on some of the pressing problems of this locality.

5. While the above are given as the main lines along which the Department of Biology would like to work, it must be admitted that the actual carrying out of such plans is not easy. It is hoped, however, that we may be able to do something toward such a goal.

(Signed) C. H. Kellogg

Department of Biology

II. DEPARTMENT OF CHEMISTRY

17 Sept., 1929

Dear President Lin:

This is in answer to your request for a statement concerning the way in which the Chemistry Department proposes to meet the needs of this section of China and the part it hopes to play in the development of the industrial and commercial life - as well as its possible contributions to the professional fields of interest. This furnishes a wonderful opportunity to say a lot of things about what the Chemistry Department might do but for which the limited staff of an undergraduate department may be insufficiently equipped for. There are several things for which we are equipped and it is to these things that I will limit myself.

First, it should be remembered that our situation here in Foochow is much as follows: (1) F.C.U. is not a graduate school and the research done must of necessity be along the lines in which the staff is qualified and equipped with an occasional graduate assistant now and then; (2) Foochow is not an industrial nor commercial center such as Shanghai is and probably never will be except along a few limited lines depending upon the products of this region.

But we do find a great interest here in (1) education, (2) politics, (3) "western" - or better - scientific medicine, this being in recent years on a decided increase, (4) agriculture - this is primarily a farming district as we know, (5) raising of oranges and tangerines, (6) the industries of silk, tea, fishing, tung oil, bamboo paper and less importantly, camphor and lacquers (the not for sale as such). (7) Special mention should be made of the clay and mineral deposits from which come the famous but very extensively used crocks, jars, jugs. The mining industry promises great possibilities for the future if we are to accept the surveys that have been made in the past. The mines, for various reasons, have been operated only intermittently. Crude work is being done in glass and pewter and brass but this does not promise to be of great importance.

Now to the point of the letter: Dr. Sutton has already begun research in the ceramic field on local clays and, I know, stands ready to go on with it upon his return. Mr. Wang has been preparing himself for the work in Food and Sanitary Chemistry with the idea of making it as practical as possible. He has a great chance to make his contribution to the much talked of plan for an adequate water supply for Foochow and to the more recently developing need of a safe, clean milk supply. My own interests have always lain in the field of theoretical chemistry and the theory and practice of teaching the subject of chemistry. My specialized knowledge - the limited - of colloidal chemistry I hope to turn to account in various applications.

In addition to these specialized interests of the staff there is, what I consider of even greater importance, first, the training on the part of all of us in the department of good teachers of chemistry for our Middle School; second, the preparation of students for the medical school. To my mind these constitute together the greatest contribution which we can make, and actually are making at present, to this section of China in which we are located. This service will require all we can give for the period of possibly a decade and a half or two decades.

There is also the Experimental Station work proposed by the Biology department in which we are planning to cooperate at those points where chemistry is needed both thru course work and laboratory investigations. The work of the experimental station is second probably only to the training of teachers and premedical students so far as our institution is directly concerned thru its science department.

In making these statements I am indulging in no flights of fancy. We are either doing now, or are planning to do, the thing I have mentioned.

(Signed) Norvil Soeman
Department of Chemistry

III. DEPARTMENT OF PHYSICS AND MATHEMATICS

The present program in the Physics Department includes two kinds of Majors - one in Pure Physics and the other in Applied Physics. For the former, courses on the Electron, Radio, Thermodynamics of Heat Engines and Refrigerators, Physics Optics and Astronomy will be given, not oftener than every second year for any one of the above.

In addition to the first two and a half years' mathematics and two years' foundation courses in Physics including the Theory and Applications of D.C. & A.C. electrical machines, the Applied Physics Major will contain the following more specialized courses: "Workshop," "Drawing," "Surveying," "Strength and Testing of Materials," "Stresses in Structures," "Reinforced Concrete," "Hydraulics," "Road and Streets, and Railway." These courses will be given not oftener than every alternate year for each and each is a 4 credit hour course with one laboratory or drawing office period per week.

There seems to be a great need for the above training in this country, for the present reconstruction work in China demands men with a training such as this. Then students, after several years of practical experience may like to go abroad for further studies with our training. They in China should be able to enter the third year of any four year Engineering Course in America. In the past we have turned out nearly a dozen men who are teaching Physics in Middle Schools.

We have seven students who are completing their second year in Physics and Mathematics and are preparing to take up the Applied Physics Major - five of these came to us from the Foochow Government Naval and Engineering School, at the Anchorage.

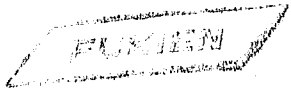
We are also trying to make a specialty of one course in Pre-Medical Physics. The Pre-Medical student takes four courses in Physics one of which is differentiated from the Dynamics and Statics course for the Pre-Medical student needs less of the latter but he should have some additional material that the Physics Major will not be so interested in.

In our courses in Mathematics we are trying to bring the work on to modern lines. We are introducing "frequency distribution" in the Algebra course, and a little later Mathematical Analysis and the graphical and applied side of Calculus is emphasized.

We have just added over \$4,000.00 Gold's worth to our Physics equipment.

We are making a Testing Machine in Foochow - 5 tons - for under \$500 Mex. We are also starting to grind an eight inch mirror for a telescope for which we have also bought a fixed eye position equatorial head.

(Signed) R. C. Martin
Department of Physics



Science Department

COPY

FUKIEN CHRISTIAN UNIVERSITY

Nov 26, 1929

Report of expenditures for scientific equipment 1925-'29

Date	Ex. Rate	Botany		Chemistry		Physics		Zoology	
		Mex.	Gold	Mex.	Gold	Mex.	Gold	Mex.	Gold
25-26	1.70-1	1567.60	922.12	2298.63	1352.14	672.36	395.51	1649.81	970.48
26-27	1.80-1	451.98	251.10	1349.39	749.66	659.72	366.51	356.19	197.31
27-28	2 -1					130.12	65.06		
28-29						8701.44	4350.72		

From the above sums should be deducted the following sums which were paid in gold by the New York Office and already charged to the respective accounts.

25-26	1.70-1	205.11	150.06			367.03	215.90	205.11	150.07
		105.58	62.11					105.59	62.11
27-28	2 -1					130.12	72.29		

The figures in the second division are the exact distribution of the gold drafts detailed on page 3 of your letter 9/16/29

The figures in the second section are all included in the figures of the first section. As far as I can see the whole thing has been paid for out of building funds.

FUKIEN CHRISTIAN UNIVERSITY
Fochow, China.

Science Work 1932-33

During the past year the students have done better work in science than in any year since 1926, in spite of the fact that the major troubles in Manchuria and Shanghai have done much to arouse their national spirit and disturb their peace of mind. This is undoubtedly a sign that the students determined to apply their science in solving the problems of China. This year was the first in which the new regulation took effect requiring only one year of science for each student, instead of two courses as formerly. This has reduced the number of students in the first year science courses, but it has left these classes with students of a much higher type so that more effective teaching has been accomplished, because disinterested students are no longer required to take the work. According to figures from the Dean's Office, one third of the students time is spent in science courses.

The outstanding event of the year is the building of the gas plant. Up to the present alcohol and kerosene burners have been used. These required much more time in preliminary heating and were often inefficient, while the present gas made by cracking heavy petroleum oils has a very high heating value, is clean and efficient, and in addition can be used to accomplish many results in the laboratory which formerly were impossible. It is too early to give accurate cost figures, but first computations indicate that the cost of operation will be about the same as with the alcohol and oil burners. For the erection of this plant the Rockefeller Foundation very kindly gave \$5,000.00 silver, which is slightly less than one third of the total cost. The plant consists of a large octagonal building with a central stack and a coal storage bin. At present there are two retort furnaces with room for two more in case of necessary expansion. There are two cylindrical sheet iron gas holders each holding 1500 cubic feet of gas. Gas has to be generated about once every ten days to meet present demands.

Another outstanding feature of the year was the fine spirit and enthusiasm shown by the student societies in Biology, Chemistry and Physics. These groups have regularly carried out a program of interesting meetings with little or no faculty assistance. The Mathematics students have held some very interesting competitions in problems. Other activities have been the publication of papers and reports, and departmental exhibitions

in which the students made very much of the preparation. They also helped considerably in the school science exhibition held in Foochow by the Provincial Bureau of Education. It was there that several of our teachers were called upon to act as judges of the high school exhibitions, and our college exhibitions won first award.

The Fukien Government Education Bureau often calls upon our Chinese teachers for cooperation or assistance giving lectures at teachers institutes, and some teaching in the Government Science Institute in Foochow. Occasional technical consultation and aid is asked for by the government, the schools and the Customs office in Foochow.

The schools, both mission and government, often look to our science departments for advice and aid in equipping or supplying laboratories. For years the Chemistry department has supplied chemicals and apparatus, while the Physics department has made simple and inexpensive types of apparatus, for high school use. During the past year the Biology department has developed a Biological Supply Service in which various kinds of material is collected in the fields and prepared for school use. Birds mounted for exhibition, microscope slides of many types, preserved specimens and plaster models are a few of the things which can be supplied on short notice. In this province where purchase of materials from outside takes a long time and is expensive, and where some teachers do not have experience in ordering, the science departments have contributed much to the betterment of science education in the high schools.

Dr. T. H. Cheng of the Biology department has published a textbook for use in First year Biology courses. ^{Prof.} T. H. Wang has sent an article to the Chinese Chemical Society for publication which is a report of his systematic examination of the water of the Min River during the past year. It includes chemical and bacteriological examination of the water at various places on the river, and shows the variation from month to month. At the Science conference in Lingnan University, Canton, Willard J. Sutton presented a paper on Physical Chemistry in Porcelain Manufacture which was published in the Lingnan Science Journal special supplement in May 1933. Lin I, Chemistry assistant, has received a Rockefeller fellowship and is now doing graduate work at Yenching University, Peiping, toward a masters degree. Lin Wei Chieh, a recent graduate and now taking Mr. Lin I's place in the Chemistry staff, has recently been notified of an award of \$150.00 from the Sino-Belgian Boxer Indemnity Fund Committee,

for his paper on the Relation of Color and the Chemical Constitution of Organic Compounds. Mr. Chiang Tien Fu, a former student, and graduate of the Nanking Agricultural school, is now working in the Biology department and introducing some work in agriculture on the campus. Mr. C. N. Yang has just arrived and is now filling a great need by his work in Botany. Mr. C. R. Kellogg is still away on extended furlough, financial conditions making it impossible for him to return until next year and resume his valuable work in entomology and parasitology. Mr. Tai Wen Sai has joined the staff as graduate assistant in Mathematics. Before graduation Mr. Tai spent one term at Soochow University getting some special training in Mathematics.

During the year the Biology department has built eleven large display cases which are now in the halls and laboratory showing the fine collection of birds, animals and other specimens, much of which had been collected for years but was packed away for lack of display space. The Chemistry and Physics departments have also prepared display cases to show models and specimens in a more satisfactory manner.

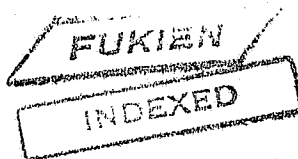
The China Science Foundation, after sending representatives here for inspection, granted \$12,000 silver for science equipment as follows:-

General Laboratory Apparatus	Biology	\$3,000.00
	Chemistry	\$3,000.00
	Physics	\$4,000.00
Electric Refrigerator for Water	Bacteriology	\$1,000.00
Work on Pottery and Porcelain		<u>\$1,000.00</u>
		\$12,000.00

This will give the departments an excellent equipment when added to their present outlay, so that our science equipment will rival that of any other school in China.

Willard J. Sutton
Chairman of the Science Faculty

November 1933



June 5 1933

RURAL SERVICE WORK AT FUKIEN CHRISTIAN UNIVERSITY

- I. Rural reconstruction work is one of the most urgent needs of the province and the nation. The responsibility of higher education in this work is obvious. Fukien Christian University has been doing certain phases of the work during the last eight years. It is time to enlarge the sphere of, and to strengthen the forces in this field of service.

- II. Needs Analyzed: (Fukien Conditions)
 - A. Problems relating to production:
 1. Land and tenant system
 2. Crop improvement
 3. Soil improvement and fertilizer
 4. Animal raising
 5. Fisheries
 6. Horticulture and pomology
 7. Tea
 8. Forestry
 9. Entomological and Pathological studies
 10. Parasitological studies
 11. Meteorological service
 12. Sericulture
 13. Irrigation
 14. Farm tools

 - B. Problems relating to Business and Industries
 1. Finance and Credit
 2. Farm Management
 3. Manufacturing of products
 4. Storage and marketing
 5. Consumption and purchasing
 6. Communication and transportation
 7. Supplementary industries

 - C. General Community Uplift:
 1. Survey and statistics
 2. Education for adults and children for rural needs, rural literature and other means of enlightenment included.
 3. Health and sanitation
 4. School betterment and recreation
 5. Self-protection and self-government
 6. Religious work and spiritual uplift

(27)
JUN 5
1933

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III. How to Meet Their Needs

A. Research and specialized service on the above problems

1. Laboratories at Fukien Christian University (F.C.U.)
2. Work done at Union High School (U.H.S.)
3. Cooperating with Nanking and Lingnan (including Nanking Seminary work)
4. Connection with other experimental work in China
5. Cooperation with all rural agencies in Fukien

B. Experimentation in selected centers and stations for rural improvement service.

1. Farms, hills, and villages near F.C.U.
2. Stations connected with U.H.S.
3. Government and other private stations in or around Foochow
4. Mission, Church, and other stations in the province

C. Training of rural leadership

1. College students at F.C.U. for rural and high school leadership
 - a. Special courses added and existing courses in various departments regrouped
 - b. General curriculum emphasis
 - c. Participation in research and experimentation work
 - d. Participation in extension service
2. High School students at U.H.S. for rural station and school leadership
3. Other interested persons either at F.C.U. or U.H.S. according to their previous preparation and particular needs

D. Extension Service

1. Country fairs
2. Lectures and demonstrations
3. Short course
4. Rural center or settlement

IV. Fukien Council on Rural Service

A. Functions

1. Formulation of general policy regarding rural improvement
2. Co-ordination of work among the various existing agencies
3. Promotion of work to the public and in various grades of schools
4. Enlisting support for rural service work

B. Composition

1. F.C.U. Board of Managers to elect 3 (First time 1 for one year, 1 for two years, 1 for three years; later, each will serve for three years)
2. U.H.S. Board of Managers to elect 3 (Same terms as above)
3. Each cooperating church or mission 1
4. To be elected by Council at large 3 ¹⁰ of 5

C. Corresponding Counsellors

1. From experts abroad interested in Fukien work
2. Experts in China interested in Fukien

D. Council to elect its own officers and to draw up any by-laws necessary to its procedure of business, the same to be reported to F.C.U. Board of Managers

E. Council shall have its office at F.C.U. and may apply for registration with the government.

Foochow, Fukien
June 5, 1933

IV. Russian Council on Rural Service

A. Functions

1. Formulation of general policy regarding rural improvement
2. Co-ordination of work among the various existing agencies
3. Promotion of work to the public and in various grades of schools
4. Maintaining support for rural service work

B. Composition

1. U.S.S.R. Board of Managers to elect 3 (first time) 1 for one year, 1 for two years, 1 for three years; later, each will serve for three years
2. U.S.S.R. Board of Managers to elect 3 (same terms as above)
3. Each cooperating church or mission 1 (same terms as above)
4. To be elected by Council as large as large 3 etc.

C. Corresponding Commissions

1. From experts abroad interested in Russian work
2. Experts in China interested in Russian work

D. Council to elect its own officers and to draw up any by-laws necessary to its procedure of business. The same to be reported to U.S.S.R. Board of Managers.

E. Council shall have its office at U.S.S.R. and may apply for registration with the government.

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London, England
June 2, 1933

FUKIEN CHRISTIAN UNIVERSITY
Foochow, China

How I Look at Rural Service

By Francis Chen
Field Director of Rural Service Program

October 1934

1. The Rural Background. The Chinese family system is the basic social structure in the rural districts. It has been operating for many centuries maintaining its relation to the individual, society, and the state. The subjection to the family head of all the members of a family group, as comprehensive as is the Chinese family, has had the further effect of producing great economic solidarity. The holding of property in common even after the death of the common ancestor has been encouraged. This economic solidarity of the family has its advantages and its disadvantages. It demands the family responsibility for family members which makes unnecessary much action on the part of the government which is required under a more individualistic regime. This system brings forth many evils too. Our rural family is not so alert to new tendencies in social and economic life as the modernized occidental family. From the standpoint of physical efficiency it is complicated and therefore clumsy, a serious handicap to speedy and efficient readjustments. This is one of the many reasons why the villagers have a comparative low standard of living; the religious, economic, physical, cultural, and social aspects of life.

As a part of the changing world, the rural family life would be greatly affected by the new ethical and economic forces, such as nationalism, the coming of the automobile, moving pictures, and even socialism. It is useless for the Chinese to resist or

lament the transformation of their economic and social structure. Changes are unavoidable if the institution is to continue to meet new situations. In this transitional period, F.C.U's part in rural service is a great responsibility and a difficult task.

2. Our Basic Philosophy of Rural Service. ^{The} Rural service program at Fukien Christian University has focused definitely on the promotion of better farming and better living conditions in general; in short, a better rural civilization. We realize that no reformation can be successful that does not touch the souls of the people. Therefore, we would bring them both spiritual awakening and the ability to master their environment.

We believe in making the social and spiritual ideals of Jesus our test for community life, as well as for individual life; in strengthening and deepening the personality of our rural people, and in them recognizing their obligations and duty to society. We aim to promote public virtue and collective responsibility. We have been trying with our utmost effort to struggle, sacrifice, endure, and cooperate with our village folks in making adjustments to the new life and the new age. In other words, it means creative activity in cooperation with our fellow compatriots and with God in the every-day life of society and in the development of a new and better social order.

3. Our Humble Accomplishments. The President of the University has appointed a Director of Rural Service, together with a faculty committee to work out general policies and plans. The village of Nieu Tien, a little ways beyond Kushan Point, has been selected as an experiment station, and a full time resident worker has been secured.

Before we suggested anything to the village leaders of

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Nieu Tien, we went and called at their homes. Our contact and friendship began in that way. At first, we just went over to be their friends; we ate with them and played with them. They have been to our homes on the F.C.U. Campus for tea parties and suppers. This made them feel quite happy because we extended to them our Christian love. We also took them to visit our science hall and museum, to our Kindergarten on the campus for faculty children, and to an elementary government school in another village.

After we had come to know each other quite well, a discussion group was organized which was confined to discussing the problem of village improvement. When they visited other elementary schools, they brought out the problem of elementary education in their discussion. They at once realized that the children in the city have a better opportunity for education than those in the village. They felt that it was a great loss to their children because they did not have an elementary education. These village leaders suggested that five members be elected whose duty it would be to promote an interest in providing for a better school in their own village. They went to different homes and talked this over with many mothers and fathers. Finally they decided that an elementary school must be established in Nieu Tien. This village, as a whole, is very poor. They intended to use an old temple as the school house, but it was in very bad condition, so villagers and members of the F.C.U. Rural Service Department worked together in repairing it. We shall never forget the experiences we had in whitewashing. The temple has been used as the school house since that time.

We struggled very hard just to get the school started. We had no money to engage teachers, nor did we have any money for

desks and chairs. We tried to make the best of this unfavorable condition. The village leaders went around to different homes for a contribution to be used for making desks and chairs. Finally they succeeded. Several gentlemen of the village who had a middle school education offered their service free to the school. Now we have not only an elementary school for boys and girls, but also an adults' school for the young men and women. (Please refer to statistics).

The people in the village have^{also} offered the use of another large temple for the social center, and they provide lodging free of charge for the resident worker.

A plan was initiated whereby certain students undertook the leadership of clubs for boys and girls in three nearby villages. Both the men and women students went to these villages and helped the boys and girls to organize clubs of their own by which different projects are being carried out. The aim of these clubs is to promote citizenship, health, wholesome recreation, public virtue, and religious outlook. ¶ There was no available space in Nieu Tien village for the children to play. Some village leaders felt the need of building a playground, and they directed the project. It was on March 29 that collective action took place - men and women, boys and girls, gentry, teachers, and college professors worked together heartily and happily for the common good of all. A rough hilly place was leveled off and a clean playground constructed. Later, some simple equipment was provided, the village people themselves furnishing part of it.

"Parents Day" on May 30 was quite successful. Both the mothers and the fathers of Nieu Tien village were invited to the community supper. A program on the "Responsibility of Parents to their Children" was given.

June 9 was assigned as "Children's Day". Boys and girls from four villages participated in a joint gathering.

The F.C.U. Rural Dramatic Club with the help of the Boxing Club and the Chinese Music Club has been the best means for the promotion of citizenship which we have been able to discover so far. We have numerous demands for performances.

An agricultural fair was carefully planned in which agricultural specialists from these other institutions cooperated; namely, the Fukien Agricultural Research Institute, Fukien Government Agricultural School, and the Department of Rural Electrification, Foochow Electric Company. The leading kinds of farm products were gathered together and displayed to the public for the promotion of agricultural production. We sent out bills and posters announcing this agricultural fair ten days ahead. We also utilized the old village custom of having a procession. Our elementary school students went out with their drums and gongs and paraded through thirteen villages. We had a very busy day; many people from these villages came to see the fair. A children's party was carefully planned by our Club leaders for the latter part of the afternoon. The children saw a great many new things that day.

The clinic has been one of the most helpful lines of work in our station. Since last April two nurses from the Foochow Christian Union Hospital have been coming down once every week. We are grateful to Miss Jennie Jacobs, supervisor of public health work of the hospital, and to the hospital for their cooperation in this important phase of our work at Nieu Tien. Since September Dr. Chiu Shao Lin who has recently joined the staff of the Church Mission Hospital, Foochow City, ^{has also been coming to the clinic one day a week,} Dr. Chiu graduated from F.C.U.

in June 1929, and went to St. Johns University, Shanghai, for his medical training. Dr. Chiu and these two nurses have been very loyal to their profession. Having realized that "an ounce of prevention is worth ~~more than~~ ^{especially} a pound of cure", we are/emphasizing prevention. Our nurses visit these rural homes and teach young mothers family hygiene. Dr. Chiu is training our villagers to look after the more common diseases.

We have had numerous health campaigns in different villages. F.C.U. students went to the villages and demonstrated to the people that public health is a life and death problem to them. Students and villagers worked together cleaning the entire village. Our students have been admirable in this task. They actually did the dirtiest jobk in the village.

We have also organized a young farmer's club by which we hope that they will become the source of strength in village life. We have planned some simple projects which we can work out together.

We realize that the children are the foundation of young China; we must help them to form better habits. The formation of their habits and thinking concerns us most. We felt that a Children's Library in our Social Center would be helpful. Both the student body and the faculty loaned to the Nieu Tien Library generously. Recently the Education Department of F.C.U. has loaned to that library a complete set of "Children's Library" consisting of 500 copies, published by the Commercial Press, Shanghai.

4. Our Problems and Possibilities in Rural Service.

The problem of rural reconstruction is an age-old social economic issue in Chinese history. Perhaps it is as old as China. All of our great sages and national saviors have always been confronted with this fundamental problem. For example, the Taoists thought in terms of isolated villages; Me Ti thought in terms of self-governing

villages, each with its leader; the Legalist worked out an elaborate system of rural government by which the whole country was divided into inter-related country districts, each looking after its own affairs⁽¹⁾. From this historical reference we know that the mind of the Chinese has long been focused on the rural issue.

The urgency of our rural reconstruction is so great that it is quite hard for our western readers to grasp it. The economic history of China is enough to show us the ruthless struggle for existence. The inroads of capitalism, imperialism, and industrialism have tended to disrupt the whole Chinese economic system. As we have seen, Chinese agrarian economy has been breaking down under the impact of the newer forces. Capitalism and industrialization have brought about rising prices, and with rising prices millions of farmers have been forced by economic pressure to leave their farms. Our long-suffering farmers have been the victim economically, politically, and socially. The Chinese farmer must be rescued in order that the nation may survive.

No program is possible unless we have dynamic civilization. For what reasons do we have so many lines of backwardness in rural life? Because we have a static cultural social background in our rural civilization. Traditions and superstitions dominate their personal and social life. A Chinese agrarian renaissance can only be successful through religion, education, and science. The task is so difficult and great; we, therefore, need collective responsibility and effort. First of all, it is desirable to have a traveling rural mission which consists of the religionist, the scientist, the agriculturalist, the educator, the medical doctor,

(1) Liang Chi-shao, History of Chinese Political Thoughts pp. 193-95.

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the economist, and the social engineer who will go to every leading rural station to promote better living and better farming.

We realize that a social order cannot be improved, unless we change the hearts of people and their environment. We cannot change our environment unless we are public spirited. Thus we are focusing our policies on these three aspects.

RURAL SERVICE AT FUKIEN CHRISTIAN UNIVERSITY, FOOCHEW, CHINA.

- I. The rural service at Fukien Christian University consists of three parts: (A) Agricultural experimentation and research; (B) Extension and rural reconstruction center; and (C) Leadership training.

(A) The agricultural experimentation work has been carried on at Fukien for about ten years along several lines:

1. Reforestation work. Up to 1932 about 300,000 trees of different kinds had been successfully grown on the hills near the campus. In 1933 about 12,000 trees of various kinds were again introduced, and in the spring of 1934 about 120,000 trees of various kinds were planted.

Besides carrying on the reforestation work ourselves, there is a nursery to provide small trees of various kinds which are particularly adapted to the climate in Fukien, for distribution to interested persons who want to plant trees. In this connection the government is cooperating with the University through its nursery facilities. Every year trees in large numbers are being distributed to various civic organizations, schools and villages for use on the National Arbor Day.

The University also organized teams to educate the people, through scientific lectures and demonstrations in the villages, regarding the importance and method of planting and protecting trees. These teams are most welcome wherever they go.

2. Agricultural research.

- a. The selection of rice was among the first undertaken by the University. It has proved to be extremely successful. The seeds that have been selected by the University produce about 40% more in the summer crops, and 24% in the winter crops. An attempt has also been made in the improvement of the Irish potatoes. The region immediately near the University produced the largest amount of Irish potatoes in China, exported to Hongkong and the Philippine Islands.

- b. Sericulture. Work has also been successfully carried out for a number of years in the improvement of silk worms by crossing the Canton species with the Northern species, with the result that we are able to help the farmers raise one or two more crops of silk worm than usually. Together with the improvement of the silk worm came the problem of planting and the caring of the mulberry trees. There is also a service for the examination and distribution of silk worm eggs that are free from disease. This service results in greatly increasing the amount and quality of the silk produced.

3. Horticultural work has also been carried on on the campus of Fukien. Improvements have been made in raising tomatoes

which will stand the climate in Fukien, several common vegetables have been improved, and new species of peaches and banana have also been introduced.

4. Poultry work has also been carried on for some time. The aim is to improve the stock of chickens through cross-breeding, and to increase the production of eggs. There has been a series of study on economic birds. In the University we have probably one of the most complete collections of birds in South China. An intensive study of frogs in its relation to farm crops in Fukien has also been carrying on for three years.
5. Study on the prevention and destruction of harmful insects to farm crops, jasmine flowers, oranges and other fruits has also been conducted for a number of years.

(B) Extension

1. Rural Center. Systematic rural extension work was reorganized in the fall of 1933, and the Department of Rural Service was established in the following winter. There is now a Rural Center which carries on experiments along social and economic lines. A group of about six villages cooperate in this experimentation. Community health, recreation, citizenship training, crop improvement, and road building are among the most popular projects.
2. Rural education is being carried on along two main lines: one for popular education among the adults, and the other for village children of school age. Cooperating with the villages, about half a dozen schools have been organized for adults, and several day schools have been established for children. During the summer the students organize special vacation schools for children in 30 to 50 centers, and about 3,000 children receive the benefit of such schooling every year.
3. Rural cooperatives for economic improvement are being planned for. It is hoped that a group of credit cooperatives may be organized before long with the help of the banks in Foochow. Cooperative storage marketing, and transportation soon follow, as well as cooperative purchasing.
4. Improvement in rural supplementary industries, such as stove-making, in the villages has been introduced.

(C) Leadership Training

1. The whole academic policy of the college is being reshaped toward emphasis on rural reconstruction. The content and method of the various courses of study are being re-examined and re-adjusted to give that effect.

Rural Service at Fukien
Christian University,
Foochow, China.

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2. The organization of a rural service major consisting of
 - a. Agricultural experiment work, including pertinent courses listed in the various departments.
 - b. Rural economics, which include courses in agricultural cooperatives, crop improvement, soil testing, etc.
 - c. Rural education which include courses in adult education, education for village children, as well as in conducting practice schools, general demonstrations and illustrated lectures.
 - d. Rural social service, includes work in rural sociology, health, sanitation, drama, music, folk lores, and customs.
3. There are two grades of students; one is the college grade at Fukien Christian University, and another is the high school grade at the Union High School. Both are trained with the object of getting to the rural districts for actual service. All courses are closely related with field work in the experimentation centers.

II. Organization and Resources.

- A. The Rural Service Council was organized in 1933 to coordinate the work of the various agencies that are now carrying on a rural service program in the Province of Fukien. Each cooperating body is represented in the Council with the head office at Fukien Christian University. The cooperating bodies, include Fukien Christian University, the Union High School, four Christian denominational Churches working in Fukien, the government of Fukien, and two other private institutions in Foochow. There are two committees working under this council; one on agricultural problems, another on social service in the rural districts.

At Fukien Christian University a special committee is in charge of formulating the policy with regard to curriculum study and extension service programs. There is a director of agricultural experimentation, Prof. C. R. Kellogg, and another director for the rural center, Dr. Francis Chen. Preliminary arrangements have also been made with regard to cooperation between the College of Agriculture and Forestry of the University of Nanking, and the College of Agriculture of Lingnan University at Canton in making Fukien one of their affiliated experimental stations.

B. Resources.

1. Personnel. There are two men in the Economic Department at Fukien Christian University giving work relating

to rural work. One additional man is needed in rural education work. Three men are now working on agricultural experimentation work; two at the University and one at the Union High School.

2. Farms and Funds. There are about thirty acres of land under the control of Fukien Christian University that are being used for agricultural experimentation work. For the next three years funds have been secured from a friend of the University in 1933, to finance the preliminary work, and to pay a part of the salary of the director of the Rural Center. Cooperating institutions have offered their buildings, lands and hills for general use. Fukien Government has also expressed the desire to contribute land and money toward the work.

III. Additional Funds Needed for Strengthening the Year's Work are as follows:

A. Agricultural Experimentation Work	U.S.\$3,000.00
B. Extension Service	1,500.00
C. Rural center and social experimentation	1,500.00
D. Rural education	<u>3,000.00</u>
Total - - - - -	U.S.\$9,000.00

It is most gratifying to report that in all of the villages with which our rural service center has connections, the people in the communities have cooperated most heartily. They have turned over their old temples for adult education schools, ancestral halls for the school of village children, and land for playgrounds of the community. The young farmers clubs have undertaken some gigantic work, such as building motor roads to connect the various villages. Work in community health and sanitation, as well as general improvement of economic life, has been successfully pushed on.

Fukien Christian University
American Office
150 Fifth Avenue
New York, N. Y.

June 13, 1935

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BOARDS

1936

see page 10
5/20/36

福建農學院計劃草案

1936

福建農學院計劃草案

緒言

閩省地處亞熱帶，氣候暖溫，土地肥沃，農家有三季至四季之收成，農林產物豐富異常。平時穀麥麻糖紙等，皆足供本省用而有餘。而特產品，如果樹有柑橘荔枝龍眼橄欖黃皮香蕉鳳梨等，蔬菜有花椰菜甘藍結球白菜等，花卉有玉蘭茶花茉莉珠蘭水仙等，皆名聞全國。林木有杉松樟楠花梨等，其產量居全國之第三位。自東北淪陷後，更升高為第二位。他如茶竹香菰花生洋薯等，亦皆經濟產不勝枚舉。是福建為一天然之農林區不容忽視也。

茲值農村經濟破產之秋，舉國上下，皆知促進生產，復興農村，為當前之急務。則農業之改進，實為急迫首要之事。福建既屬天然農林區，再加以人工扶助，將來產品質量之增加，必非意想所能及，可斷言也。省中近亦設有農林改良總場，并于主要農產區域更設分場，從事試驗，但研究試驗

及推擴工作之各項專門人才尚感缺乏。此農學院之設所以急不容緩也。

茲將設立福建農學院計劃草擬於後

一、本院設立地點

吾閩財政素感困難，獨立農學院之籌設，恐頗非易事。茲為謀節省經費，便於成立起見，擬委託福建協和學院辦理。蓋該院設立已廿餘年，科學基礎，年積月累，甚形鞏固，而生物、化學、數理等科，設備尤見充實，圖書館藏書又極豐富。若將本院通併承辦，即可利用其固有之設備及人員，而節省開辦費、設備費，及經常費不少。（詳見第六段第(18)及(26)各節及第七段說明）

二、本院之工作

本院工作擬分為左列三項

(一) 人才培養：本院負責造就本省所需要之農業技術人員，農業行政人員，及高初級農業學校之師資。

(二) 問題研究：本院負責研究本省整個農業之改良，及農村生活改進等問題。

(三) 農事推廣：本院應隨時將研究所得編為淺說散發，或用播音宣傳，或作巡迴示範及訓練，以備全省各處農業得以迅速改進。

本院為全省農業最高學府，實負解決全省農業問題之任務，故除教授學生外，尚兼任研究推廣等之職責，蓋農事常受天時地域之支配，宜于甲地之農作物種類，未必悉合于乙地，故本省農業必需就地研究其解決方法，決非他人可以越俎代庖，此研究工作，所以為農業教育輔助之問題。更以研究結果，施之於教員，其教員始能脗合實際。施之于推廣，則推廣乃奏實效。故三者皆須同時並舉也。

三、本院任務之範圍

欲求全省農業切實上進，全省之農業教育，及農事改良工作，宜有一種通盤計劃，成系統一貫之設施，逐步推行。因而本省建設廳所屬之

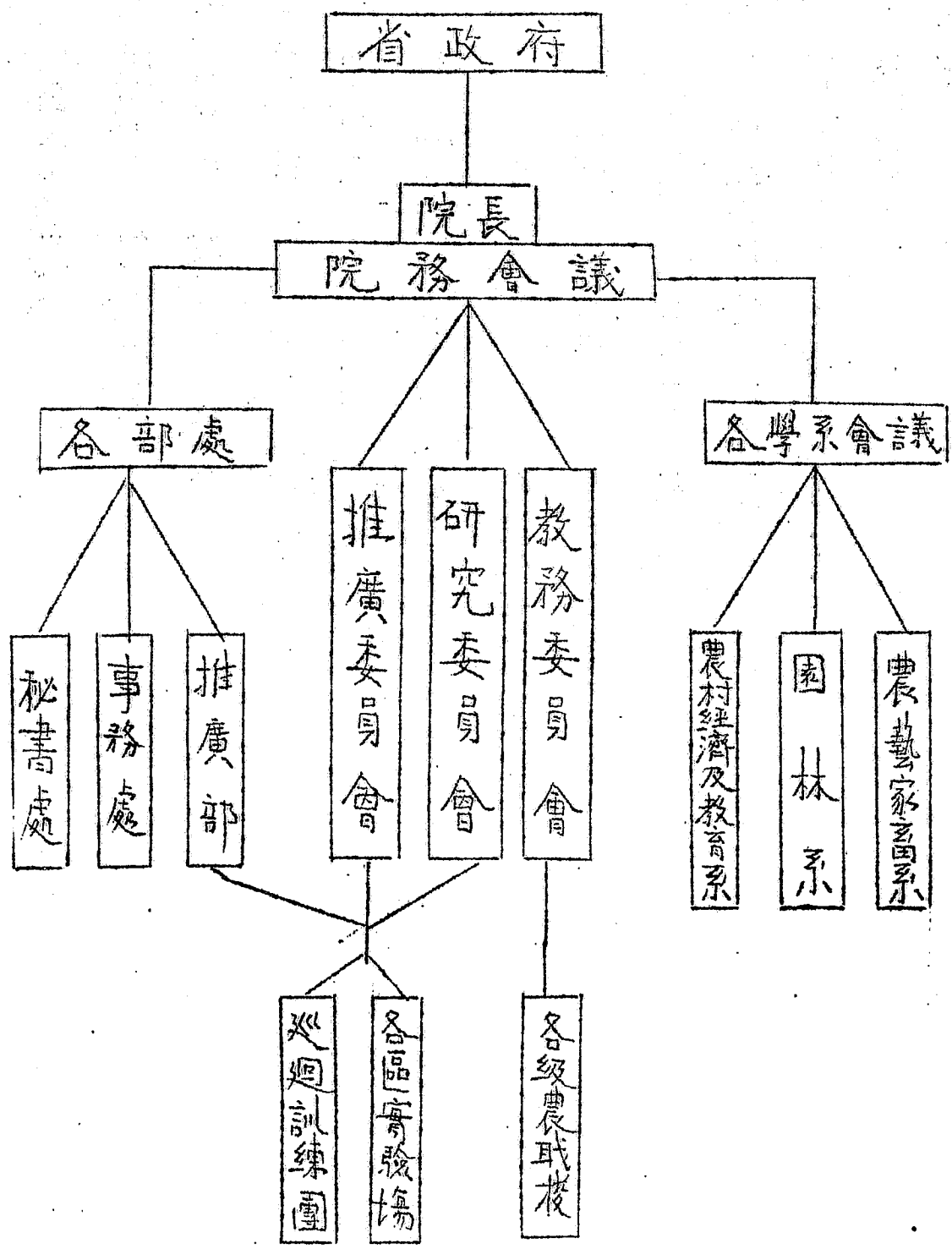
農林試驗場及教育廳所屬之高初級農業學校，均應劃入本院管理指揮，以專責成，而利改革。實施分工合作，始得收指臂之助，以求進行無阻，然後成效可期也。且按此系統，一切需要易于明瞭，並可依需要之程度作造就人才之標準。由是種類數目皆得依需要程度而定。可使事得其才，才得其用，人才事業，調劑得當。庶使本省農業機關不致有人才偏枯之虞，而農業人才亦無失業之患矣。

四、本院之組織

本院依本省目前之需要先設下列三系及一部，部之下又分二股。

- (一) 農藝系 附家畜組
- (二) 園林系
- (三) 農村經濟及教育系
- (四) 推廣部 下設推廣訓練及出版宣傳二組

福建農學院組織系統表



茲將應聘人員列後

1. 園藝學教授一人助教二人
2. 森林學教授一人助教二人
3. 農村經濟學教授一人助教二人
4. 農村教育學教授一人助教二人
5. 育種學教授一人助教二人
6. 土壤學教授一人助教二人
7. 植物生理學教授一人助教二人
8. 植物病理學教授一人助教二人
9. 昆蟲學教授一人助教二人
10. 畜牧獸醫學教授一人助教二人
11. 推廣員四人
12. 辦事員三人

為促進教學及研究工作，設研究委員會，及教務委員會，皆由各系主任及教授分別擔任。

五. 本院之課程

本院考收合格高級中學及農職業學校畢業生，分三系教授，及實地訓練。各系課程均為四年畢業，首二年為共同必修之農業基本課程，後二年課程分為正副系各三組，學生修完二二年級課程時，得依其志願選讀正副系各一組。大約共同必修科佔全部課程百分之三十六，主系必修科佔全部課程百分之三十，副系必修科佔全部課程百分之二十，選修科佔全部課程百分之十四。

六. 本院之預算

(一) 設置費

左列三目十八節

共法幣一七一,〇〇〇元

甲. 房屋及場地

(1) 教室、試驗室、辦公室、合建一座

五〇,〇〇〇元

(2) 教職員宿舍

二五,〇〇〇元

(3) 農場房屋一座

三,〇〇〇元

(4) 學生宿舍一座(可容百人)

一〇,〇〇〇元

(5) 農地五百畝

二五,〇〇〇元

(6) 林地一萬畝以上

五,〇〇〇元

以上六節

共法幣一三八,〇〇〇元

乙. 農場設備

(7) 農具

八,〇〇〇元

(8) 役畜

七,〇〇〇元

(9) 種子及苗木

二,〇〇〇元

(10) 種畜

一,三〇〇元

以上四節

共法幣一三,〇〇〇元

丙、教具與儀器

(11) 椅棹床

一,〇〇〇元

(12) 農藝系用具

三,〇〇〇元

(13) 園林系用具

三,〇〇〇元

(14) 農村經濟教育系用具

一,〇〇〇元

(15) 推廣部用具

二,〇〇〇元

(16) 氣象觀測儀器

一,〇〇〇元

(17) 農林專門書籍雜誌

二〇,〇〇〇元

(18) 其餘基本科學試驗儀器等均需十五萬元協和學院已足供用

以上八節

實共六法幣 三二,〇〇〇元

(二) 經常費

左列四目十七節

每月共法幣 六八六〇元

甲、俸給

(19) 院長 每月

二〇〇元

20 主任兼教授三人 每人每月以百十元計 八四〇元

21 教授七人 每人每月以百五十元計 一七五〇元

22 助教十人 每人每月以百元計 一〇〇〇元

23 秘書二人 每月 一〇〇元

24 推廣部人員四人 每人每月以廿元計 三二〇元

25 辦事員三人 每人每月以五十元計 一五〇元

26 其餘生物學、化學、物理、國文、外國文、農村社會學、黨義、軍訓、體育、會計等各教授及助教約十人可由協和學院現有人員充任

以上八節

實共法幣

四、四六〇元

乙. 事業

(27) 各系用費 每月 六〇〇元

(28) 研究費 每月 三〇〇元

(29) 圖書雜誌

每月

五〇〇元

(30) 推廣費

每月

五〇〇元

(31) 調查考察旅費

每月

一〇〇元

(32) 辦公費

每月

一五〇元

以上六節

共法幣

一五〇元

丙. 辦公

(33) 雜費 (電光電話夜役及其他役耗費等) 每月

一〇〇元

(34) 印刷

每月

五〇元

以上三節

共法幣

一五〇元

丁. 臨時費

(35) 臨時費

每月

一〇〇元

七. 經費之籌配

(一) 設置費項內首六節十二萬五千元係供購置房屋場地之用若為籌

撥經費便利起見二年內可無須設置緣協大之現有場所約八百餘畝一時足供學生實習之用。其餘四萬三千元可分為二年撥付。每年二萬一千五百元。首二年學生當不及六千人。協大現有之試驗室教室學生宿舍等可暫應用。至第三年撥發建築款。所有建築物亦可一律於第四年內完成。

(二) 經常費項 院長可由協和學院院長兼任不兼薪。其餘會計事務等職員及基本教育教授可以協大各門教授充任無需另聘。

八 工作程序及撥款表

(一) 第一年(民國廿五年七月一日起至廿六年六月卅日止)。

政府撥付第一年設置費之二部計二萬二千五百元。經常費三萬五千元。開始招收第一學年學生廿五名。授與基本學程。
聘請各部系主任及教授二人助教五人。

協同建教兩廳，接收全省農業機關，決定改進全省農業方案。各機關專門人員一律留用，惟依各區需要及各人專長重新分配工作。

(二) 第二年(民國廿六年七月一日起至民國廿七年六月卅日止)

政府撥付第二年設置費之一部，計二萬二千五百元。經常費四萬八千元。招收第二期學生卅人。添聘教授二人。

(三) 第三年(民國廿七年七月一日起至民國廿八年六月卅日止)

政府撥付建築費六萬五千元。經常費五萬元。招收第三期學生卅人。建築及重要設備一部可告完成。全部教職員均可聘定。

(四) 第四年(民國廿八年七月一日起至民國廿九年六月卅日止)

政府撥付建築費六萬三千元。經常費八萬二千元。年度終結時第一屆學生畢業。建築一律完竣。

附撥款表

第一年度

1. 設置費

二一,五〇〇元

2. 經常費

二五,〇〇〇元

共

五六,五〇〇元

第二年度

1. 設置費

二一,五〇〇元

2. 經常費

四八,〇〇〇元

共

六九,五〇〇元

第三年度

1. 建築費

六五,〇〇〇元

2. 經常費

五〇,〇〇〇元

第四年度

共

建築費

六三,〇〇〇元

二五,〇〇〇元

之經常費

八二,〇〇〇元

共

一四五,〇〇〇元

第五年後經常費每年約

八五,〇〇〇元

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Fukien Christian University
Foochow, China

March, 1946

Equipment for Entomology

2	Research binocular microscope	G.	\$ 500.00
2	Research microscope		500.00
	Dissecting binocular microscope		
10	(for laboratory use)		1500.00
10	Microscope (for laboratory use)		1500.00
1	Adinger projection drawing machine		1000.00
4	Micrometers (ocular and stage)		200.00
2	Rotary microtome		1000.00
2	Paraffin oven		200.00
1	Calculating machine		1000.00
1	Adding machine		800.00
1	Microcamera		500.00
4	Insect specimen cabinet		1000.00
6	Constant temperature cabinet		1000.00
1	Frigidaire		1000.00
1	Electric drying oven		600.00
10	Thermometers		200.00
4	Soil thermometers		200.00
4	Barometers		200.00
	Insect cages		800.00
6	Sprayers		200.00
6	Dusters		200.00
	Glasswares		800.00
	Insecticides & chemicals		2000.00
	Entomological books & periodicals		5000.00
	Insectary construction		<u>4000.00</u>
		G.	\$25900.00

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Fukien Christian University
Foochow, China

Equipment for Horticulture Manufacturing

1	Set of Machine for making cans	G. @\$	7,000.00
1	Boiler (to supply steam)		2,500.00
1	Retort		1,000.00
1	Exhaust Box		700.00
1	Power Seamer		500.00
1	5-H.P. Engine		1,200.00
1	Grinder		200.00
	Cooking and Jelly Kettles		1,500.00
1	Juice Extractor		250.00
1	Strainer		150.00
1	Slicing Machine		250.00
1	Homogenizer		2,000.00
1	Capping Machine		500.00
1	Bottle Filler		300.00
1	Mixer		200.00
1	Vacuum Kettle		1,000.00
1	Screw Press		150.00
1	Chemical Balance		250.00
1	Refrigerator		250.00
1	Oven		150.00
1	Incuber		150.00
	Bacteriological apparatus		250.00
	Chemicals and others		2,000.00
		G	<u>\$22,450.00</u>

Fukien Christian University
Foochow, China

Equipment for Plant Pathology

1 Counter	G. \$	10.00
1 Autoclave		250.00
1 Hot air sterilizer		200.00
1 Paraffin oven		200.00
10 Incubator (electrical)		1500.00
1 Refrigerator		250.00
1 Balance (pina)		150.00
1 ph. outfit		50.00
1 Microtome and knife (electrical)		150.00
1 Research microscope (autherlux)		300.00
2 Research microscope		400.00
30 Student microscope		3000.00
2 Stage micrometer		10.00
4 Ocular micrometer		20.00
2 Camera lucida		60.00
10 Platinum wire needles		10.00
1 Centrifugal machine (electrical)		50.00
1 Centrifugal machine (Hand)		5.00
Hydrometer (Baume & Brix) whole set		50.00
10 Thermometer (100 G - 360 C)		20.00
Photographic Outfit whole set		300.00
1 Photographic outfit for microscope		100.00
1 Lica		200.00
1 Soil Tank		400.00
6 Sprayer and Duster (Large and small)		100.00
4 Maximum and minimum thermometer		15.00
1 Thermo-metrograph and sheets		150.00
Soil-thermograph whole set		150.00
1 Hydro-thermograph		100.00
1 Sunshine recorder		50.00
1 Wind velocity recorder		100.00
Glasswares		500.00
1 Typewriter		100.00
	G. \$	<u>8,900.00</u>

Fukien Christian University
 Foochow, China

Equipment for Pomology

1 Machine for making budding cloth	G. @\$	50.00
50 Budding knives (different types)		100.00
1 Sling psychrometer		10.00
1 Heater: high-stack oil-heater		5.00
1 Can-heater		5.00
1 Shinner coke-heater		10.00
2 Torch for lighting fires		1.00
30 Pruning shears (different types)		30.00
30 Pruning saw (curved blade, California and other types)		30.00
5 Clippers: Hart type		5.00
5 Spanish		5.00
10 Weiss (2 different types)		10.00
5 Tuttle		5.00
1 Citrus fruiting-washing machine		500.00
1 Citrus grading-belt and graders		500.00
1 Citrus Box-making machine		200.00
1 " Hauling machine		100.00
1 5 - H. P. Motor and a set of cold store		3000.00
1 Power-spraying outfit		50.00
1 Power-dusting outfit		50.00
Hand sprayers and dusters (different type)		100.00
2 Tents for fumigating citrus trees		100.00
1 Machine for generating hydrocyanic-acid gas		50.00
1 Pump for using liquid gas		50.00
4 Instrument for carpenter (whole set)		200.00
100 lbs. Potassium cyanide		100.00
200 lbs. Cupper sulfate		200.00
200 lbs. Sulfuric acid		200.00
		<u>200.00</u>
	G. \$	5,666.00

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Fukien Christian University
Foochow, China

Needs of Equipment for Agronomy

- 10 Brinsviga Calenlating Machines
- 3 Monroe Calculating Machines
- 4 Victor Adding Machines (Large type)
- 2 Victor Adding Machines (Small type)
- 1 Tog heppenstall moisture meter with electric motor (whole set)
- 2 Bzerner balances for grain tester
- 2 Torsion balances
- 4 Metric Micrometer calipers
- 1 1/1000 miligram balance (chemical chainomatic balance) with weights
- 4 High power microscopes with oil emersion Lens
- 2 Sledge sorters
- Chemicals and equipment for cytological study (whole set)

Equipment for Soil and Fertilizer

- 2 Analytical Chainomatic Balance with weights G. @ \$ 250.00
- 1 Supercentrifuge 150.00
- 1 Electric centrifuge with speed 1000 r. p. m. 300.00
- 1 pH Tester or portable potentionmeter with glass electrode 150.00
- 1 Electric Drying Oven 150.00
- 2 Sets of sieves-mesh No. 20-600 50.00
- 1 Set of Morgan's Soil Rapid Test Equipment with Chemicals 50.00
- 1 Ninocular Microscope
- 1 High Power Microscope with Oil emersion
- 2 Bouyoueus Hydrometer
- 2 Electric stirrer for soil Dispersion
- 1 Photoelectric Cell 150.00
- Chemicals and Glass wares for Analytical work

Fukien Christian University
Fochow, China

Experimental Work in Wheat
(F. C. U. Agricultural College)

On many university campuses the football field is the center of interest and some disgusted alumni have, when their team lost a critical game, suggested that their football field be turned back to cow pasture. F. C. U. never has had such overemphasis on athletics, but lack of ground for experimental work forced us to plow up our football field and put it into crops.

Still the field is the center of interest to any one who may know farm crops, for on it now stands plots of ripening wheat in an interesting checkerboard pattern of lush emerald green or native wheats, the blue green of California wheats, the silvery sheen of bearded wheats, others with red beards, and many plots a rich ripe yellow all waving in the afternoon sea breeze. They represent a great variety of tests, fertilizers, methods of planting, California white wheats in their first trial, and 56 segregations made by our former Prof. W. T. Tung from a cross between a Chekiang wheat and a strain developed at Nanking University. Many types of wheat have been selected from these segregations from short, heavy-strawed, heavy bearded, with plump heads, to tall slender beardless wheats. Over 20 of these are being tested this year in red-row tests. The others are being propagated until we have sufficient seed for yield tests.

At one end of the field is a long frame enclosed in chicken netting. If you think it is the batting cage you are wrong. That netting shelters Prof. Wang Ching-ho's prized hybridization tests for rust and loose smut resistance from marauding sparrows and munia birds. All around the cage are shafts of wheat with heads enclosed in slender paper bags and waving stringed labels. These are the work of Prof. Wang's students who are learning the techniques to follow in his train.

FUKIEN CHRISTIAN UNIVERSITY
Foochow, China
Animal Husbandry

March 1947

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(pictures enclosed) ✓

Monday, March 10, was a memorable day in the history of agriculture in Fukien. On that day the steamer Dah Chung Hwa anchored at the Pagoda Anchorage made famous by the Clipper Ships which sailed from that port with choice tea from the Bohca Hills. Tea trade now languishes and the hills once green with tea grow indifferent crops of sweet potatoes and sparse grass. The Dah Chung Hwa brought in blood to strengthen a new industry for these hills. That blood was the blood of 58 head of dairy cattle allocated by the Ministry of Agriculture and Forestry to the Christian institutions of North Fukien, from the 800 head of cattle assembled by the Church of the Brethren in the United States and shipped from New Orleans for China last December. These cattle were distributed as follows: - to the Catholic Missions of North Fukien, 18 head, for distribution in four of their orphanages and rural centers; to the Union High School, Foochow, 15 head; to the Foochow Christ's Hospital (Anglican), 4 head; to the Hinghwa Methodist Orphanage, 6 head; and to Fukien Christian University, 14 head of Holstein cows, a Holstein bull, and two calves.

The ship got in too late to unload any cattle on the day of arrival, but early Tuesday morning, the ship's crane began swinging the cows one by one in a crate to the lighters pulled alongside the ship. The cattle and the feed sufficient to last them three or four weeks, were loaded without mishap by noon. The lighters were towed away with the tide to land the cattle about two miles upriver in the yard of a temple occupied by Chinese Marines, and their barbed wire barricade formed an ideal place for sorting the cattle. Arrival at the temple was timed exactly right so that the decks of the lighters were flush with the stone retaining wall, and the cattle walked off the lighters as easily as they walked out of their barn doors in California, North Dakota, or Maine three or four months ago.

The cattle were trucked the remaining six miles in CTRRA trucks, and by three o'clock our Holsteins were exploring along the canal on the University Farm and scratching their backs on orange trees, their first opportunity in many long weeks. School farm hands started to herd the new arrivals up the hill to their new home, with many misunderstandings on both sides, but they were housed in time for milking those which had already borne their calves enroute.

Many are the problems to be worked out in establishing a dairy herd without the facilities of dairying in the United States, with inexperienced hands to teach, and without alfalfa and corn silage that form the basis of most dairy rations. The project must succeed, and from this center should come the foundation for many dairy herds. Several requests for bull calves have already come in. Most of all, we must succeed if we are true to the hopes and ideals of the donors, who placed the following message in the aluminium capsule suspended in the ear of one of the cows received:

"Claribel" -- produced on the Claribel Stock Ranch, Oakdale, California, a gift of the Methodist Church, Oakdale. Hope, courage, strength, health and happiness is our wish for you. Write us."

Ref. CORRESPONDENTS PUBLICITY HANDBOOK. Sect IV. page 5.

As we have no idea what is required to fill out what Walter Lippman in his "Public Opinion" called the "pictures in your minds" which you and we use to see any reported facts, it occurs to me it might be well, in addition to several special articles, we are sending you, to attempt some systematic answers to these questions, even though that is probably not intended by you.

R. Scott

A. On Relocation (An article on "the Return" planned)

Our return was of course not from West to East, but just "down river" The students left first, travelling in the usual way by bus; the staff then packed furniture & equipment, and took apart several of the buildings on the Shaowu campus for rebuilding in other form on the home campus; all had to be loaded on rafts; rafts were difficult to obtain; and well finally secured only at ruinous prices; the water was "wrong" and when the flotilla finally set off it encountered several dangerous rapids; several rafts were shipwrecked, goods being either water-soaked or lost; and at least one death by drowning occurred, that of the wife of Prof. Tsai Hsin Chou (of Educ.). The trip was about 250 miles. ..When college reassembled on the home campus it had been gone 8 yrs and had trebled in size! This increase has been shared by all educational institutions due to sober realization of the importance to the nation of education; it was further due in our case to Shaowu being geographically open to five provinces, whereas Foochow was formerly pretty confined to itself and Amoy... The equipment brought back was the same as that taken up river in 1938 save for use, deterioration & loss by shipwreck.

B. On Rehabilitation. (article planned). To a "newcomer" - returning after years, in Jan. 1947, our "recovery" seems little short of miraculous; no other president in China surely as comparable record to that of our late president, C. J. Lin. To have planned for the building and rebuilding the repair, reconstruction, painting, to recover from the Japanese occupation (Oct. '44 to June '45) and the looting by surrounding villagers, to provide housing and classrooms for a faculty twice the size and a student body three times in three colleges not two, all apparently within less than a year. To have coraked an architect, builders and contractors, and the mountains of material needed, with river transport still dislocated and the roads not yet repaired after the scoured earth policy, to overcome the objections of those who said "it could not be done" and the obstructions of those who sought to discredit successful work (the undercover student agitation), to have done it all when wearied by the war years and entirely with Western help, passes comprehension and spells greatness in the performer, and his loyal colleagues.

Of damage: one large building burned, several half-temporary structures demolished, most of the residences gutted, to obtain fire wood, all looted clean; all mechanical and metal fixtures, including door knobs, all electrical wiring and fixtures, all above-surface water-pipes (a year and a half later still using oil lamps), all glass. And hundreds of trees cut down. Little loss of library & equipment as most had been taken away by ourselves all brought back (see above) Textbooks damaged by use and water (on rafts).

Of repair: student beds and desks, dining tables, staff desks, lab. tables, mostly Xnew; much damage to old equipment in transit. The diesel engine from Shaowu reset up for light for the library and President's house; the water system under repair at this moment; a pump ~~XXXXX~~ and an engine but so far no generator; pipe still lacking. Livestock (chickens, goats, hogs) all lost.

C.Home Campus . A skeleton staff of foremen and workers to maintain gardens and "keep the jungleback," but they left during the occupation. However they returned within three days of the enemy evacuation.

D.Contribution

The home campus (and the city of Foochow) was occupied in Oct. 1944; the enemy evacuated in June, 1945; reconstruction work began at once but the college did not get down until February of 1946. Work for two terms the last of 1945 and the first of 1946 was very choppy, interrupted in Shaowu by a plague epidemic and a strike, and in Foochow by the half-finished buildings, the unsettled faculty, the restless student spirit, the need to run the spring term far into the summer heat to make up lost time, etc. The fall of 1946 and this opening spring of 1947 find the institution running on even keel again, with a fine faculty and student spirit; many fine new teachers have replaced the time-servers who were the only material available in the last war year to maintain departments at regulation size. (All Westerners had left in June 1944 in response to Embassy pressure, although there were a few later ones in the ensuing year). Many of the student trouble-makers have flunked themselves out; the present students are settling down to good work now they find the administration means business with new standards of honor and efficiency. "Forgetting the things which are behind" has become our motto! But the consequence of the demoralization that our institution shared with the entire nation (and from which we have recovered faster than the nation!) is that we can not be said to "helped Chinese reconstruction" yet in any material way; few students in positions of leadership (I mean graduates), few projects of social recovery or even survey. We have helped in our degree to have set up and set out to make real ideals ~~which~~ obedience to which would make of China a new nation. The NCC report for Dec. 1946 says, "Social responsibility in China is almost non-existent." Not here. Perhaps in the economy of God, the decease of the president threw his ideals into such bold perspective ~~and~~ that faculty and students alike are compelled to become changed men and women. Surely this is help!

E. Administration & Faculty. (reported details elsewhere)

F. Alumni. We are planning stories here.

G. Statistics. Same.

H. Special activities

(a) athletics. During the war years athletics fell to a low-ebb, equipment was unobtainable, students could hardly get enough food to consume energy needed for study and mere living in exercise, intercollegiate contest were out of the question due to bad transportation. And with the return the football grounds were planted in food; but plans are afoot for remaking the athletic fields and setting up wholesome programs. Concerts and musical activities were a bright spot in the Shaowu days as were student plays; but return to full strength in these lines awaits the general recovery; our pianos had fortunately been taken to Shaowu.

(b) The SCA has continued to be healthy, self-directed organization thru the war years and since the return; it has a large membership. One of its most popular activities is the "fellowship": thirty students gather together invite a teacher to be their advisor, and then they meet weekly for 1½ hours, ½ devotions conducted by themselves, ½ hour Bible study by the teacher and ½ hour games. 14 are now in action. The formal religious services, thrice-a-week chapels, the Sunday church service, the faculty prayer-meeting, have been well-attended during the war and since. The religious

life of the campus felt the general deterioration of course but it seems now pretty well to have recovered. A college pastor (Rev. Thomas R. Wilkinson, Sheng Kung Hwei, CMS from No. Fukien) has been appointed and he with interested faculty members is engaged in restoring the FCU Union Church begun in 1943, with the purpose of uniting within the confines of a "union university" the various denominational groups, for whom, without such a union church, separate denominational centers would have been a source of disunity, and of training students in "church business" before they should leave the campus, just as they are trained in "citizen business" in their courses. The ideal is that of Yale University and the organization resembles Battell Chapel in that institution, though our church is a good deal more self-conscious about its job than Battell; or rather it has really a different job. In our union church faculty and students, workers and wives will work together as equal Christians.

(c) Special holidays are few, Christmas and Easter periods shorter than at home (USA). On the other hand there is no longer any military drill in the China colleges and few military regulations.

I. Specialized projects.

Some of these are reported in material now being sent; others as they develop.

F. Other

There seems to be no rubric under which the education program as a whole can be discussed & I therefore propose a few remarks for what they are worth.

Before the Ministry of Education took a hand in the universal regularizing of the national life (in the late 30s) we at Fukien, following our Christian liberal American ideal of general education (such as the Harvard and Yale reports seem to hark back to; see also Donham, "Education for Responsible Living, USA, 1945). We balanced science and a combined English-philosophy minor for our best students. Some of these men are coming back to our faculty now; and they are very superior men; such a man is our president, our dean and many another of the older faculty men. The new crop will not be like that. The Ministry's program for education is narrowly and strictly specialized on the ground that China's need for technicians in immense numbers can admit of practically no graduate study so that a man must be trained to Master's degree level as an undergraduate. To choose a major is to have chosen a meal ticket. Thus much of the freedom traditionally associated with liberal education is missing. Also there have been in the past but six free elective hours in the total 138; we at Fukien are trying to increase this number. Specialization trains the technician; general education the critical thinker, especially the political leader. Has China declared a moratorium on these types for a decade or so she will suffer for it. (So far of course Christian presidents have been too busy just keeping alive to do more than obey the rules with as much free interpretation of them as wit could find (considerable at Fukien))

Meanwhile another problem has arisen that should interest the Associated Boards but not perhaps the Promotion Committee: The only way a student without special privileges can obtain enough English to handle American graduate work is to major in China in English (outside the English dept. where he takes 60 to 70 hours of English, he is required to take or at most 12) but few wish to study graduate English in USA; meanwhile the American universities will expect graduate study in the undergrad major subject. Perhaps the Board can persuade the Association of American Colleges to waive their rules in our behalf. At the moment the man who knows most English can't go to America to study because ~~there~~ he's not allowed to study other subjects that give graduate English. R. Scott

List of Pictures Sent to the N.Y. Office April 22, 1947

1. In connection with Agricultural Work

- 3 showing plots of wheat experiments
- 3 wheat hybridization (2 class at work, 1 individual)
- 1 general view of part of university farm - faculty residence in foreground
- 1 horticultural garden in foreground, with 2 large residences and Kushan peak in distance
- 1 Pomology class at work
- 3 vegetable growing laboratory work, one with only girls and one boys, one with individual
- 3 arrival of cattle to Fukien Province on SS "Dan Chung Hwa", March 10, 1947; 2 cattle in the hold of the ship, one in the crate for unloading
- 1 showing Holsteins being unloaded on the university campus with Overholt and Lin Ching
- 1 Bill Overholt milking
- 1 Bill Overholt trying to coax a calf up the hill: one with calf in
- 1 " " with calf in front of cow barn

2. Buildings

- 1 Science Hall as it was after V-J Day
- 1 Arts Hall " " " " (burned)
- 1 Ruins of "B" Building (frame and plaster building)
- 1 Close up view of ruins of "B" Building
- 1 Faculty Residence as it was after V-J Day (big house in valley)
- 1 Arts Hall after rebuilt (showing boards in windows)
- 1 Science and Arts Hall after partially rehabilitated (boards in windows)
- 1 Pres. Res., Science Hall, Arts Hall, with men's Dorms. and citrus fruit orchard foreground
- 1 Corner of Science Hall after repaired (boards in windows)
- 1 Men's Dorm with two students on steps
- 1 Men's Dorm showing more of the same building

3. Misc.... 1 Three Men's Dorm (only corner of one seen) with student walking up path

- 3. Misc. 1 Students under Banyan tree at the F.C.U. Jetty
- 1 Min River scene from Jetty (including water intake)
- 1 Boy ringing the bell

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Sent in letter April 19, 1947:

- 1 picture of Dean Tso-Hsin Cheng
- 1 " " Dr. Li Lai Yung

Dr. Yang Hsin Pao who is in general charge of this project spent five years in the United States, 1940-45, studying Rural Sociology and observing such work as is carried on in various centers in the States. He got his M.A. degree in Rural Sociology at Drew University, Madison, New Jersey, and his Ed.D. degree at Teachers College, Columbia University, 1945.

3. Proper Use of the Hilly Land of Fukien, under the direction of Dr. Li Lai Yung, Dean of the College of Agriculture and Head of the Department of Horticulture. Dr. Li received his M.S. degree from Lingnan University, 1934, and his Ph.D. in Horticulture at the Pennsylvania State College, 1941. He is a very able man and is doing an exceptionally fine piece of work in heading up the College of Agriculture and carrying on research and teaching work in the Department of Horticulture. He hopes through this experiment of the Proper Use of the Hilly Land of Fukien to eventually help the farmers to increase production. The details of this project will be found on the attached sheets, pages 3 and 4.

The university consists of three colleges, namely, Arts, Science, and Agriculture. The College of Agriculture, though the youngest, is the largest of the three. The enrolment for the present semester is distributed as follows: College of Arts, 184; College of Science, 137; College of Agriculture, 249. This total of 249 in the College of Agriculture is distributed in the departments as follows: Agricultural Economics 158, Agronomy 48, Horticulture 35, Rural Education 8. The Department of Rural Education was established in 1943 when we were not permitted by the Ministry of Education to have a Department of Education. Now that we have been able to re-establish the latter, we are not registering students in Rural Education, but we have to see the present Rural Education majors through to the completion of their work.

We hope that our application will receive favorable consideration, and we can assure you in advance that any assistance which may be given by the Foundation will be deeply appreciated by myself and my colleagues here.

Very sincerely yours,

C. T. Yang

Chang-tung Yang
Acting President

CTY:A

Fukien Christian University
Foochow, China

1946

College of Agriculture

Answers to

British
Questionnaire to Christian Universities in China

1. Departments functioning before the war
 - Department of Rural Economics
 - Department of Agricultural Studies
- Departments now functioning
 - Agronomy Department
 - Horticulture Department
 - Agricultural Economics Department
 - Agricultural Education Department

Registration with the Ministry

All four departments are registered with the Ministry of Education

2. Senior ranking staff members, their qualifications and work

a. Agronomy Department

Chen Wei Professor of Soil and Fertilizer (agricultural Chemistry)
B. S., Fukien Christian University; Ph. D., Cornell
University
Teaching, research, administration (Head of Department
and of the agronomy farm. At the University since 1943.

Tung Wen-tun Professor of Crops, Plant Breeding, etc.
B. S., College of Agriculture, National Central Univ.;
Research student, University of Texas, U. S. A.
Teaching and research. At the University since 1943.

Chang Tien-fu Professor of Tea, Pomology, etc.
B. S., College of Agriculture, Nanking University.
Teaching, extension, administration (in charge of tea
garden and manufactory). At the University since 1942.

b. Horticulture Department

Wang Tsin-hue Professor of Plant Pathology, Plant Physiology, etc.
B. S., College of Agriculture, Nanking University; Re-
search student, Research Institute, National Tsing-hua
University.
Teaching, research, administration (Head of Depart-
ment and of horticulture farm). At the University
since 1942.

Lin Se-tek Professor of Animal Husbandry, Canning, etc.
B. A., Fukien Christian University; M. S., Iowa State
College of Agriculture.
Teaching and research. At the University since 1942.

c. Agricultural Economics Department.

Edwin Chen Professor of Economics, Chinese Economic Problems, etc.
 B. A., Fukien Christian University; M. A., University
 of Southern California; M. A., Harvard University;
 Ph. D., University of Southern California.
 Teaching, research, administration (Dean of College,
 Head of Department and in charge of the economics
 material room). At the University since 1932.

Chen Lin-kuan Professor of Statistics and Accounting.
 B. A., College of Law, National Tsing-hua University.
 Teaching and research. At the University since 1943.

Liu Tze-sung Professor of Land Economics, Land Problems, etc.
 B. A., College of Law, National Peiking University;
 Graduate, Department of Economics, Imperial
 University of Tokyo.
 Teaching and research. At the University since 1943.

d. Agricultural Education Department

Averette Stowe Professor of Education
 B. A., Ohio University; M. A., Ph. D., Columbia
 University.
 Teaching and research. At the University since 1928.
 (on leave)

Edith Chen Professor of Psychology
 B. A., Syracuse University, M. A., Columbia University.
 Teaching and research. At the University since 1928.

Chu Po Professor of Methods of Teaching, etc.
 B. A., Pomona College; M. A., Chicago University.
 Teaching. At the University since 1939.

3. 1936/37 Budget

Agronomy Department

Salaries	£ 1,574	
Equipment and general expenses.....	£ 460	
Experiment farm	£ 1,170	
Tea manufacture	£ 120	£ 3,324

Horticulture Department

Salaries	£ 2,132	
Equipment and general expenses	£ 400	
Experiment farm	£ 1,158	
Canning	£ 120	£ 3,810

Agricultural Economics Department

Salaries	£ 1,465	
Equipment and general expenses	£ 36	
Economics material room.....	£ 125	£ 1,626

Agricultural Education Department

Salaries	£ 1,574	
Equipment and general expenses	£ 27	
Educational extension budget	£ 11	£ 1,612
		<u>£ 10,372</u>

4. Special projects (only principal projects listed)

a. Agronomy Department

The Department runs a 25-acre rice farm, a 10-acre forest in Shaowu and a 5-acre farm in Foochow on which research projects are carried on.

1. Rice selection and improvement

Project started seven years ago, work still continuing

ii. Tea selection and improvement

Project started three years ago, work still continuing

iii. Fukien soils, analysis and improvement

Project started three years ago, work still continuing

b. Horticulture Department

The Department runs a 10-acre vegetable and flower garden, a 10-acre orchard in Shaowu and a 4-acre farm in Foochow on which research projects are conducted.

i. Citrus improvement

Project started nine years ago, work still continuing.

ii. Utilization of rabbit fur and skin

Project started six years ago, work still continuing.

iii. Cabbage improvement

Project started five years ago, work still continuing.

iv. Fukien insect pests

Project started four years ago, work still continuing.

c. Agricultural Economics Department

The department runs an economics material room for the collection and analysis of economic data (on Fukien especially) and organizes an economic survey group to make special economics and social surveys.

i. Research in Fukien economics resources, commercial products and their development. Reports of investigations of Fukien pine and fir production, paper industry, mushroom production, village fairs, Lung-dou sugar, etc. are already published. Other investigations are still being made.

ii. General economics survey of Shaowu. Survey started six years ago, work still continuing.

d. Agricultural Education Department

Together with the Agricultural Economics Department, it plans to engage in educational extension work.

e. Joint projects of the four departments under the supervision of the College

i. Publication: The Fukien Agricultural Journal, now in its seventh year of publication.

ii. Extension center: The College plans to select a village to be its extension station, the center of its rural reconstruction activities, with the hope of making it a model village within a period of five years.

5. Need for strengthening of departments and personnel

All four departments need to be strengthened in equipments and in teaching staff. All foreign teachers went home during the war. So far no definite plan has been made for their return. They are needed very badly. The College was newly started at the beginning of the war. In fact, the

Departments of Horticulture and Agronomy were brought into existence after the war began. There was little chance to get foreign equipments and supplies to insure high standard of work.

The strengthening of personnel can be done in two ways:

- i. To send men from our present staff for further studies abroad
- ii. To get new competent foreign teachers.

Both should be done.

The following personnel should be added:

- i. For the Agronomy Department, a Professor of biometry and field technique.
- ii. For the Horticulture Department, a botanist, a pomologist.
- iii. For the Agriculture Economics Department, a Professor of Farm Management, an expert in rural extension work.
- iv. For Agricultural Education Department, a Professor of Rural Education.

6. New post-war projects with approximate initial and running expenses.

Fukien is well known for its economic resources and agricultural products. Southern Fukien is a fruit-growing region. The task is to lead the way to proper conservation and use of resources, to the introduction and improvement of crops, and to better methods of cultivation and marketing of agricultural products. Most of the projects list under (4) are of this nature and are still being continued, -- agricultural projects generally call for a period of years for their completion. New projects are rather extensions of old ones. They include: rice selection (Agronomy), wheat, cotton, sugar cane growing (agronomy), tea improvement (agronomy), fertilizer experiments (agronomy), citrous improvement (Horticulture), vegetable and flower seeds and seedlings (Horticulture), rabbits and poultry feeds and feeding (Horticulture), Fukien insect pests and their eradication (Horticulture), research in marketing methods (Agricultural Economics).

The projects can be coordinated under a large experimental farm to embrace a whole village as mentioned in (4. e. 2) above.

For initial expenses

Land improvement	£ 1,500	
Farm equipment	500	
Poultry and rabbit barns	500	
Equipment for the manu- facture of farm products	1,000	
Laboratory equipment	1,000	
Books	500	
Seeds and stock	500	£ 5,500

For running expenses

General expenses	£ 200	
Salaries and wages	1,000	
Feeds and supplies	1,000	
Books and periodicals	200	£ 2,000

7. New departments to insure full contribution of College

The first need of the College is to strengthen the existing departments. Expansion should be in the direction of starting (a) a Forestry Department and (b) an Animal Husbandry Department.

8. Possibility of British firms adopting individual schools or departments

The adoption of the College of Agriculture or any or all the four departments by some British firm or firms with a view to financing their rehabilitation or running expenses in any or all four firms listed in questionnaire will be very welcome. The idea of a special British adoption and support will be a new inspiration and impetus for redoubled efforts in the work of this institution.

9. Exchange of students with Britain

Exchange of students with Britain will be very welcome. British students will find warm reception here, but some courses are taught in Chinese and some courses deal exclusively with local or regional problems. Exchange students will need to make certain adjustments. Professor Band's observations are well made.

10. Exchange of professors with Britain, the need for it and the conditions of appointment

The appointment of professors from Britain or the exchange of professors with Britain will both be heartily welcomed. No field needs to be specified. Visitors can strengthen the ties of friendship between the two countries and help raise the standard of academic attainment.

March, 1946

Fukien Christian University
February 1, 1947.

One who has sat thru so many W. S. C. S. meetings in America is both thrilled and challenged by the sacrificial accomplishments of our women here. You have heard that they carried on nobly,--but do you know at what cost, To illustrate last year the call came to share in European Relief. Our Fukien women, who were in the direst need themselves, cheerfully gave up many of the barest necessities of life--even going without one of their meagre meals daily-- not even dreaming of the replacement of their tattered clothing--to collect \$530,000.00. Yes, there is inflation, but judging only by the sacrifice involved, it can truly be said that no giving in America even remotely approaches this. (Incidentally, the price of rice and other staples, has tripled within the past three weeks). They were so eager to share and meet the urgent need, that they insisted that the amount collected be sent in immediately instead of waiting for the suggested date. The most enthusiastic contributors were the members from the coast districts, in spite of having suffered during that year both the destructive tidal wave and the failure of their main crop, sweet potatoes, due to drouth.

The years the University spent at Shaowu were very profitable to the Agriculture Dept. In the first place, there has been a great increase in students studying agriculture so that now over half of the student body is enrolled in the four departments of the Agricultural College; second, in utilizing the fields of the American Board Mission at Shaowu, they had more land available for experimental work; and third, due to the war efforts of the government, some good men were made available to work with the University. Thru the help of these men there was a good experimental program developed testing wheat and rice varieties and their hybrids. On the other hand, there were also losses. The milk goats which we brought from Yenping to

the University in 1937 were taken to Shaowu and succumbed to parasites. The upland rice selections and the legume crops we brought down were not carried on. Of course the farm on and near the Foochow campus was not kept up. The orange orchard became badly infested with borers and scale, and the hill land, which was being developed for peach and plum orchards, went back to sword grass and briars. My technical books and the entire bulletin library (3700) I left with the University were lost in the looting.

Our fifty-six selections of wheat, plus the three varieties I picked up in California, are all growing nicely in various comparative tests. The hillsides are mostly cleared and ready for spring planting. I am still convinced that our greatest opportunity is in the utilization of the waste land of the hills. With that end in view, I have again collected seeds from our native legumes, - lespedezas, kudzus, etc., and writing for the seeds of the tropical legumes we had before. We are exchanging rice varieties with other institutions in China, and are asking particularly for upland rice selections. I have added a new effort in the study of native grasses. We have 166 species of grasses identified in our herbarium and I hope to locate these growing and find which ones are best adapted to propagation and grazing.

I had told some of you as we started back that I hoped in a couple of years to get a start in cattle and goats. We are doing better than I had expected, for the Chinese Government has allocated us fifteen head of the dairy heifers being sent to China as a gift from the Church of the Brethren.

H

William W. Overholt

March, 1947

FUKIEN CHRISTIAN UNIVERSITY
Foochow, China

Department of Biology

THE BIOLOGICAL BULLETIN of Fukien Christian University -- A journal published by the Biology Department of Fukien Christian University since 1939 for recording results of biological researches in Fukien on local materials. The Bulletin is unique in being thus far the only biological journal that is published in Chinese and, in fact, the only biological journal that is continuing publication in China after the war. A fifth volume will be forthcoming in another month or so, containing articles on Fukien birds, insects, frogs and parasites as well as results of collecting expeditions to, and field observation in, different parts of the province. The Department is desirous of exchanging publications of similar nature with educational and research institutions in America.

Publication of Zoological Dictionaries -- The Biology Department of Fukien Christian University has recently put out two zoological dictionaries of interest, one for use in General Biology and the other in Vertebrate Zoology and Histology. These are among the first attempts in the translation of scientific terminology into Chinese.

First College Textbook in General Biology -- Dr. Tso-hsin Cheng, Head of the Biology Department of Fukien Christian University, and a pioneering author in the field of Biology, has recently published a college textbook in General Biology, which is the first book of its kind ever published in Chinese. Dr. Cheng had previously had published a Laboratory Manual for General Biology published by the Commercial Press in Shanghai, which has been approved by the Ministry of Education as a textbook for use in Chinese colleges and universities.

Bird Census Wins Prize -- Prof. Tso-hsin Cheng of the Biology Department of Fukien Christian University was recently awarded a prize by the Ministry of Education for his report concerning a census of Shaowu birds during the exodus of the university to North Fukien. Another article, entitled, "Some Parasitic Diseases in Hongkong with Emphasis on those caused by Helminths" by Dr. H. T. Chen, another graduate in Biology of Fukien Christian University, now head of the Graduate Division of Lingnan University, was awarded a similar prize. These two papers are among the few which have been so awarded. They are both published in the fourth volume of the Biological Bulletin of Fukien Christian University.

FUKIEN CHRISTIAN UNIVERSITY
Foochow, China

Li Lai-yung
Professor, and Head of the Department of Horticulture

1. Life. Born in Amoy, Fukien, October 27, 1910, I had my elementary and secondary school education in South Fukien, where I graduated from Talmage College in 1926. In the same year, I matriculated at Fukien Christian University from which I received the B. S. degree in Biology in 1930. The years 1932-34 were spent at Lingnan University, Canton, where I obtained my M. S. degree in 1934 in Parasitology with a minor in Horticulture. In 1935, I married Miss Shao Chin-tuan, a graduate of F. C. U. Later, I entered the Graduate School of the Pennsylvania State College as a graduate assistant in the Department of Horticulture from which I received the Ph. D. degree in June, 1941, taking a major in Horticulture and a minor in Soil Technology.

I am a member of the following academic organizations: Marine Biological Association of China, Sigma XI, Phi Kappa Phi, and Gamma Sigma Delta, U. S. A.

2. In the U. S. A. At the joint suggestion of the Kwangtung Provincial Government and Lingnan University through the latter's Citrus Research Institute, I spent five months studying Citrus and Tungoil trees in the South and Southwestern part of the U. S. A. A month was spent at the U. S. Horticultural Station, Beltsville, Washington D. C., in association with Dr. Magness, Dr. Swingle and Dr. Crane. Two and a half months time were divided among the following institutions: University of Florida, Gainesville, Florida, Citrus Experimental Station, Lake Alfred, Florida, U. S. Subtropical Fruit Station, Orlando, Florida, U. S. Tung Research Station, Cairo, Georgia, U. S. Tung Research Station, Bogalusa, Louisiana and Louisiana State University, Baton Rouge, Louisiana. The remaining time was spent at the Citrus Experiment Station, University of California, Riverside, California. While at Riverside, I was a guest in the home of Dr. and Mrs. I. J. Condit. The results of this survey was submitted to Lingnan University in 1941 (unpublished).

3. An Eye-Witness of "Pearl Harbor" and Accidental Landing in New Zealand. Leaving the U. S. at the end of November 1941 on a Dutch passenger ship for China, I had a most unusual "fire-cracker" welcome in the form of Japanese bombs when my boat entered Pearl Harbor at the very hour of that historic event. Wave after wave of Japanese naval planes attacked the Harbor, causing such terrific explosions. Unaware of what was actually happening, I thought that it was a maneuver on the part of the U. S. Army and Navy. For the next ten days, I sought cover under the roof of an orphanage in Honolulu, helping as a night patrolman. At the end of December, I was called back to the ship and sailed for an undisclosed destination which later proved to be New Zealand -- the Land of Silver Ferns! Knowing no one in a strange land, I went to a hotel called the "Peoples' Palace", Cuba Street, Wellington, New Zealand. From a newspaper advertisement, I found the address of the Public Placement Office, through which I succeeded in interviewing eight scientists from the Dominion's Department of Scientific and Industrial Research. I soon myself engaged as a Research Associate in the Plant Research Bureau, New Zealand Government, in March, 1942.

Li Lai-yung

- 2 -

For two years, I remained in New Zealand. My work there was mostly confined to research on tungoil trees and other subtropical plants. A little time was also given to Chinese vegetable growers in helping them to solve some of their problems. A satisfactory method of controlling the lettuce Ring-spot disease by spraying with Cuprox and Bordeaux was worked out for the growers in Auckland by Mr. G. G. Taylor and myself in 1943 (N. Z. Jour. Agric. March 1944).

Besides the above mentioned regular jobs, I was a frequent guest lecturer at the University of New Zealand both in the Victoria University College, Wellington, and in the Auckland University College, Auckland. Lectures were also given to the Royal Society of New Zealand (Proc. Royal Soc. N. Z. 73:37, 1943).

4. Became a Prisoner of the Japanese at Java. Upon the request of the Chinese Government, through the Ministry of Foreign Affairs, a priority passage was obtained for me to leave New Zealand for China to participate in the war-time Tungoil Production Program in China. I left New Zealand on February 15, 1944, on the "Bihar", a British cargo ship, for Calcutta, India, intending to fly to Chungking. Halfway between Perth, Australia, and Calcutta, India, on March 9 at 9 a.m., the "Bihar" was caught by a Japanese cruiser and was sunk by Japanese gunfire within fifteen minutes. Approximately the one hundred survivors, including myself, soon found themselves captives of the Japanese on board their cruiser which carried us to Batavia, Java. Two months after arrival, I found myself among ten thousand internees mostly Dutch with a couple of hundred Britishers, five hundred Chinese and some Americans in a prison camp in Bandoeng, Java. There, I stayed for eighteen months working as a kitchen helper until V-J. During this period, my family and friends were completely in the dark regarding me.

5. Home at last--Fukien Christian University. In the early part of November, 1945, I was repatriated by the RAPVI by plane from Java to Singapore. At Singapore, all internees were given some clothing, footwear and the necessary medical attention before being sent home. Boarding a troop Hospital Ship from Singapore, I arrived at Hongkong toward the end of November, 1945, and on December 6, 1945, I was glad to be home at last in Amoy. After four months of complete rest and proper food, I became my old self again. At the end of March, President C. J. Lin wrote to me and invited me to return to my Alma Mater. So here I am back at good old F. C. U. with my family and friends after having been away for fifteen years. At present, I am teaching Pomology and carrying on some research in Horticultural subjects, and serving as Head of the Horticulture Department. For details on research, please refer to a list of "Publications by Li Lai-yung".

A List of Publications by Li, Lai-yung

- 1930 With C. R. Kellogg. A Study of Variation on the Number of hooks on the hind wing of Honey Bee, Apis indica. Fukien Christian University Nat. Hist. Soc. Proc. 1 (1): --.
- 1935, a. A Preliminary report on the occurrence of Tylenchulus semipenetrans Cobb in the roots of citrus nursery trees of South China. Lingnan Sc. Journal 14: (2): 331-333.
- 1935, b. 中國南部柑桔樹苗根上線虫寄生之發現及防除
(嶺南農刊) 1 (2): 77-82.
- 1936, a. With W. T. H. Ho. Preliminary notes on the virus diseases of some economic plants in Kwangtung Province. Lingnan Sc. Journal 15 (1): 67-78.
- 1936, b. An anthracnose of Hwangpee, Clausena lansium Skeels in S. China. Lingnan Sc. Jour. 15: 113-117.
- 1937, a. Some trematode parasites of frogs with a Description of Diplodiscus sinicus sp. nov. Lingnan Sc. Journal 16 (1): 61-70.
- 1937, b. On the excretory system of Glythelmins staffordi. Lingnan Sc. Jour. 16 (2): --.
- 1938, a. A New trematode from the Frog, Rana ragulosa. Lingnan Sc. Journal 17 (2): 221-226.
- 1938, b. Notes on Heteroeta marioni as root parasites in some Kwangtung economic plants and weeds. Lingnan Sc. Jour. 17 (4): 533-537.
- 1941, a. Farmers of forty centuries. Penn. State Farmer 6: 132-144.
- 1941, b. Contribution from Chinese Gardens. Gardener's Chronicle of America, Oct.
- 1941, b. Contribution from Chinese Gardens. Gardener's Chronicle of America, Oct.
- 1942, a. With R. D. Anthony and F. G. Merkle. Influence of orchard management upon the infiltration of water and some related physical characteristics of the soil. Soil Sc. 53: 65-75.
- 1942, b. Plant introduction and plant exchange between China and the West. A lecture delivered at the Wellington Bot. Soc. Bull. Wellington Bot. Soc. 1942 (4): 1-5.
- 1942, c. Horticulture in South China. Journal Royal N. Z. Inst. Hort. 12 (1): 13.
- 1943, a. Soil Erosion -- a national Problem, Paper read before the Royal Soc. N. Z. May, 1942. Abstract. Trans. and Proc. Royal Soc. N. Z. 73: 37.
- 1943, b. Some random notes on Chinese farming. New Zealand Dairy Exporter 18: 4-7.

List of Publications By L.Y.Li

-2-

1943 c. Man's Duty to the Soil, N. Z. Jour. Agri. 67:9-11.

1943 d. What is soil erosion? N. Z. Jour. Agric. 67:103-106.

1943 e. Fundamental Concepts of Soil deterioration. N. Z. Jour. Agric. 67:177-181.

1943 f. Soil conservation and permanent agriculture. N. Z. Jour. Agric. 67: 267-271.

1943 g. They came from China (Plants). Weekly News Oct. 27, p. 26.

1944 a. The influence of stratification of tung-seeds upon emergence and establishment of seedlings in the nursery. N. Z. Jour. Sc. and Technology. 25(A):43-48.

1944 b. The effect of some surface conditions of the soil on infiltration of water in woodland and in cultivated orchard. New Zealand Jour. Sc. and Technology, 25 (A):86-90.

1944 c. With C. H. Procter. A Virus Disease of Fig in New Zealand. Plant Disease Division Publ. no. 71. N. Z. Jour. Sc. and Tech. 26(A): 88-90.

1944 d. With G. G. Taylor. A fungus Disease of Winter Lettuce. New Zealand Jour. Agric. March, 1944.

1946. Avocado growing, a possibility in New Zealand? Jour. Royal N. Z. Inst. Hort. 15(3):15-23.

1947, a. On some indigenous fruits of southeastern China. N. Z. Jour. Agric. (in Press).

1947, b. 土壤與人畜健康. 協大農報 8(1,2):1-6.

1947, c. 与卓仁松合著 雁控促成蕃茄之單性結實 8(1,2):25-29.

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Department of Horticulture

1. Introducing New Method of Orchard Soil Management

Picture enclosed

Crotolaria - a promising cover crop for Fukien orchards now on trial at Fukien Christian University. In the humid climate of South China where the annual rainfall averages 60 inches, soil erosion could be serious when the soil is exposed. The picture shows a corner of an experimental orchard at the College of Agriculture, F.C.U., well covered with a soil covering legume crop of Crotolaria saltiana. It will add an ample amount of organic matter to the surface soil besides being soil protecting.

2. Searching for Vitamin C in Fukien's wild and cultivated fruits

Among its eight research projects for the academic year 1947-48, the Agricultural College at F.C.U. is making a survey of the local sources of ascorbic acid so that the farming population can be better informed about their uses.

Among 28 kinds of fruits, Dr. Li Lai Yung and Mr. ^(Chou Chu-ying) Chou Chuh-ying found that the Chinese date (jujube), the you-kan (Phyllanthus), two species of wild roses, and the guava to be excellent sources of Vitamin C. In the case of the Chinese date, they found as much as 383.47 to 505.17 mg. of ascorbic acid increasing with ripeness in a hundred gram of fresh pulp. (Li, Y.Y. and C. Y. Chou, 1947, Fukien Agricultural Journal, 9:14 - 23)

Dr. Li Lai Yung is Dean of the College of Agriculture and Head of the Dept. of Horticulture

Dec. 1947

FUKIEN CHRISTIAN UNIVERSITY, Foochow

Extension Work, College of Agriculture (Yang Hsin Pao)

Getting the college off of its hill is to tear down the wall of academic isolation and make higher education a part and parcel of the living streams of the main street. Here in Fukien Christian University, our main street is not made of pavements which lead us into the hustle and bustle of urban life. Ours is a dirt road, cutting across paddy fields and potato patches, leading us to different agricultural villages.

We set our feet to reach the grass roots and meet the villagers as they are and where they are. Education is life; life is with us here in the neighboring villages more real, more pressing, and more dynamic than all the books, lecture notes, and the laboratory directions put together.

The organization and function of our university rural extension service meets just this simple need, being a real need felt by the people. Where shall we start? Start from our own door steps. Here is the Hui-Gie village, with 150 households, consisting of about 870 peasant souls. These people live with us, some working for us. They think we belong to them, for the people always associate our "great school" with Hui-Gie village.

How did we start? We just simply forgot the old missionary charity of hand-out service. We called a group of elders and leaders into an informal meeting. We said, "look here we are just as hard up as you are, we do not have anything to give you free; we wish to find out if you we can help you to help yourselves. You have been relying on us too much and too long. It is time for you to get up and do something for yourselves and by yourselves." The first thing they decided to do was to re-open the village primary school. "That is fine", we said, "but where to find the money?" "No money from the university?", they wondered. We answered them with a flat "No", and repeatedly showed them that we would be willing to help them to help themselves. The elders decided to collect rice from the different households; they got enough to cover the expenses of the primary school for three months. We took one of the elders in to see the Magistrate, and asked the elder to tell the Magistrate what his folks at home wanted to do, and what they had done. The Magistrate was moved, and right in the presence of this peasant caller, he O.K.'d the grant of a three month subsidy for every half year. We helped them to solve their first problem, and so the Hui-Gie Primary School is set up in business again. We got to the first base!

What else besides the basic job of eliminating illiteracy? Production. More and better production for a better and higher living standard. So we set up an agricultural school, meeting at night. We want only those rural youth between the ages of fourteen and twenty, to enroll in an a class of simple, yet basic, agricultural training. Students from the Departments of Agronomy, Horticulture, and Agricultural Economics, and Rural Education are chosen to be the teachers in the village agricultural school. We give five nights a week to them, offering free practical agricultural education, which have direct bearing on their own crops, such as rice and white potatoes. Problems relating to utilizing proper fertilizers, insect control, seed selection, crop rotation, and soil analysis are discussed in plain ordinary language. Simple methods of Cost Accounting are introduced. Marketing and cooperative purchasing also catch their attention. Studies, however, do not count too much, so we organized the class into small groups, each securing a piece of land for their own field practice. For such experimental and and demonstrative purpose, the university will provide seeds, fertilizers, and a few plots of land. They have their hands full; we are on the move to the second base.

Education only for boys? Certainly not! We think of the girls, too. But the young girls do not want to come to school with the boys, largely because of the inconvenience of time and place. So, we set our feet to reach the girls in the different neighborhood centers. Three women students from the Department of Agricultural Economics volunteered to take this venture.

FUKIEN CHRISTIAN UNIVERSITY
Foochow, ChinaDepartment of Chemistry

Since the return of the University to Foochow, our immediate work has been to re-established our laboratories. After the Japanese occupation of the campus, there was literally nothing left in the Science Hall. A considerable length of time was needed to get the building repaired and new laboratory desks and office and classroom furniture made before the laboratory could be resumed with the equipment that was moved back from our refugee campus in Shaowu. We are still in urgent need of running water, electricity and gas in our laboratories, the lack of which has greatly handicaped our work.

Our supply of chemicals and laboratory equipment had been drained to the limit during the past years. As soon as the war ended, a replacement order was sent to the United States, and a few weeks ago we received with great delight, a portion of the shipment consisting of 135 cases of acids and other needed chemicals. The rest of the shipment amounting to more than 100 cases of glass ware and chemicals has been waiting in Shanghai to be sent to Foochow since last fall, due to the difficulties of getting the same through ^{the} customs. A gift of scientific equipments secured through the office of British Association of China Universities, London, amounting to £1000 in value is forth coming, so that with all these replacements, our laboratory instruction will soon be brought back to the pre-war level. (135)

During the past year, very little work was done in the line of research and other project work, due to the interruption of moving the University as well as a general lack of time on the part of the teaching personnel who were charged with other duties of rehabilitation work. However, Prof. T. H. Wang, with the help of a few senior students, has carried out a very interesting study on the Chemistry of Manufacture of Fukien Teas. Green, black and oolong teas, as well as their half-finished products, were obtained from a single batch of fresh leaves, thus furnishing a chance to study the chemical changes taking place during the process of the manufacture of tea. A written report is in the process of preparation.

Dr. Hsi-chieh Cheng, an alumnus of F. C. U. (1934), was added to the Chemistry Department last fall. Dr. Cheng has been especially interested in paper making, and during the past few months he has directed a group of six or seven senior students on a research projects of paper making by the utilization of native materials such as sawdust, bamboo, rice straw, and bagasse, with the aim of finding out an economical and convenient method of obtaining a high grade paper under the present existing conditions in Fukien.

Two of Chemistry Graduates, Mr. Lin 1 '32 and Mr. Kan Ching-hao '35 have recently been granted scholarships by Fukien Provincial Government to study abroad. These scholarships were given by competitive

examinations in 1937, but the actual awarding of them were delayed on account of the war until the present time. Mr. Lin I has invented the process of making gasoline and motor oil substitutes from old pine tree roots by a series of treatments consisting of destructive distillation, fractionating and cracking, etc. Five or six plants were set up in North Fukien for commercial production and the products from these plants furnished the liquid fuel that maintained the bus communications in the entire province of Fukien during the war years. Mr. Lin is now in charge of the Division of Industrial Chemistry Research of the Fukien Provincial Research Institute. Mr. Kan is now working in the laboratory of the Commercial Testing Bureau for Exports. The function of the laboratory is to rigidly control and maintain the standards of the quality of goods, such as tea, tung oils, etc., for export.

April 28, 1948

Our Fukien file
[17]

Rural Extension Service in Fukien

Pictures enclosed

Yang Hsin Pao, Professor and Head of Dept. of Agriculture Economics, in charge of Rural Extension Service

Fukien Christian University is making progress in its simple beginning of rural extension service. By simple beginning, we mean to start from the doorsteps of the campus. We entertain no high sounding verbiage, but just remind ourselves that as an institution of higher learning, we owe our existence to the Chinese communities. So we propose to get the college off of its hill of academic isolation.

Picture No. 1
with caption
Our Science Hall and Arts Hall are up on the hill

We chose Hui-Gie village as the "experimental plot" for this work. Hui-Gie is a small village, only two blocks from the college gate. Living here are approximately 150 families with a total population of about 900 people. Agriculture is the main support of the local social and economic structure. Principal crops are rice, Irish potatoes, and sweet potatoes.

Picture No. 2
with caption
East Side of Hui Gie Village

Picture No. 3
with caption
West Side of Hui-Gie Village

In starting our work in Hui-Gie, we first met the villagers in their so-called corner store, where perchance we talked with a few of the local leaders. We also mingled with the people in their main street. We told them that we had nothing to give away free, but that we wanted to know what their needs were so we could help them to find out where and how their needs could best be met by their own efforts.

Picture No. 4
With caption

A Corner Store in Hui-Gie Village

Picture No. 5
With Caption

Main Street of Hui-Gie Village

who runs the ferry at the university jetty, We first got one local leader sufficiently aroused by our suggestions. He got others interested, and later called a meeting in his home of the locally known "head men". They decided to do something under our direction. So after a while, through further formal and informal consultations, we helped this group of local leaders to organize themselves. To this group fell the responsibility of planning for their own community along whatever lines they thought desirable.

Picture No. 6
With Caption
A Boatman and a Local Leader

Picture No. 7 Their first reaction toward our suggestions was to improve and strengthen the local elementary school for the education of their children. Secondly, they thought something should be done to improve the extremely poor and poverty-stricken conditions of the village. Ignorance and poverty are their worst public enemies. What could they do? We suggested by group action.

Local leaders
Formally organized
picture taken in front
of Lin's Ancestral Hall.

Our first move was to help the villagers improve and enlarge the facilities for the elementary school. There are so many children between the age of six and fifteen who do not go to school that the work of the local primary school needed to be strengthened. They found it hard to support the school entirely by their own efforts. So we took the boatman to see the Magistrate, who promised to foot half of the bill for the expenses of running the school, with the understanding that the other half would be raised locally. We helped them to plan a series of financial campaigns which were quite successful.

Picture No. 8
With Caption
Children wandering
here and there
receiving no education.

We suggested that the Lin's ancestral hall could be converted into a modern school building. They accepted this suggestion and went to work remodeling and repairing the building. They paid the expenses for the same within six weeks' time, and an attractive school building appeared in the village. The local Magistrate sent one principal and two teachers to take charge of the school. They started their spring term with a bang; from the first graders to the fifth, all felt happy and excited over their new school. The villagers felt also for the first time like real people. The enrollment raised to 120. Elementary education in Hui-Gie Village gets a new make-up. First things come first. The villagers did it and did it well, though at first they did not believe they could.

Picture No. 9
with caption

Fifth Graders
taking their bow
to the camera man

Our second move was to organize an agricultural school for the young adults who will soon become the farmers and leaders of Hui-Gie village. If we can get hold of this group we can be pretty sure of the future of this group of rural toilers. Again by the slow, yet sure, educational processes of suggestion and persuasion, we first got a small group of young people interested in trying to do something useful for themselves by themselves. We promised that we would give them all possible support and co-operation, if they would organize themselves and come to school at night. We invited a number of college students majoring in Agricultural Economics, Horticulture, and Agronomy to be their teachers. They meet five nights a week. Their educational diet consists of practical literature, arithmetic, agriculture, common knowledge, civics, music, etc. For their field operation, we assigned a

Picture No. 10

With caption

small plot of land to each student, who received seeds, fertilizer, and technical supervision from our extension office. Besides their class room instruction and field operation, they also take part in a number of community projects, such as road building, tree planting, and school ground improvement. We told them that if they wanted to feel important, they should do something useful and constructive about the achievements of which they could really feel proud.

Group of yung people
who organized
themselves and
signed up for
adult education

Picture No. 11

with caption

Spring and time
for Planting Trees.
Our young men go to
it gladly

Don't think that we have forgotten the fair sex of the village. We may forget the older women for a while, for they are conservative and highly skeptical of anything new. But we certainly cannot afford to overlook the the young women and the girls. We sent two girl students from the Department of Education to be the itinerant teachers of the young women folks. Since they cannot come to the school for their education, we take education to their homes, on their door steps, and even into their kitchens. We teach them knitting, and other handcrafts. Reading also constitutes a part of their irregular schooling, as well as some practical

Picture No. 12

With caption

This young woman
planting irish
potatoes.

knowledge relating to home economics.

Lastly, health problems have not escaped our attention. We wish we had more funds and more facilities for this most urgent task of public health work. Meanwhile we can do only a little service for our school children, such as giving preventive injections of various kinds. Sick people from our agricultural night school have been attended to by our college physician. More should be done. But how and by whom and with what?

Malaria has been the worst public enemy of Hui-Gie village for a long time.

What can be derived from the above factual information? As the writer looks from the windows of his extension office, he can't help wondering if the immensity of the needs for rural service in China has been recognized by the friends of the university. This university, like all other Christian colleges and universities in China, would not mean much to the Chinese people if we do little or nothing for the Chinese communities. Rural life in China is at stake. We should start at our home base, using all possible educational media at our command to influence the rural people in our surrounding areas to improve and develop their living conditions. Rural extension service in Fukien Christian University intends to take this college off of its hill and put it amidst the vital stream of ^{the} work and the lives of the common people.

Picture No. 13

With caption

Headquarters of Rural Extension Service in Fukien

FUKIEN CHRISTIAN UNIVERSITY

April 1948

Experimentation in Rice

2 pictures enclosed

Rice is the main cash crop on the best farm land of Fukien. The work of the Agronomy Department in Fukien Christian University emphasizes experimentation in rice. We are making a study of the local varieties of rice, comparing them with varieties which we have secured by exchange with other experiment stations in China. There is great confusion in the naming of varieties and the same variety may be grown in different sections of the country under different names, but it is natural that in a country in which there has been as little interchange of knowledge, as well as products, that there should be many different varieties. Since the College of Agriculture was established in 1936 we have been carrying on a study of rice varieties.

In 1947 the university propagated sixty-three varieties of early rice and carried 25 of these varieties in a comparative yield test. Our best yielding rice in 1947 yielded 87.5 bushels per acre and our poorest 27.7 bushels per acre. Our five best varieties averaged 76.5 bushels per acre and the four poorest varieties, excluding the variety which failed so miserably, averaged 57.4 bushels per acre. Our check variety which is a variety most commonly grown in North Fukien yielded 72.0 bushels. This year we have added eleven more varieties to the comparative yield test. We are confident that we have varieties much superior to what is being grown about the campus and in two or three years we should be able to recommend them for trial with some of the nearby farmers.

In addition to the variety tests, senior students who work out a research project as a thesis subject under supervision of the Agronomy Department are carrying out two experiments in planting methods of rice and one experiment with commercial fertilizers.

F.C.U. Horticulturists Assist Florida in Lychee Investigation
Summer, 1948

The Lychee is indigenous to Southeastern China. There is record of its culture here dating back to 1059, and today it is still one of the most important commercial fruits of China. Fukien and Kwangtung Provinces are the most important Lychee-producing areas in the country, and the two together yield the bulk of the Lychee for commerce.

There are many important centers of Lychee production in Kwangtung, but the most important areas in Fukien are Hinghwa, C'huanchow, and Changchow, among which Hinghwa is by far the most important. Hinghwa is about sixty miles from Foochow.

In the past, several attempts have been made to introduce the Lychee to the United States of America. Of these, only the two made in 1904 and 1908, respectively, by the late Rev. Mr. W. N. Brewster, then a missionary in Hinghwa, were successful. As a result, the Lychee in Florida is now called the Brewster Lychee.

Professor G. W. Groff, a Lychee Specialist, formerly on the staff of the Department of Horticulture, Lingnan University, Canton, now residing in Florida and a member of the Florida State Horticultural Society, wanted to find the real varietal name of this so-called "Brewster Lychee". To this end, he suggested to Dr. Li Lai Yung, Dean of the College of Agriculture and Head of the Department of Horticulture, Fukien Christian University, to visit Hinghwa and make further investigation. Dr. Li, accompanied by Mr. Chu-ying Chou, Graduate Assistant in the Department of Horticulture, spent a week in Hinghwa during the summer making a study of the Hinghwa Lychee. Besides seeing a number of Lychee trees, fruit from the Chen-tze Lychee was collected and brought to the F.C.U. Horticultural Laboratory where measurements of some of the physical and chemical characteristics were made and tabulated and sent to Professor Groff for comparison with the Brewster Lychee in Florida.