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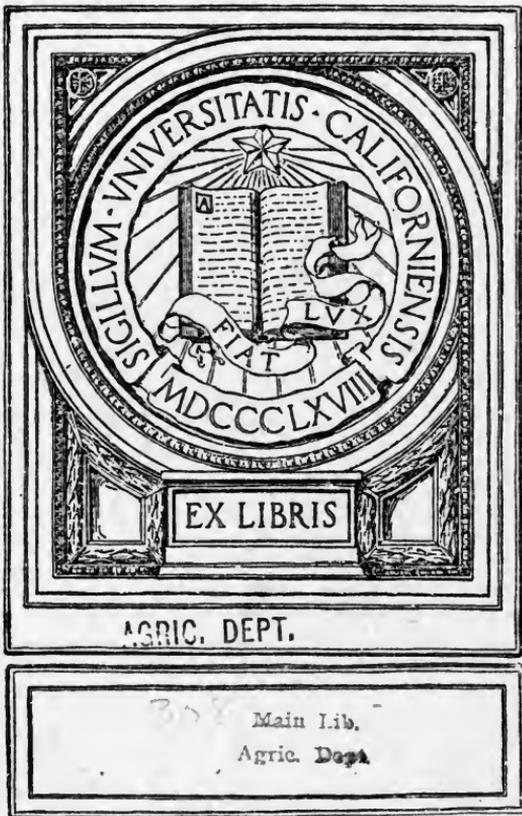
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THE NEW COLLEGE OF AGRICULTURE

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RECORD OF THE DEDICATION OF THE NEW
COLLEGE OF AGRICULTURE AND OF
THE INSTALLATION OF DEAN
THOMAS FORSYTH HUNT,
NOVEMBER 20, 1912

ADDRESS OF PRESIDENT BENJAMIN IDE WHEELER

Of all departments of the University the well-being of the State is most closely interlocked with the College of Agriculture. It is therefore both for University and State a significant occasion when on this one day we dedicate a new building for agriculture, induct into office a new Director, and inaugurate a new and far-reaching policy for the organization and equipment of agricultural education.

Our problem in California is among all the states as uniquely complicated as it is uniquely vast. The variety of our products of the soil far exceeds that of any other state. The tilling of our soil requires for efficiency more use of special knowledge and of the results of scientific investigation than the agricultural practice of any other state. Whether it be for the production of wealth or for the establishment of homes and the morals of the family, the prosperity and soundness of the state is chiefly dependent on the farms and the farmers. If you want population, commerce, and bank deposits for your cities, seek

✓thrifty farmers, and sound procedure for your farms, and all these other things "shall be added unto you."

The Regents, in fashioning a policy which should assume to be in some wise commensurate with the need of the state, have determined first of all to seek an equipment in men. In making selection they have looked the country over; their question has been,—not whom they could get, but whom did they want. Five such men they have already appointed to full professorships, and these with others to follow will begin work with us either at New Year's or the coming summer. We have reckoned hereby on Californians as likely to recognize that the best is precisely what they want.

The second feature of our policy involves the clear differentiation of the various forms of our work and the development of each into its proper place. Berkeley, Davis, Riverside, Whittier, Meloland, have each their place and work. They are not rivals, but each the center for a certain sort of work. Each has its own fitness. Fresno will shortly be added to the list. The distribution of the work among these centers will be discussed this evening by Director Hunt in his inaugural address.

But more important than the various places are the various activities, e.g., research and the solving of problems, training in the science of agriculture, training in the arts of agriculture, provision of short courses, spreading of information through publications, farmers' institutes and the train and through correspondence, training of teachers and provision of methods for agricultural education in the schools.

Experience with the school at Davis proves that the provision of education for young farmers who have passed the age when they could be expected to go through the schedules of a preparatory and a college course is a real need. This was really what the farmers wanted when agricultural education was first attempted, only we did not fully understand them. It is fortunate we can develop

this form of instruction at a distance from the university. Equally important is it that the stricter training in the science of agriculture which is to provide the teachers and discoverers should be conducted at least in the earlier years at the university.

What we saw once as in a glass darkly, we are coming now to see clearly. We have with all this variety of equipment and location the opportunity to develop in California the completest and richest system of agricultural education and research that the world has yet seen. We have made our beginning. We have the place for it and the sky for it and the heart for it. We will prove it to the people of California well worth while and they will support us.

ADDRESS OF PETER J. SHIELDS

It would be impossible, in the few moments which the circumstances permit, for me to fittingly express the significance of this hour. It is the culmination of long years of waiting, of the slow growth of a Western civilization; the fruit of fine hopes and patient, unselfish efforts. It is the beginning of a larger effort to teach men the sound principles which have stood the test of experience and which in all ages have given security and happiness to the peoples that have practiced them. I should like to felicitate with you over what has been done, but we must press on for what remains for us to do. I should like to speak a few words in praise of those who have helped in this work, but they do not need it. It is enough that their wish has been realized; that the truth for which they labored, today receives this high sanction. I should like to speak of agriculture as one of the noblest of all occupations, but it is in submission to that truth that we are here and it does not need expression.

We have contended warmly over what was education, as to what were its aids and its agencies. Some of us have doubted whether men might be educated through things,

through a knowledge of nature, and the practice of her laws. It would be interesting today to take up that discussion, but it would be fruitless. That cause has been tried, and today in monumental form, we record the verdict.

It will be enough to point to the most tangible lesson of history that agricultural industry has been the surest foundation for a state and the extent to which it was fostered has been the measure of a people's progress.

Mysterious Egypt, of which we know only that it was great, at the height of its development made slaves of its farmers. Magnificent India founded its future upon agriculturalists whom she condemned to a degraded caste. Rome plundered and oppressed her farmers to a condition of poverty and discredit. They are all gone, and volumes have been written in an effort to trace the cause. It could be written in a sentence. They built their societies from the top, and devoted their efforts to the worship of false social quantities. That we should honor agriculture is the lesson of their dread experience. But we cannot do this as a duty; it must spring from an honest estimate. This building stands for this appreciation and respect. It will help us to honor agriculture, through making it honorable. It will unfold its mysteries, it will exhibit its beauties, it will develop its strength till an admiring and respectful nation will proclaim its primacy.

This country was founded upon the principle that labor is honorable, and we made agriculture our chief pursuit. We have grown in devotion to that truth. We have got our vigor from the soil. Most of our ablest men have been country-bred. Our distinctive institutions were nourished there. Its ideals have colored and formed our policies. In recent years this dominance has been threatened, and our problems have multiplied. This way lies their correction.

I will not attempt any elaboration of this structure's significance. It stands as a monument to the new agriculture, the agriculture of thought and knowledge which has come to redeem the industry and to secure for it its propor-

tionate place in our civilization. It means the beauty and the strength of the out-of-doors. It means the peace and solitude where men think profoundly and adhere tenaciously, where strong characters are formed and high purposes are nourished. It means food and raiment and shelter; the primal things that go to the roots of life, and supply the basis of all of our institutions. It stands for toil and proclaims the honest eminence of useful labor. It stands for simplicity as the eternal measure of permanence. It calls men out from the crowded places to where the horizon is wide, where the majesty of nature prompts man to its imitation.

We are multiplying very rapidly the complications of our civilization and we ask ourselves to what limits we may safely go in the direction we call progress. The answer is here, that we cannot get far away from the standards this structure proclaims, from the country-bred man, the man who is constantly measuring his work with the work of nature and thus keeping it true. Life may become very fine and high, but it must remain natural to keep its strength. We should look to this hall as a beacon, lighting the way in which we may go in safety. It will stand a perpetual reproach to frivolity, artificiality, and idleness; it will supply an antidote for the dependence of the submerged, and for the arrogance of the over-fortunate. It proclaims the farmer the type man of America; it admonishes us to train him—but keep him a farmer.

Agriculture is not only an industry, it is a life. This building stands for the preservation of that life, for its elevation and such a distribution of its ideals as will flavor the whole life of our country.

This is indeed a great day for California. We are taking stock of our condition. When we find a people engaged as we are today, met in the spirit in which we are met, we know that they are going forward on the broad highway of life, that their estimate of social values is true, and that they have avoided the temptations to which other nations have succumbed.

Different states or societies at different times have built monuments to the principles they worshipped; to express their faiths or to point their hopes. A mystic race built the Pyramids. Today these stand, lonesome sentinels in the desert, typifying nothing save that races not soundly founded will perish. Tamerlane built a structure of skulls in testimony of his faith in war and its all-conquering power. It crumbled scarcely as fast as his leadership, his empire, his people, and his race; as the false principles upon which he had based the success of his efforts. The Pagan races erected temples to earth-made gods, but these people banished, their gods are forgotten, their temples have disappeared, or their fragments remain in proof that what is not true cannot be perpetuated. The triumphal arches of the Romans serve only to remind us that the judgment which called them such was mistaken, and that a race devoted to conquest and oppression will disappear. The monuments upon the torture fields of Smithfield and Salem are the tombstones of dead institutions.

The monument we have built here was built in another spirit. It was built in submission to an all-prevading law, built in harmony with nature. It was built to serve human need and not the greed or vanity of privilege. It was built in devotion to knowledge and industry, the everlasting things. It will survive, in the things it stands for, while the world lasts. Tens of millions of people will come to this fair land, to live here a more involved and elaborated life than the world has elsewhere known. If they keep their eyes upon this temple and walk in its shadow, if they practice the truths for which it stands, their society will live as long.

Today we reaffirm that faith. Let us rededicate ourselves to the efforts which have brought about this hour. Let us build this structure higher and broader until its spirit is in every heart and until every hearthstone in our country becomes part of its foundation.

ADDRESS OF E. P. CLARKE

In one of his letters to Timothy the Apostle Paul speaks of a class of men who are "ever learning and never able to come to the knowledge of the truth"; and that very accurately describes the condition of the growers of oranges and lemons in California. For nearly fifty years they have been studying and experimenting but they cannot claim today to have reached a position where they feel sure even of the fundamentals of an industry which has become one of the greatest in the state. California produces annually over 40,000 cars of oranges and lemons, bringing nearly \$20,000,000 every season to the growers. These figures would seem to spell success and in a limited sense they do; but the growers do not know but that they ought to be producing 50,000 or 60,000 cars as easily as 40,000; and they are quite sure that on much of their acreage they ought to be producing better fruit. On questions of methods, on the problems of planting, irrigation, fertilization, pruning, frost protection, and other essentials in the business, they are still in the primer and I might almost say in the kindergarten class.

There came recently to Riverside, one of the great centers of the orange industry, a wise man from England—and sometimes when they are wise there they are very sure about it. This particular wise man was one of that type; and after a few days' stay "in our midst," as the country editor would say, he proceeded to tell us that everything we did about the orange and lemon business was all wrong. He told us that we did not know how to plant our orchards properly in the first place and then that our methods of applying the water, cultivating the soil, fertilizing, etc., were improper and the wonder was that we raise any oranges at all. I am not quite sure but that he holds that the sun rises and sets in the wrong place in Riverside; certain it is that he found pretty much everything else

wrong there and in every other orange growing community that he condescended to inspect.

Some few laughed him to scorn and would not admit that the methods tested by years of experiment should be set aside on the *ex-cathedra* advice of one who might be an authority and who might also be an impractical theorist. In general, however, his revolutionary statements were received by the growers with chastened attention, if not with humiliation and repentance, and many said, "Well, he may be right, we are not sure," and they are preparing to adopt the recommendations of this wise man from England and make a complete change in their cultural methods. They are ready to do this because they are not confident of the correctness of their present methods and not satisfied with the results they are attaining.

Nearly two years ago the paper with which I am connected startled some of the orange growers of Riverside, and offended others, by announcing in a leading editorial that the orange groves of this, the oldest and largest citrus growing district in the state, were not producing nearly as much fruit as they ought to or as the groves in certain other sections, where the conditions were practically the same as in Riverside, were producing. We followed up this editorial with a series of articles that were intended to prove the correctness of the premises laid down and to arouse interest in improved methods. We made out a very good case, at least we thought so, and some growers were even grateful for the criticism and said so (an experience that is exceedingly rare in newspaper offices). We invited suggestions as to remedies and received scores of letters many of which read like the directions for the use of patent medicines and advanced claims for results that were as sweeping as those guaranteed in the advertisements of these same remedies. Some of these suggestions were well considered and helpful, others were fantastical and absurd; but even the most absurd received a measure of consideration because the average grower does not feel sure that his methods are the

correct ones and he is ready to try almost any nostrum, if it is recommended to him in sufficiently alluring terms. Here is a community of the most experienced and most successful orange growers in the state and one would naturally suppose that they would, after these many years of experience, have reached substantial agreement as to how to grow oranges; but we find them proposing, from their several individual experiences, a score of different methods diametrically opposed to one another. Some of these may be right but most of them are probably radically wrong.

Within the last twenty-five years I have seen groves budded from oranges to lemons, from lemons to grape fruit, from grape fruit back to oranges, from navels to Valencias and from Valencias back to navels again. The economic waste in this series of changes is enormous and it can be accounted for only on the ground of indecision and fluctuation of opinion as to what is the wise and profitable thing to do. The same fluctuation of opinion in most lines of business would be more likely to be followed by bankruptcy than success.

Why do I on this occasion make this confession of admitted ignorance and partial failure in behalf of the orange growers of Southern California? In order that I may emphasize the pressing need and the wonderful opportunity of the department of agriculture of the University of California. We are assembled today to give recognition to its expansion and to rejoice in the completion of the noble building by which its usefulness will be enhanced; but we must not lose sight of the fact that the fields are still white for the harvest and that from all over the state there is coming up to this department of our great university a demand for scientific investigation, experiment, and instruction which is not only important but essential to the future prosperity and development of the state. I have spoken of conditions in the citrus industry because I am familiar with them, but the same need for help exists in other branches of fruit growing and farming; and in some

instances it is more imperative than it is in the case of the grower of oranges and lemons.

It is doubtful if there can be found anywhere in the world a more intelligent and enterprising class of men engaged in any form of agriculture than those who are in the business of fruit growing in California. Many of them were men of large affairs in the East and they have sought to apply to the fruit industry in this state the energy, intelligence, and enterprise that gave them conspicuous success in other lines of business. They are moreover responsive in an unusual degree to suggestion and instruction when it comes from a source that has some claims to authority; but they are agreed that the problems which confront them are too great to be solved by individual or even community effort. Even the owner of a large ranch cannot maintain a laboratory on his grounds and he cannot afford to convert a considerable part of his property into an experiment station where various theories and suggestions may be worked out to some ultimate conclusion; and if that is true of the large grower, the helplessness of the owner of a small ranch is the more apparent.

The citrus fruit growers of California must spend not less than \$6,000,000 a year on fertilizers; but they are not at all sure that this money is spent wisely. They experiment with different things from year to year, and it is not easy to find any two who pursue exactly the same method or who are agreed as to what is the best system.

Take the matter of frost protection as another illustration. Last winter was the most severe the citrus belt in California and Arizona has experienced for twenty years; fully 10,000 carloads of oranges and lemons were destroyed by cold or damaged so that they were marketed with loss instead of profit. The loss was at least \$5,000,000 to the growers; and to a considerable extent that loss was undoubtedly preventable. But here again there is need of careful, thorough, scientific study of the problem such as the university can give. Much has been done already in

the investigation of this subject and the university authorities have done their part; but we are still very much at sea as to what to do and how to do it. Conclusions will not be reached in a day as the result of any investigation; but if the experiments are conducted with such care and thoroughness as a corps of trained men can give to them the conclusions, when reached, will make possible immunity from any such general and disastrous loss as came to the orange and lemon growers last December.

If the picture I have drawn regarding conditions in the orange industry seems rather a dark one, there is a bright side which ought to be given equal prominence. Some of the most important benefits and improvements that have come to the industry in recent years have been the direct result of scientific research by representatives of the state university and the federal department of agriculture. While we expect much greater things of the university in the future, we have not forgotten the good work done, with limited facilities, under the direction of Professor Hilgard and Professor Wickson. The orange growers remember their deliverance from the cottony cushion scale by the *vedalia cardinalis* and the prompt and effective work done to stamp out the dreaded white fly, just as the lemon men deeply appreciate the important work accomplished in the investigation of the brown rot, and as other industries appreciate the work in their behalf on the walnut blight, the pear blight, the tomato rust and other troubles with which the farmers of the state have had to contend. The improvements in methods of handling oranges suggested by Mr. G. Harold Powell have been generally adopted and without doubt have saved the growers upwards of \$1,000,000 a year. Mr. A. D. Shamel, another expert from Washington, is now studying the problem of barren and productive strains of oranges and has already demonstrated the fact that quite a large percentage of the trees in our orange groves were budded from unproductive stock, thus greatly diminishing the yield which should be received.

Extensive rebudding will follow his investigations and all future budding will be done from trees known not only to be vigorous in growth but known also to be producing regularly a heavy crop of fruit of good quality.

Some of the things taught the orange growers by Mr. Powell and Mr. Shamel have been so simple and elementary that they wonder why they never discovered them for themselves; but that work requires men trained in scientific research. What has been done simply suggests the almost boundless field for future endeavor, provided men and means are supplied to do the work.

Very largely I have been considering field work in my references to results accomplished; but without buildings and equipment such as we rejoice in today, the preparation for and direction of the field work is impracticable and the co-related laboratory investigation is impossible. The first need is men but we need facilities to train them and equipment to make their work effective. The present day "back to the farm" movement, of which we hear so much, is emphasized by the multiplication of agricultural high schools and the inauguration of new colonization schemes. Unless, however, these schools are supplied with competent teachers they will largely fail of their purpose; and unless both promoters and colonists in land enterprises are properly instructed and directed, disappointment and disaster will attend many endeavors that are honest and well intended. Just here we need the university to step in and furnish the instruction and expert knowledge that are essential either for successful teaching or successful farming.

In California it is no great miracle to make two blades of grass grow where none grew before; the application of water to our soil will do that; but to make two bushels of wheat grow where one grows now, to make the vineyards produce two tons of grapes where one is produced now, and to make possible the harvesting of two boxes of oranges where one is harvested now—these problems are not so

simple and easy of solution. To master them, the farmers of the state need the very best help the university can give them.

Perhaps some will expect too much from the enlarged scope of the activities of the agricultural department of the university; certain it is that no work it may ever do can guarantee every farmer in the state a big crop every year and an automobile to go to town in. To those, however, who will reach out to take hold of the guiding hand which the university will extend, it will be possible to walk in the broad highway of success. I believe that President Wheeler and the Regents of the University have a vision of the future relations of the University to the farmers and fruit growers of California that will be made possible by the work of men like Dr. Hunt, Dr. Webber, and Professor Stubenrauch—a vision which will be realized in a vast increase in the cultivated area of the state and an increase in crops commensurate with the fertility of our soil and the perpetual stimulus of our golden sunshine.

California is expecting to reap great benefits from the opening of the Panama Canal but the completion of that great undertaking is going to bring us problems as well as blessings. The rich tourist can come to California now but the present immigrant from Europe stops on the other side of the country. The railroad fare from New York to San Francisco acts as a high tariff that operates to shut this class of immigration out of California. With the opening of the canal, however, the immigrant from Europe can come in through the Golden Gate and be landed in San Francisco at practically the same steamship fare he now pays to reach New York. And they will come here—not the fair-haired, blue-eyed Saxon from the north but much less desirable classes, the timid and thrifty Jew from Russia, the stolid Slav from Central Europe, and the hot-blooded Latin from the Mediterranean. Are we ready for them? Not yet. If they congregate in the cities, they will prove a curse rather than a blessing to the state. The only

hope we have of assimilating them is to get them out. on the farms.

California is not a manufacturing state, we cannot restore the gold to the gravels along our streams that once offered wealth to the prospector, and it will take centuries to re-forest our mountains with the timber that was once another source of wealth and means of employment. But the latent fertility of our soil abides and with proper management will never fail us. Generations may come and go but harvest will continue to follow seed time. We must prepare the land for these people who are coming and when they come prepare them for the land; and that great work must largely be done by the agricultural department of the state university. By conserving and developing our water supply and by applying more scientific methods to our farming, we can make room for many thousands more in the undeveloped north, in the fertile valleys of the Sacramento and San Joaquin—an empire in themselves—and on great stretches of land redeemed from desert in the south. The invading hordes will not be a menace to our state if we can make farmers of them and place them in the environment of country life. On the contrary, they will become loyal and true Americans who will bow with us in reverence for the lustre of the stripes and the glory of the stars of the flag we love and honor.

RESPONSE OF THOMAS FORSYTH HUNT, DEAN OF THE
COLLEGE OF AGRICULTURE AND DIRECTOR OF THE
AGRICULTURE EXPERIMENT STATION OF
THE UNIVERSITY OF CALIFORNIA, UPON
FORMAL INDUCTION INTO OFFICE

In accepting the responsibility of Dean of the College of Agriculture and Director of the Agricultural Experiment Station, it must be recognized that I represent only one of the agencies by which the University of California seeks to develop the commonwealth. The office into which I have just been formally inducted typifies the University's relation to the public welfare. The organization thus represented looks back over a generation of steady and successful development under the guidance of but two directors, both of whom have the unique distinction of remaining as honored members of the faculty. The institution will honor itself during this day's exercises by remembering them with loving kindness.

With every generation of men new problems arise. Through the operation of this law, the College of Agriculture finds itself in just that attitude. Some of these problems are the most important as well as the most fundamental with which the Anglo-Saxon race has grappled during the past forty centuries. The faculty of the College of Agriculture suffers no illusions concerning its own limitations and makes no promises beyond pledging its best endeavors.

Upon behalf of himself and his associates the Dean and Director appeals to all agencies, public and private, for assistance and guidance. He asks the sympathy and patience of the governor of the state, the president of the University, the Board of Regents, faculty and citizens of California, while the following sane, safe, and sensible

policies of his predecessors, he unobtrusively and without undue publicity endeavors to organize the best and most efficient faculty of agriculture that has ever been known.

THE EVOLUTION OF AN AGRICULTURAL COLLEGE BY
EUGENE W. HILGARD*

In celebrating today the completion of this building devoted to the higher phases of agricultural education, we hark back to the time when, just fifty years ago, the first national recognition of the importance and rights of vocational education was placed upon the status of the United States by Senator Justin Morrill, of Vermont. At the very height of the Civil War, there was thus manifested the confidence in the future of the nation by the enactment of this important measure for the promotion of the fundamental industry of peace. I propose to recall very briefly the subsequent development of the educational and experimental work thus initiated, and which through many vicissitudes has now become an almost overshadowing movement, among the results of which is the splendid building before which we stand.

The critical clause of the "First Morrill Act" provided that "there shall be established in each state at least one college, the leading object of which shall be, without excluding classical and other literary studies, and including military tactics, to teach the sciences bearing on agriculture and mechanic arts, for the education of the industrial classes in the several pursuits and professions of life." The interpretation of this clause has been the subject of much controversy ever since the end of the Civil War; and the echoes of that controversy are still at times with us. On the one hand, it was contended that the act was intended for the vocational education of "every farmer's son in the land," and that the funds derived from the sale of the lands

* Read at the Dedication Exercises by Professor R. H. Loughridge.

allotted for that purpose should be used in the establishment of numerous schools of agriculture scattered in the rural districts; or in order not to scatter the funds too much, that one or several such schools should be established at easily accessible points. On the other hand, it was contended that in view of the utter inadequacy of the funds if thus applied, and in view also of the use of the words "college" and "sciences," the intention was that one or more institutions of college grade, for the training of agricultural experts and teachers, would be the most feasible way to fulfill the intent of the Morrill Act, so that farm schools, or instruction in agriculture in the rural common and high schools, could be gradually brought about.

Some states, e.g., Pennsylvania, Iowa, and Kansas, at once adopted the first or "popular" plan, and took pains to establish the agricultural college far away from the supposed pernicious influence of the state universities, where, as it was urged, boys would be "educated away from the farm," and be looked down upon by the students in the literary and scientific courses.

Having in 1868 been charged by the Regents of the University of Mississippi with the organization of the state agricultural college in connection with the university, and finding irreconcilable differences of opinion among the colleges already established, I wrote to Senator Morrill himself for an authoritative statement of his views and intentions in framing the bill bearing his name. He replied that while his object, as stated in the bill, was to have the industrial masses better educated in their pursuits, he had purposely left the several states to determine, by trial or otherwise, how this object could best be accomplished; but that in the absence of any adequate number of competent teachers for agricultural schools, he thought the establishment of at least one high-class college in each state to be necessary. The states themselves should do the rest. I should add that in Mississippi I was compelled by popular clamor to establish first of all a farm school, with a noted practical agri-

culturist as chief instructor. His name at first attracted quite a class of students. But when these found that, as they thought, they were simply made to work as they had been doing at home, with only a little education thrown in, they became dissatisfied and left, saying they would rather work for their parents than for the college. The experience thus gained was very useful to me afterwards.

In this state, as is well known, the University was formed by the conjoining of the College of California and the College of Agriculture and Mechanic Arts; the latter is therefore one of the fundamental units of the institution; and of the two buildings first constructed, the present "South Hall" was originally designated as the College of Agriculture, and still bears on its gable ends sheaves of cereals and fruit. But when I came to Berkeley as professor of agriculture, I found that building occupied in the main by other scientific departments, and by the library, there being no other accommodations for these, while to agriculture was assigned one-half of the basement. This assignment formed the main basis for the complaints of my predecessor, that agriculture was deprived of its proper share in the University funds and accommodations that it was given the cold shoulder by the Regents, and should be removed from their control to a location in the rural districts. This he proclaimed to the then very influential farmers' organization, the Patrons of Husbandry, now better known as the Grangers, and with their aid and support he introduced into the legislature a bill to segregate the College of Agriculture from the University of California. He then resigned from the University; and after much hesitation I left the University of Michigan to take his place.

Thus, when I arrived in California in 1875, I found a rather unhappy situation. The most influential portion of the farming population was solidly arrayed against the University, determined to detach the College of Agriculture from it, and in the meantime enforcing a boycott against

the attendance of farmers' boys as students. They clamored for the reinstatement of my predecessor, and for the separation of the College of Agriculture, which they claimed was discriminated against by Regents, Faculty and students, who looked down upon agriculture as an inferior pursuit, and that their boys would there be "educated away from the farm." At every legislative session, for a number of years, the agitation for separation was resumed, and in the intervals it was advocated in the newspapers. For a time the situation looked most discouraging, the more as I was the sole representative of the college, and a stranger to the people of the state.

During the first two years no students applied for the course in agriculture proper; but I gave lectures on botany and mineralogy, which were lacking at the time. I also delivered lectures on various technical subjects in San Francisco and Oakland, and tried to start Farmers' Institute meetings at outside points; but these were at first very thinly attended. I also announced that I would investigate any questions or problems submitted to me by farmers; and it may be interesting to recall the fact that thus, in June, 1875, the first Experiment Station in the United States was definitely established in California, the experimental orchard having already been planted in 1873.

Gradually these activities told upon the attitude of the farmers, and I was at last invited to address some public meetings of granges, where I had the opportunity to explain my views and intentions. I laid special stress upon the fact that they themselves were depreciating the dignity of their calling by trying to keep their sons out of contact with the rest of the educated professional men of the state; that there existed at the University no such snobbishness as they imagined would "wean their boys from the farm," and that they should assert, and not depreciate themselves. I asked why they themselves sent so few farmers to the legislature instead of lawyers and doctors. The hesitating answer was that when they did send farmers to Sacramento

they were "bamboozled" by the lawyers and doctors and made to vote their way. "Then," said I, "what you really need is better educated farmers, and more of them, trained alongside of the other professional men and able to hold their own with them; so send your sons to the Agricultural College and the University, instead of trying to put them in the country by themselves. We need to introduce education in agriculture into the public schools and secondary schools, all over the state, and for that purpose we must have teachers, and these teachers must be trained at the University. So long as your boys know nothing but the daily grind you give them on the farm, and the 'three R's' as taught in the country school, they will surely be drawn from the farm, and the best of them will drift to the cities, as you complain they do."

While this point of view was not always taken kindly, it impressed a good many, and gradually students in agriculture came in from the country. Among the first to do so were sons of viticulturists from Napa and Sonoma valleys, from where also came the first movement for an appropriation for a viticultural building and necessary cellar for experimental work. The outcome of these first efforts might have been seen in the little frame building, 40x18 feet, that spanned the creek until recently, just below this present building; and I regret that it was not allowed to stand until today, by way of affording a comparison of those times with the present, as evidence of the progress made since then.

Yet, while the agitation for the separation of the College of Agriculture from the University became less active, so that we can now claim the Grangers as our very best friends, there remained enough to defeat, at successive sessions of the legislature, our efforts to secure an appropriation for an adequate building or buildings for the College of Agriculture at Berkeley. The secessionists "held up" all such efforts in committees, or by means of amendments or riders at the last moments, although liberal appro-

priations for other purposes were favored by them. Here again it was the influence of the viticultural interest that first pushed through the legislature an outright appropriation for a building; but it was rendered so inadequate by a little clause slipped in that it sufficed for only half a building. But we built this on a large foundation and when it was halfway up the first floor was roofed over with a temporary roof of felt, leaving the second floor an "aching void." At the next session of the legislature a committee of university inspection was sent from Sacramento. They commented with some amusement on the "rump" building representing the College of Agriculture, and promptly reported on their return a bill appropriating funds enough to complete the building and equip it modestly.

That building, grown up by instalments, housed the College of Agriculture up to March, 1897, when it burned down to the first floor, with heavy loss in collections and equipment. In rebuilding it was lengthened by fifty feet, thus adding the present large lecture room and the much-needed rooms above it. How even with this enlargement the building soon became totally inadequate for the accommodation of the rapidly increasing demands and activities, and how the working staff was forced to expand into several neighboring buildings, including a horse stable, is known to all here present. The second Morrill Act, the Hatch Act, and the Adams Act, the last two specially providing for experimental work, supplied the means for work but not for buildings, and so served to increase the over-crowding. Legislative provision for a permanent building was still unobtainable owing to the opposition already referred to; but the Regents, appreciating the importance of a creditable permanent agricultural building on the University grounds, appropriated the means for the present building out of the general University income. This accomplished fact before us, I hail as the final happy termination of the forty years' contention for the principle of having the university

educate, in the man, the leaders, experts, and teachers who are to carry the principles and practice of rational agriculture to the farmers at large, and to the public schools. That this must ultimately be done through the agency of the secondary schools, gradually working down into the graded schools, is an obvious proposition which is happily emphasized by the late introduction into congress of the "Lever Bill," providing for extension teaching in agriculture, and by the broader bill of Mr. Page, again of Vermont, providing both for extension teaching and for that in high and lower schools; thus going to the very root of the matter of the agricultural education of the masses of the farmers' boys and girls, only a few of whom can go to an agricultural college.

I hail with intense satisfaction this consummation devoutely to be wished, of which the establishment of the Farm School at Davis is the beginning, which I trust will be greatly extended and multiplied by the new Dean and Director whom we welcome today. Whether separate agricultural schools, or adjuncts to high schools be preferable, the movement for popular agricultural education has now gathered such force that, like other revolutions, it cannot go backward, but will gain additional momentum from year to year.

THE PRESENTATION OF THE KEY BY G. W. FOSTER

Mr. President and Friends of the University, I have been requested, on behalf of the Regents, to present to you, Mr. President, the key of Agriculture Hall, the dedication of which we are this day celebrating. In doing so, I feel embarrassed at the task of even attempting to express the feelings which I personally hold in seeing such an artistic and practicable building, adequate for the purpose, dedicated to agriculture.

Since my earliest connection with the University I have recognized the importance to this state of this great branch

of learning. I have often noted the indifference towards it from quarters where encouragement should have come, but now I am pleased, not only to express my gratification but also of those who have consistently worked and waited to see the Department of Agriculture take the leading place it deserves in the energies of the University.

With the aid of Dean Hunt and such a competent corps of professors which he has had the good fortune to secure, with the aid and encouragement of the state, which is so essential to our development and success, with an appreciative and united people to encourage our efforts to make the agricultural department of the University of California second to none in our great country, the Regents cannot but feel that the outlook for great results to the state at large is most promising.

REMARKS BY RAY R. INGELS AT THE PRESENTATION OF
THE HILGARD BUST

A little over a year ago, at a meeting of the Agricultural Club, a question was brought forward as to the best way we could honor our famous old scientist, Dr. Hilgard. After some discussion we finally decided that nothing would be more appropriate than a bust of Dr. Hilgard placed in the new building to be.

We had the hearty support of the Faculty, not alone of the Agricultural College but of all the colleges in the University. We also had the support of the college alumni and of Dr. Hilgard's many friends throughout the state. Dr. Hilgard himself consented to sit for the artist, and Mr. Ralph Stackpole, a young sculptor living in San Francisco, was procured to do the work.

Perhaps it would be well to state here our reasons for trying to bestow honor upon Dr. Hilgard. We are trying to honor a man whom as a man we all respect, admire, and love as we do a member of our own families. We are try-

ing to honor a college professor, the former dean of our college, for the great scientific work which he has accomplished under great difficulties. Finally we are trying to honor a man who has brought honor to the name of University of California. His great work has not alone brought honor to himself but has also reflected glory on his University. That is the chief reason that we are giving this bust.

And now, in the name of the students, the alumni, and Faculty of the University, and of Dr. Hilgard's many friends, I take great pleasure in presenting to the University the bust of Dr. E. W. Hilgard.

REMARKS BY E. J. WICKSON AT THE UNVEILING OF THE
BUST OF E. W. HILGARD

I am a little disconcerted by the task allotted to me. In searching the records of public unveilings from Phidias to the Panama-Pacific Exposition, I do not find any satisfying suggestion of what it is safe to say when called upon to unveil a bust in the presence of the person who is honored. Manifestly, I cannot tell the bust what I think of the original without danger of reprisals by the latter; nor dare I tell the original what I think of the bust—for fear of the sculptor. The only safe way for me to proceed, I think, will be to undertake a brief discourse on “The relation of some fundamentals of art to the development of the Agricultural Department of the University of California. In this way I may impress upon you the essential features of the present situation and give us all a chance to escape with our lives.

The particular thing which this department lacks worse and needs most is perspective; and that, I take it, is a fundamental of art. Since the University of California began its agricultural career in 1869, four men have been elected to leadership in agriculture—and three of them are here

today. Since the University established its experiment station in 1875, the oldest, by the way, in the United States, three men have been elected directors thereof—and they all stand before you this morning. Our picture has no perspective: it is all foreground: it is flat as the mural paintings of Nineveh. But it is full of action: there is sequence in it and there is a scale of values and we make our great men large by defying perspective, as the Egyptians did.

Thus we can symbolize progress. We can also recognize progress in the mass, for there are things here which before were not—and these things have been increasingly here for we see the resources of the department, in officers and students and its products, in courses of instruction and in publications, increased from five hundred to a thousand per cent during the last decade. Still there is no perspective, for it is all so new and the men who have accomplished this are still at work. But we are now laying the foundations for a perspective. What we are doing today will be counted a century hence as the beginnings of things.

Probably the best thing we can undertake for the future is to fix a vanishing point in our horizon line, but what can we do who have had to work with physical things which would not remain long enough to vanish in a decently orderly manner—with things which stayed not upon the order of their going but went at once? Look at the agricultural emblems on the sides of South Hall: they were emblazoned to the honor of this department, but, from its burrow in the basement, agriculture looked outward and upward at them—as a man might be imagined to be looking from his grave in wrapt admiration of the tracery on his tombstone. South Hall was never an “agricultural building” except in a decorative sense. Twenty-five years ago we forsook the cellar of South Hall and captured an abandoned carpenter shop and it became the first “agricultural building” of the University. It was last seen spanning the creek just below the slope on which we are now

standing and as this new building was rising, I often thought how dramatic it would be to point from this noble granite building to the creek-spanning shack below and thus indicate the growth of the department. It was our only chance of suggesting a physical perspective. But a few weeks ago someone, ignorant of the sacred memory of the old building, knocked it to pieces—for blotting the landscape, no doubt. What can we do to get the foundation for a perspective when buildings depart and men alone are permanent?

In the thick ruck of recency in which we are enfolded we gape for something which will serve future generations as a vanishing point for their perspective and happily we find it and hold it aloft and, lo, it is the life of a man! And so we carve an exponent of it in enduring bronze and place it at the entrance of our first enduring building and charge it to mark the beginnings of a new epoch—an epoch in which agriculture will really attain the prominence in University affairs which was intended by those who arranged for the establishment of this institution in the congress of the United States in 1862. This achievement is based upon the thought and work of Hilgard. All his associates accept him as an exponent of their ideals of agricultural science of their efforts toward dissemination of agricultural intelligence and of their confidence in agricultural development in this state. They have shared with him for years, full recognition of the opportunity for the erection here of an institution which shall stand pre-eminent not only in the demonstration of principle but in the exposition of the peculiar arts of production which shall signalize the Pacific Ocean countries as the greatest on earth in the extent and variety of their agriculture.

We unveil, then, this effigy of Hilgard, not as a memorial of his, for he needs none; his fame will live without such a token; his life is written in his work and that cannot be forgotten. What purpose, then, does this bronze serve? It is an enduring record of our appreciation of Hilgard: a

monument to our own insight and sagacity. We do not propose to have some smug commentator of some coming century write in his books: "There was, at the beginning of the twentieth century, a man in California named Hilgard, whose life and work are in the foundation of America's contribution to agriculture science, but his associates did not recognize his greatness."

And so we throw this bronze into the face of the future and we cry aloud to coming generations:

"This is our Hilgard! It will cost you great aspiration to produce a better man."

ADDRESS OF THOMAS FORSYTH HUNT ON THE MOTIVE OF
THE COLLEGE OF AGRICULTURE OF THE
UNIVERSITY OF CALIFORNIA

The men and women connected with the College of Agriculture and Experiment Station have for their aim the development of the agricultural resources of California. The word *agriculture* is here used in its broadest significance: namely, the economic production of living things. The agency through which this body of men and women is to accomplish its purpose is the University of California, but I wish here and now publicly to announce that they are eager to co-operate with all other agencies—federal, state, or private—which may have for their main purpose the maintenance in California of a successful family life.

The assertion of Dr. Carver is fully accepted, that if one admits that life is worth living, he who allows the love of money, or power, or land, or science, or literature to interfere with the rearing of a noble family commits a criminal act. It is not necessary that every one should assume the marriage relation, but when a couple has taken each other for better or worse, it is a crime to permit any

other motive or ambition to prevent the rearing of a worthy family. A man's business should be his means of making a successful home and not the means of getting a front page illustration. Between the age of twenty-five and fifty the wife may well assist in this enterprise.

I was permitted recently to sit at the table of a capable woman. She exclaimed: "I am a free woman. I am fifty. I no longer need to conceal my age." According to the law of probabilities this woman has twenty years to devote through education and politics to promoting the social welfare. The women of her class have the power to become through their mature judgment and culture the greatest and most benign influence in every community.

It is so plain that he who runs may read that not only can no development of agriculture be considered wise which does not lead to a successful family life, but that in California a proper development of its agriculture is essential to this end. The acceptance of this doctrine by the Anglo-Saxon race would solve many if not most of the difficulties which beset the body politic. It is the home-loving people who inherit the earth. It is the immediate duty of the College of Agriculture through research and education to make the agriculture of California more prosperous. Through its various divisions, it is straining every nerve to solve the material problems which beset those who create wealth from the soil. It is its chief duty, however, to develop those methods of agriculture which are of greatest benefit to society. The College of Agriculture is not primarily interested in whether the profits of agriculture enable the ranchman to substitute for his \$3000 automobile a \$5000 motor car, but it conceives its chief concern to be a prosperity that leads to the proper economic, social, moral, and spiritual ideals in the community.

When the interests of the individual and those of society become opposing forces, then here as elsewhere in the history of the human race individual interests must be sacrificed for the benefit of the common good. Lest I be mis-

understood, permit me to moralize for a moment. While the trait which we honor most in any individual, the trait which has made all truly great heroes, is sacrifice, it does not follow that there is no virtue without sacrifice. In the new conception of a successful life, we do not have prosperity without morality, but we have prosperity because of morality. Efficiency and morality may not be synonymous terms, but they are mighty good chums.

This, then, shall be the keynote of the College of Agriculture. Those who shape its destinies will never forget that it was formed and continues to exist to promote the material welfare, but they will always recognize that this material welfare is for the sake of a successful human existence and that primarily this is based upon human efficiency. Five thousand years ago the natural resources of these hills and valleys were, so far as we know, as great as they are to-day. The Aladdin-like development that has occurred from Imperial to Shasta during fifty years is due to a hardy and efficient race of people. This race must be perpetuated. Once more I wish to repeat that the faculty of the College of Agriculture invites the co-operation, support, and guidance of all agencies which believe in this programme.

If now we take a hasty glance into the future we cannot fail to be impressed by the fact that the two great problems before California are to stabilize its water supply and humanize its labor supply. A few simple concrete illustrations may be better than much abstract discussion. In the Salt River Valley, Arizona, approximately ten million dollars have been expended, including the great Roosevelt Dam, to stabilize the water supply over 130,000 acres of already irrigated country and to bring 100,000 acres of the desert under the irrigation ditch. It was expected that this greatest reclamation enterprise in the United States would furnish about two dollars' worth of water per acre. In other words, a gross income per annum of about one-half a million dollars was anticipated. Although the enterprise

has scarcely been completed in all its details, already it has contracts for one million dollars worth of electric energy. It is said that there is nowhere any more livable region than in the foothills of the California mountains. Here can be developed unlimited power without the loss of any natural resource except the oil required to lubricate the machinery. In developing the power, the water in the valleys will be mobilized. When this is accomplished California will have ten millions of people in place of two and a half millions. The slogan for California should not be one million persons for this or that city, depending upon which part of the State one is from, but two million families for California. Cover your hills and fill up your valleys with homes, and the cities will take care of themselves.

A certain rich man who made himself wealthy by mixing a well known California product with a commodity not unknown to any state and selling it as a cure for various ills, purchased a considerable tract of land in a State famous for the Presidents which it has produced and began breeding Percheron horses. This man had the money to buy the best horses of the breed. He was capable of employing the most expert superintendents. The soil and climate were sufficiently like that of "La Perche" to satisfy the requirements of horse breeding. One day I chanced to meet a groomsmen, who declared that the enterprise was doomed to failure. "Why?" he was asked. "Because the Percheron horse is the result of loving care by generations of farmers. Mr. Blank, with all his millions, cannot purchase these generations of men without whom these horses are not possible." Our rich friend still operates his land, but he has long since ceased to try to breed horses.

California has rich river valleys whose conditions are like those which generations of Holland farmers have made famous. Canada has its agents in the lowlands inducing the Holland farmers to migrate to this northern country, while our river valleys with their mild climate remain undeveloped. To develop this State with the least human sacri-

✓ vice some selective process of locating people upon the land is needed. It is said that the farmers in the countries bordering upon the Mediterranean Sea are now saving their money against the time of the opening of the Panama Canal. When the thrifty Mediterranean folk come to our shore it will be the first time in the history of the world that these races have migrated to a country which was similar in its possibilities to their own. To entice these people upon land by means of "decoys" would be a social and economic crime. We need to study the history and adaptation of the peoples who now live in regions with natural conditions similar to our own. Instead of alluring the off-scourings we should by some selective process secure the intelligent, thrifty, moral countryman whose generations of experience will help to develop this country. When he arrives he should be located among natural conditions with which he has been familiar and protected until he has his industry upon its feet. It would be a form of protection that would protect. If you wish to compete with the peoples of the world you must develop in every locality that industry which naturally does best in that particular region, and you must put it in the hands of people who are the most expert in that particular industry. By no other process can a state be developed to its highest efficiency.

The President and Board of Regents will be asked to establish a department in the College of Agriculture to be known as the Department of New Agricultural Industries. Already the United States Department of Agriculture and the State Experiment Stations have done splendid work in Plant Introduction. The introduction of a plant and the establishment of an industry upon that plant, however, are two widely different things. This department of New Agricultural Industries will not bear research nor a teaching department in the ordinary sense of the term. Its duty will be to study the agricultural industries of regions having conditions similar to California and to study our own State with reference to any industries which investi-

gation may seem desirable to transplant. Last week we were told that Palestine is an exact counterpart of California, except that Palestine is only one-tenth the size. Within this diminutive area it duplicates the Sacramento and San Joaquin valleys, the valleys of the coast and the Sierra Nevadas and Coast Ranges. There is the same variation in climatic conditions and above all they have a four thousand year old agriculture. No one knows what agricultural lessons this old world holds in store for us. Perhaps it may yet enable us to become the greater Palestine of a new civilization.

We have been discussing a century long programme and a state wide movement. Every man and woman in this audience will have been gathered in by Father Time long before our water supply has been fully stabilized and our labor supply fully humanized. We are not now dealing with the individual, but with society. If society is not able to look beyond the confines of its individual members it is doomed to eternal damnation.

It may have occurred to some of you that the questions which have been discussed are beyond the realm of the institution which I for the moment represent. What has been said is for the purpose of emphasizing the fact that the University of California is perforce the leader of thought in all that relates to the welfare of the State and its College of Agriculture, if it is to be effective, must be the leader in all that relates to the development of Agriculture. To fail to accept such leadership would be to fail to understand the responsibility that is placed upon it. Any other attitude upon the part of the people, whose child the institution is, would be reprehensible.

Pedagogically speaking—I use that phrase because I do not know what it means—the College of Agriculture has two ambitions: one is to become the post-graduate institution in Agriculture for the western third of the United States, and the other is to supply the demand in California for teachers of agriculture in the secondary schools. To

receive the agricultural graduates of the western third of the United States and train them for greater service in the institutions from which they came is not only a privilege but a responsibility and one which every other institution will welcome. If this institution assists in the preparation of the future instructors and investigators of our western colleges and prepares the teachers of agriculture for the high schools of California, it will be performing a service of untold value. The two ambitions to which reference has just been made are, of course, after all only a minor part of the educational work of the College of Agriculture?

In developing our undergraduate departments, at least some of them will be organized around the industries. Already we have the Departments of Dairy Industry, Animal Industry, Agronomy or field culture, Citriculture, Viticulture, Pomology or deciduous tree fruits, Floriculture and landscape gardening. The reasons for this are many and complex, but one important reason is that we are not teaching subjects, but students. The student is going to become a lawyer, or a citrus grower, or a doctor, or a stock raiser, or a teacher, or a dairyman. Harvard was founded to train ministers and afterwards because ministers often gave so-called medical advice, it began to train physicians. Later lawyers were brought in out of the rain.

The land grant colleges were founded to train young men and women in the several pursuits and professions of life, of which housekeeping is one—in some localities. The difficulty with agricultural teachers has been that they have been absorbed in the pursuit of knowledge and obsessed with the importance of their discoveries. Greek must be made a good training subject or it cannot justify its existence in the university curriculum. Agriculture can be made just as good a training subject if we remember we are dealing with young men who have red blood in their veins and who have an ambition to live a life of usefulness and power. If we forget it, they had better study Greek.

The successful teacher of agricultural subjects must not only be concerned with his subject and with his students, but if he is also an investigator, as every good teacher should be, he must concern himself with the people in the industry which he teaches. There is no state in the Union where it is so necessary for the agricultural professor to know thoroughly his subject before he undertakes to deal with the men who make their living from agriculture as here. In California they do not hunt grizzlies with shotguns.

The College of Agriculture is not merely a teaching institution. It has three phases: research, education, and public service. When it comes to organizing its research work, especially where large questions and interests are involved, we shall organize around the problem rather than around the industry. These strictly research departments will not be charged with undergraduate teaching, but will be permitted to take post-graduate students. A real post-graduate student is one who is working out some problem. Thus there has been organized a research department with headquarters at Riverside. There has been called to preside over this department Dr. H. J. Webber, Professor of Plant Breeding of Cornell University, who is one of the best known teachers of post-graduate students in this country.

In the location of its headquarters the College of Agriculture is somewhat unique among institutions of its kind. Its location has been looked upon as an element of weakness. As the institution develops, I think it will be found to be, on the contrary, an element of great strength. It puts us face to face with the problem of how to give to the students of agriculture the training and experience which they must have in order to succeed in any one of several agricultural pursuits. The plan is to bring the student to the close of his sophomore year with as thorough a training in English, mathematics, language, history, and science as his years of schooling will permit. In addition to these studies, each student before reaching the junior year is to

receive instruction in the following four agricultural subjects:

Agricultural Chemistry;

Soils;

Plant Propagation;

The Principles of Breeding Plants and Animals.

The last I consider almost as fundamental as the English language.

It is believed that the work of these four subjects should be required of every student, whatever agricultural profession or pursuit he may subsequently follow. Since they are to be required of all students of agriculture and since they are the first technical ones in the student's course, great care will be taken to secure for these four subjects inspiring teachers. The student who does not come early in his course in contact with, at least, one teacher that inspires him with the love of scholarship and his subject misses the best part of a college education. After instructors have been called they will not be permitted to place these sophomore subjects in the hands of assistants, while they confine their teaching to upper classmen.

Having brought the student to the close of his sophomore year, when he must decide in what agricultural profession or pursuit he will specialize, the question arises how, with our present headquarters, we can offer him suitable training. During the past decade forestry schools have been compelled to study this problem. It is possible to locate an institution on a farm, but there are some difficulties in locating it permanently in a forest. The approved plan in forestry schools now is to take the students at the close of the sophomore year to the forest camp, where for eight weeks they are given both theoretical and practical instruction. During the junior and the first half of the senior years they pursue their studies at the college. The last half of their senior year they are again taken to the forest, where they receive instruction under conditions

which experience has shown are essential to the preparation of seasoned foresters. When the forestry courses were first established the students went to the forest camp at the close of the junior year.

There are three reasons for changing the camping period to the close of the sophomore year:

First, it serves to weed out the faint hearted. The young fellow who thinks forestry was a pink tea is promptly disillusioned and probably eliminated. Second, it enables the student to appreciate better the technical subjects which he will pursue during his junior and senior years. Third, it offers the student during his junior vacation an opportunity to secure employment in his chosen field, thus furnishing money with which to continue his education and valuable practical experience.

Applying this principal to our own problem, we may send sophomores who would specialize in dairying or animal husbandry to Davis, those who would specialize in agronomy either to Davis or Fresno, and those who wish to engage in horticultural pursuits or landscape gardening to Fresno or Riverside. When we have a department of Forestry, students can go to the forestry station at Chico or at Santa Monica. Students interested in strictly subtropical fruits can be taught at the Imperial Station some of the conditions of management in these rapidly developing and truly fascinating crops. Students who specialize in soils could be taken into the soil survey work and given actual training in soil mapping. If the option is Agricultural Chemistry, Plant Pathology or Entomology, the student will find the laboratories at Berkeley open to him, while students of agricultural education will find their training ground in connection with the regular summer school work of the University.

As we are now organized, students may go to Davis the last half of their senior year, where they can receive instruction in certain subjects which are developed better

there than at Berkeley. This is notably true of instruction in animal husbandry and dairy industry.

While the University Farm at Davis is an exceedingly important factor in the development of the research work and is becoming a much more important factor than was anticipated in the training of University students, its most unique feature is the instruction given to University Farm School students. In this school an attempt is being made to solve the most important educational question in this country. We have in America a perfectly well understood system of education:

Primary grade	7 to 10
Grammar grade	11 to 14
High school grade	15 to 18
University grade	19 to 22
Post-graduate work	23 to 25

This is a thoroughly desirable system of education and one that should be extended to apply as nearly as possible to every young man and woman. There are, however, large numbers of young men who have reached the age of 19 who do not have the requirements for admission to college. They will not go to the high school because they are beyond high school age. They could not get the proper instruction if they did go, because the method of instruction must be different for students at 19 and those of 15 years. Age must be recognized as a factor in education. A young man or woman at 19 differs from the boy or girl of 15, physically, mentally, morally, and spiritually. One hundred and twenty students entered the University Farm School at Davis this semester and 118 entered freshmen in the College of Agriculture at Berkeley. The average age of the intrants at Davis was 19 years and 4 months; the average age of the freshman intrants in agriculture, 20 years and 5 months.

An agricultural high school is not being conducted at Davis, but there is being given a three years' course in Agri-

culture to students of university age who do not have the requirements for admission to college. In addition to the students who come to Davis because they do not have the requirements to enter college, there are high school graduates who desire to spend only two years in further study and who find the last two years at Davis upon which they can enter better suited to their needs than the first two years at Berkeley. Every effort should be made to meet the needs of this class of men. The minimum age of entrance at Davis should be raised to 18 years, first, because the student should be induced to exhaust his local agencies of education before entering the farm school, and second, because when he has completed his three years' work he should be mature enough to enter upon business for himself.

Emphasis should be placed upon the fact that the training offered at Davis has nothing to do with the introduction of agriculture into the high schools. This should be done, but it is a wholly different thing. The high school system should be so arranged that every boy and girl between the ages of 15 and 18 can sleep at home. The boys and girls between these ages need their parents, and equally important, perhaps, the parents need the children. Eighteen is the accepted age for breaking home ties. From 18 to 22 is that transitional period during which the young man or woman gets adjusted to his or her surroundings. A student enters college a boy and leaves it a man. In some ways this is the most important fact concerning his university career. If this view is accepted, it will at once become apparent that the University Farm School at Davis is not a local institution. It may be just as useful to the young man who lives in Imperial Valley or in Butte County as to one born within five miles of Davis.

Unless the ranches of California are to be abandoned or are to be cultivated by foreigners, there are in California at this moment more than 8000 young men between the ages of 18 and 21 who will some day occupy the land.

Less than six hundred are now receiving instruction in Agriculture at Berkeley and Davis. In a comparatively few years, a thousand students of agriculture will be enrolled at each place unless we do something to stop them. It should be determined at once what is the most efficient number that can be accommodated at Davis. It should be determined whether it is to be 300, or 600, or 1000. Plans should be made to start a new unit at Fresno as soon as the most efficient number that can be cared for at Davis is reached. At Fresno, where the University owns 5400 acres of land, there is an opportunity to build up the most extensive, most varied, and best instruction in horticulture, both for farm school and university, that is to be found in the world. No other such possibility exists anywhere. At Davis special emphasis should be placed upon dairying, animal husbandry, and deciduous tree fruits. At Fresno, the emphasis should be placed upon grapes, citrus and other sub-tropical fruits, and upon alfalfa and other forage crops. Instruction and investigations in cereals should be developed at both places. Under the conditions outlined a young man from Bakersfield or El Centro might go to Davis to receive instruction in animal husbandry and dairying, while the young man from Marysville might go to Fresno to specialize in horticultural subjects.

The tentative organization and scope of the College of Agriculture has been set forth with a good deal of tedious detail. I am frank to say that it has been done with a very definite purpose. The desire has been to make emphatic three points:

First—The College of Agriculture is located in California. Berkeley, Riverside, Whittier, Davis, Meloland and other places are merely points of operation. Los Angeles is the headquarters of the Santa Fe Railroad, but the Santa Fe Railroad is not located in Los Angeles. Last year the College of Agriculture met face to face 150,000 citizens of California.

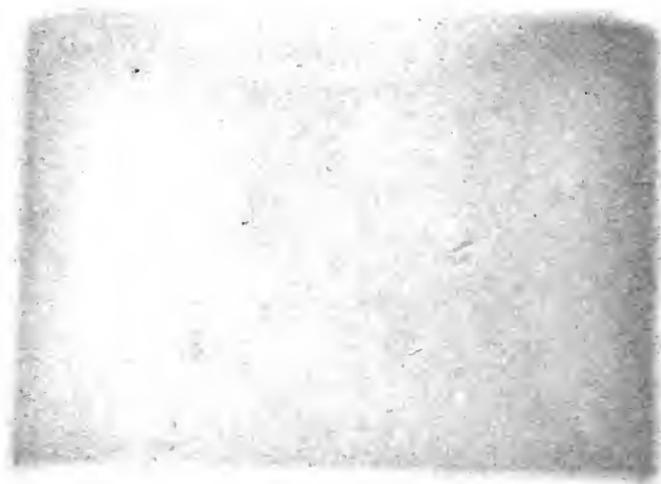
Second—The work which is carried on at Berkeley, Whittier, and Davis is not primarily for the development of the immediate localities, but is a part of a general scheme of education and research which looks toward promoting the general welfare of the commonwealth. The establishment of the Citrus Experiment Station is not primarily for the purpose of promoting the raising of oranges in Riverside County, but is for the purpose of studying problems which are of the greatest importance wherever agriculture exists under an irrigation ditch.

Third—Any additional points of operation which it may hereafter be deemed wise to establish must be considered from the standpoint of the general plan which has just been outlined and of the public welfare and not from the standpoint of local interest. I have faith that the people of California will rise to this high level.

I am not unmindful that there has been some criticism of the College of Agriculture and Experiment Station of the University of California. I am aware that this criticism has come from widely divergent sources and represents widely different view points. I am glad it has occurred. It is evidence that you believe that the College of Agriculture represents something that is worth while. If it is constructive criticism, I hope it will continue. What I wish to make clear is that I believe you have not fully understood the importance, scope, or complexity of your agricultural college. I could easily demonstrate to you by facts and figures its relative importance among institutions of its kind. This address is already quite too long. Suffice is to say that the fact is, my predecessors have not been exploiters. They and their associates have quietly applied their talents to the solution of fundamental questions. No amount of criticism could swerve them from the path which to them seemed for the ultimate good. Viewpoints may change, but I accept, as a sacred obligation, the responsibility of carrying forward the motive which has been their guiding star.

The programme which has been outlined is a large one. It is worthy of a great State. For its success, it needs the help of every citizen. I believe it to be both logical and feasible. I ask for it the candid criticism of every person interested in the public welfare. With the assured and earnest support which this programme has of the President and Board of Regents, I have faith—and I am saying this in the most impersonal and detached way—that it must succeed. I trust that President Wheeler was prophetic when he remarked several months ago, “I believe it will appeal to the people of California. They like to do a good thing.”

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