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Address of the President of the Association of American Agricultural Colleges and Experiment Stations

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U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS,
A. C. TRUE, DIRECTOR.

ADDRESS OF THE PRESIDENT OF THE ASSOCIATION
OF AMERICAN AGRICULTURAL COLLEGES
AND EXPERIMENT STATIONS.

BY

A. W. HARRIS, D. Sc., LL. D.,

President of the University of Maine.

Abram Winegardner

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ADDRESS OF THE PRESIDENT OF THE ASSOCIATION OF AMERICAN AGRICULTURAL COLLEGES AND EXPERIMENT STATIONS.

By A. W. HARRIS.

Thirteen years ago I came into this Association. When I came I had slight appreciation of the meaning or importance of the cause in which I had volunteered; I fear I held for technical training something of that foolish feeling of superiority which the man of classical training often expresses in the word "utilitarian." I was of the strictest sect of those who only tolerated the new lines of higher education and believed that the higher education was properly outside the province of the State, which would best leave such work to private enterprise, thus avoiding the embarrassment of conflicting class interests and allowing the addition of a religious element, forbidden to the State but necessary to make what was called "Christian education." I have lost none of my admiration for my alma mater or the other institutions of higher learning. I do not walk through the pictured galleries of the great men and good who were the founders and benefactors of our colleges and universities without a deep stirring of the emotions. All honor to their noble company! They have rendered a great service, and they need no apologists.

Nevertheless, I am a complete convert to the system represented here. Had I spent my undergraduate days in a land-grant college or a State university I could not believe more deeply in the oneness of truth, in the essential equality of its forms, whether literature, or philosophy, or science, or the arts of commerce, manufacture, agriculture, and in the efficiency of the State education.

It is then as my purpose this evening to set forth briefly a few of the most important things for which the land-grant college stands, with a brief statement of results accomplished. I can not present much that is new, but hope to serve a useful purpose in formulating a few inspiring ideals which I have come to find in our system of colleges. By system I mean to include not only the institutions formally represented in this Association, but such others also as embody the same ideals, or some of the most important of them.

The land-grant and other State institutions having a common purpose and similar methods make a rare system, combining national aid and requirements with local control and administration in a manner fitted to produce the greatest efficiency, and closely in keeping with our governmental methods. The student of the land-grant act must admire its marvelous flexibility, which, while guarding its special purposes, has allowed the free development of the colleges, each in accord with its local conditions.

The first thing to be said of the land-grant colleges is this: They provided for agricultural education. Agricultural education has been viewed by this Association from so many standpoints and so often that I shall attempt no discussion of what it is or ought to be, but venture only to point out how important was the step taken when the Government provided college teaching and investigation in agriculture. This step was important to agriculture, but it was yet more important as the first sufficient recognition of study and investigation as the basis of the best success in great business and commercial fields, and it is equally important as a precedent-making recognition of Government action as the greatest and most effective form of cooperation for the gathering and dissemination of knowledge in regard to the pursuits in which the people are engaged. If the land-grant act had proved of trifling value to

agriculture and the mechanic arts, it still would have been of enormous value because it laid down the principle that the Government, not that of the States only, but the National Government as well, had a duty in investigation and teaching for the benefit of industry.

This act is not, however, barren of the most important results to agriculture, and I might use my whole time in enumerating them. I take only time enough to refer to the greatest of these results—the experiment station. If the agricultural college did nothing more than to establish, maintain, and officer the experiment station it would be justified many times over. The experiment station is the child of the college. The idea, the soul, of the experiment station was in the college at the beginning; the creation and endowment of the station are due to the persistent and intelligent effort of the college, and the station must always be manned, as now, almost entirely by men prepared in the lecture rooms and laboratories of the agricultural college. I say these things thus pointedly because there seems to be in the thought of some a suggestion of an antagonism between the college and the station.

There have been criticisms upon the administration of the experiment station as conducted by the college, and some of these criticisms are just, but they apply to very few of the half hundred colleges in the country. Let us remember that these criticisms, even when justified, are not to be regarded as differences between the college and the station, but as errors, or, perhaps, faults, in the administration of officers of one combined institution who have the same responsibility for both instruction and investigation. Examination of station administration would show errors, but I am persuaded that it would show them to constitute a surprisingly small part of the whole. In weighing criticisms let it be remembered that they are offered for the most part against officers with a double responsibility by officers who, as a rule, consider themselves the special advocates of the station and enjoy a delightful freedom from the obligations of impartiality. We admire zeal in station officers, but we must not regard it as a sufficient or impartial basis for the arraignment of trustees and other officers whose enthusiasm for the station is properly tempered by the desire to give equal justice to each of two great trusts. Criticisms have given rise to the suggestion that the Department of Agriculture be given larger control of the experiment station. I believe in an efficient central office, but I fear any material increase in the authority of a central agency, lest it end in making the governing board of the experiment station—the mere executive agent of the central governing power—a worse evil than no central government at all. Even a Washington control would involve mistakes, and a strong centralization of authority would multiply every error by an alarming factor. Moreover, it is a great advantage of our present system that each experiment station has the opportunity to work out its own individuality. I believe it an advantage, too, that each board is charged with the administration of departments of instruction also, and is so subject to a continual broadening influence. To retain these advantages we may suffer some ills with patience.

The legal recognition of agricultural education was important for itself, but more so because it opened the way for the establishment of education in the interest of all industries and pursuits. The ten years preceding 1862 show a growing appreciation of science and its applications, strongest in agriculture, but including all interests. When scientific and technical education asked admission to our schools, they met such strong opposition from entrenched educational custom that any recognition must have been long delayed but for the tremendous power possessed by agriculture in virtue of its position as the most widespread and most vital industry of the country. Agriculture and the mechanic arts occupy an equal position in the act of 1862, but as a matter of history it was agriculture which carried to victory the common cause of all industrial education.

The distinctive work of the land-grant college was in the beginning of a low grade, and should be classed as industrial rather than technical education. This was largely due to the lack of proper preparatory courses, but the public most interested and many of the college officers were content with this low grade. There was great enthusiasm to lift the farmer and mechanic and to dignify labor. Nearly all the new colleges included manual labor in their courses of study. In a little more than a generation the industrial work in both agriculture and mechanic arts has been lifted to the grade of the literary college courses. In other words, the industrial courses of the sixties have developed into technical courses, and the third step in the evolution of the act of 1862 is this broadening and strengthening of the industrial courses.

When the act of 1862 was passed there were in the United States less than a dozen schools that could be termed, even by a liberal construction, schools of technology, and of these only a few would rank with the average technical school of to-day. Electrical engineering was absolutely unknown; mechanical engineering was at its

very beginning. Civil engineers usually obtained their training in the employ of other engineers, and, with few exceptions, they were ranked only a little above the expert mechanic. The few engineers who held acknowledged rank with the learned professions gained their place just as a few great naturalists held the same rank, by virtue of great personal ability and attainments, and they were regarded as the exceptions in large classes which, as classes, deserved an inferior rank. It would be a waste of time to portray the change. Engineering is the acknowledged peer of the most dignified professions. It is through this change that the real elevation of the dignity of labor has been asserted. Our fathers, perceiving that all industries were interdependent and that some of the humblest were among the most clearly essential to the general welfare, aspired to lift the work of the artisan to the plane of dignity assigned to the professions. They dreamt of the time when the laboring man and the professional man would include in the preparation for their work similar mental training; when the laborer, earning his bread by the sweat of his brow, would be the social peer of the intellectual worker. It was a kindly dream, but not to be realized. What the colleges have done to raise the dignity of labor has been accomplished in an unexpected way. Brawn will never possess the dignity of brain, and the manual laborer, however important to the general welfare, can never obtain the place of honor which the world accords to intellectual labor; but the technical colleges, by demonstrating how useful, as the thinkers and leaders of our great industries, are the men trained in the most rigid courses of the best colleges and universities, have conferred upon business and upon all industry a dignity which sometimes equals, or even excels, that of the learned professions. Every age grants its highest rewards to that class of citizens which it prizes most highly. The man who occupied the great place among primitive men was the strong man who, by brute power, was able to overcome his competitors. With the growth of civilization the warrior who developed physical prowess into the art and skill of soldiery became the favorite and reaped the world's best rewards. In turn, the priest, the statesman, the lawyer have been the world's favorites, and in every age society has given its approval in the way of money rewards. The man whom the age regards as the most necessary is likely to be its richest man. If this test be a correct one, then the man of affairs, who has been trained, not to the work of the learned professions, but to service as a captain of industry, or commerce, or finance, is the favorite of our own time. As the training of such is one of the two distinctive features of the institutions which we represent, I have no shadow of doubt that the importance of this work will increase rapidly with the coming years, placing upon these institutions an increasing burden of responsibility, and according them a constant increase of dignity and public favor.

This, then, is the first great thing to be placed to the credit of these institutions. That, starting with education for a single industry, they have passed from the narrow and particular to the broad and general, developing into industrial education, and finally blossoming into technical education or the higher education as a preparation for all the duties of the day.

The service to technical education is scarcely, if at all, more important than the service of the colleges in developing an understanding of the right and responsibility of the State in higher education. In the act of 1862 we have the first complete and general recognition of the right and duty of the people to provide for the higher education. The act involved not only endowments from the General Government, but it required from each State the assent to this endowment, and almost of necessity involved financial aid from the State government.

When the land-grant act was enacted there were many parts of our country in which the majority of the people were opposed to higher education by the State. It is quite possible that this opposition would have induced some of the States to reject the land grant but for the Anglo-Saxon passion for getting things. Even this might not have been sufficient had the new cause not presented itself in a concrete and restricted form. Many of those opposed to the appropriation of State funds for higher education comforted themselves with the belief that the United States' gift would be sufficient for the needs of the new college, and would render any State appropriation unnecessary. Others were overcome by their interest in agriculture, and hoped to make a concession to one or two industries without sacrificing their principle. But the State that accepted the land grant was logically committed to the principle that the State may provide higher education of any form. Higher education by State funds, once begun, knows no logical stopping point. It may be urged very fairly that the land-grant act did not determine this principle, because it was involved in the establishment of free common schools and high schools. But the establishment of the land-grant colleges was immensely important, because the arbitrary line between the high school and college was a barrier beyond which the State

education could otherwise have passed with difficulty. It is a great result of the land-grant college to have asserted and established the doctrine that education in all its forms, from the lowest to the highest, is a State function in which the State has the fullest rights and for which it must bear responsibility, sharing the privilege and responsibility with private corporations only as it thinks best. No more inspiring words were ever uttered in regard to education than these from Emerson, which I regard as worthy of constant iteration by the State colleges and universities. He says:

"I praise New England, because it is the country in the world where is the freest expenditure for education. We have already taken, at the planting of the colonies (for aught I know, for the first time in the world), the initial step, which for its importance might have been resisted as the most radical of revolutions, thus deciding at the start the destiny of this country; this, namely, that the poor man, whom the law does not allow to take an ear of corn when starving nor a pair of shoes for his freezing feet, is allowed to put his hand into the pocket of the rich and say: 'You shall educate me; not as you will, but as I will; not alone in the elements, but, by further provision, in the languages, in sciences, in the useful and in the elegant arts.' The child shall be taken up by the State and taught, at the public cost, the rudiments of knowledge and, at last, the ripest results of art and science."

I need not make the argument for State aid to higher education; it is familiar; but I must indulge the opportunity for a few considerations which appeal rather to the spirit than to the logic of the situation.

First, State aid and State control in higher education are, under present conditions, necessary to our national development. Colleges and universities are of nature conservative. Many of the most important reforms in their work have been forced upon them, and, in some cases, have been suggested originally, not by college officers, but by the outside public—often by men not college graduates. The college officer who is most hospitable to new methods is quite likely to be one who has been thrown into close contact with the outside public. It was Justin S. Morrill, the son of a blacksmith, himself a merchant and statesman, whose training was obtained largely in the shop, in the counting house, and in the halls of Congress; a man denied the privileges of the highest education, who stood all his life near enough to the work-a-day world to feel the beating of its pulse; he it was who forced upon higher education the recognition of the great need of education for industrial pursuits. It was James Buchanan, the college graduate, who vetoed the first land-grant act for academic reasons and because it was likely to hurt the cause of higher education. It was Abraham Lincoln, who knew the heart of the common people as well as any American knew it, who rose above scholastic prejudice and signed the act of 1862, opening for the first time the treasury of the nation for the training of the people in all lines of education. I have no desire to criticise the conservatism of the college. But the college ought to be the servant of the people, and must be placed where it can be called upon for the service that the world needs. Had not the General Government and the States provided for the establishment of technical colleges, it is probable that a number of States would be to this day without proper facilities for the education of their children in the lines of industry upon which their life success depends. The slowness of private colleges to provide technical instruction is due to the belief that technical education is inferior to the older forms of education and likely to lower the educational standard, but it is due also to the expense of providing laboratories, equipments, and instructors, an expense greatly beyond that of the older forms of work and quite beyond the means of many private institutions. Even now, notwithstanding the general recognition of technical education and the demand for it, so great that nearly half our college students are pursuing technical and scientific courses; notwithstanding the desire of church institutions to control the education of their adherents, the technical education is still almost entirely in the hands of the State. The great reform in education which resulted in provision for technical courses must be followed by others, which will meet with the same obstacles, theoretical and financial; and the State must maintain a control of higher education, because it is essential to public prosperity that some colleges should do certain work which private institutions, either because they will not or can not, or for both reasons, are not likely to do in a satisfactory way.

In the second place, the people must control the higher education in order that the results of this education may be the property of the people. No one questions the wisdom of such a public institution as West Point. Yet abolish West Point and you will soon have, in private institutions, at least as satisfactory education in military science as could be obtained under similar conditions in agriculture or engineering. At the beginning, the great reason for West Point was the lack of good military schools, but now an incomparably more important reason is the necessity that the military training of our soldiers shall belong—not to them, as their property duly

bought and rightfully to be sold in any market—but shall belong to the nation, left as a trust in the keeping of its servants for the good of the people. The military skill of Grant, Sherman, and Dewey is not for them, but is the great possession of the whole people. The people have supplied it and it belongs to them. We recognize already, and in the future shall recognize more completely, that the same ideal ought to apply to the education and training of every man.

Every public service is a public trust, and with the enormous increase of the importance of industrial leaders, it becomes increasingly important that the public should assert in unmistakable terms its possession of the fruits of their education. For this reason it will become more and more necessary to regard education as a great public function. The time may come when the public will take into its control all great public franchises, but these united will not exceed in importance the possessions of the fruits of higher education. The motto of the early private colleges was, "For the church;" but the colleges of to-day must have the more comprehensive motto, "For the people."

This development of State education is quite in accord with the best aspirations of the old college, and even from the standpoint of our forefathers the new motto, "For the people" is better than the old one. The old was intended to teach the brotherhood of the church; the new motto teaches the brotherhood of man. The people give the educated man his training, and to the whole people he owes his service. If he is lifted above his fellows, he is lifted by his fellows, and so we have the best fulfillment of democracy in education, when the man of learning owes his learning, not to his wealth, but to the generosity of the State, and stands in the midst of the people, not as a superior, but as their champion, armed by their hands, to do valiantly, in their behalf.

Even the religious considerations upon which our fathers laid so much stress are not violated by the present conditions. There were—are there still some?—devoted and devout men who feared the State college and the State university as an irreligious force, but they are finding their fear unfounded. The teacher in the State institution is likely to be as real a disciple of the Great Teacher as he who does his work in the private or church institution, and the results, I believe, show that the religious well-being of the student is nowhere safer than in the State college. There conditions are the real ones of the world into which all students must go eventually, and real tests build up robust character. In the olden days our college system was divisive in its religious influence, and though it succeeded in building up the denominations, it was in constant danger of delaying the unity of Christianity. The State system, whatever may be its faults, is a power for Christian union. It brings together, under thoughtful and serious conditions, representatives of all lines of religious thought, and this is done even better than in outside life, because college conditions involve intimate acquaintance, ability, candor, and freedom from active alliances which embarrassment and bias the judgment. It is especially successful in upbuilding brotherliness of feeling and tolerance of opinion, which must be counted among the best of the products of the "Christian education." He who so uses that term "Christian education" as to exclude the great schools of the State, seems to show himself not fully possessed of the spirit of the cause which he represents. There is no better Christian education than the democratic, progressive, and brotherly work of the State university.

The statistics of the land-grant colleges show that their temporal interests have kept pace with the developments of the spiritual side. Such institutions exist in each of the States and Territories. Twelve States have two colleges each, one for whites and one for blacks. Massachusetts has an agricultural college and an institute of technology. In 18 States the land-grant institution is the State university. Of 50 institutions for whites all but 5 have been founded since the passage of the act of 1862, and most of them as the result of it. Of the State universities two-thirds enjoy the benefits of the act of 1862. It is one of the merits of State institutions that they furnish a college education at a low expense. This is to a great extent due to the liberality of the General Government and of the States. In every State except 7, tuition is free to residents of the State, and in these 7 the charge is very small except in one case, and this State provides a number of free scholarships. In nearly half the States, the land-grant colleges hold the first place among the colleges of the State for the number of instructors, the number of students, and for income. In nearly half the remaining States they are first in at least one of these items. They have 29 libraries of more than 10,000 volumes, 7 libraries of more than 50,000, and in the aggregate about 1,300,000 volumes. Forty-four institutions have more than 300 students each, 20 more than 500 each, 11 more than 1,000, and 1 nearly 3,500. The aggregate value of equipment, including endowment, exceeds \$59,000,000; or if we add the value of annuities capitalized at 4 per cent, the total income becomes

\$153,000,000. Eight institutions have a total equipment exceeding \$1,000,000 each, and averaging \$2,440,000, exclusive of capitalized annuities. In comparing these institutions with others privately endowed, it should be remembered that these receive from the United States alone, annuities amounting to \$40,000 each, representing a capital of \$1,000,000. These institutions received in the year ended June 30, 1900, from the National Government, \$1,894,000; from students, \$645,000; from the States, \$2,633,000; from invested funds, \$1,404,000; from miscellaneous sources, \$551,000; making a total of \$7,127,000. The largest regular income is \$468,000, an amount exceeded by only 7 colleges in the United States. Six other of these institutions have an income exceeding \$300,000, 15 in all have more than \$100,000.^a This record can be regarded as little less than marvelous, and promises that in the near future the higher education of the American youth will be largely in the charge of the State. This is made all the more probable from the tendency of endowments upon which private institutions depend to shrink both in capital and income, while appropriations from the treasury of the State have a tendency to increase with the increase of public wealth. What the near future will bring forth we dare not predict.

This record marks the author of the land-grant act as one entitled to a place among the greatest benefactors of the higher education. His immediate purposes, his ideals, and the results accomplished all stir us with inspiration. It is given to few men to inaugurate a movement of such scope and possibilities, and I doubt if it has ever been given to any other man to witness such an outcome to his endeavors as presented itself to Justin S. Morrill when he reviewed the great educational system of which he is the founder. Each year his memory is recalled in nearly three score institutions scattered over the face of the whole land, not one State or Territory missing in the great congress of universities and colleges which do him honor. He lived to see them marshal an army of 26,000 alumni and 29,000 students, officered by nearly 3,000 teachers—an aggregate greater twice over than all the military forces of the United States before the Spanish war.

Not least among the treasured assets of these institutions should be the memory of this modest man. No occasion like this should fail to invoke the help of his honored name or close without some honest tribute to his great work.

He helped to open, beside every river and in the shadow of every mountain, the heavy doors of opportunity, so that now and forever in unending succession the youth of our country find entrance into the land of learning and of usefulness; an army equipped by the people, from the treasury of the rich and from the scanty hoard of the poor, to achieve the victories of peace; and so receiving from all, they learn their duty to all, and shall make the institutions which they represent more and more truly throughout the years, as they are from the people, so also for the people. And this shall be the memorial of a great man. It is a magnificent monument which stands to the east of yonder Capitol, the world's most glorious temple of literature; but a greater memorial are 600 college buildings scattered o'er the face of our whole country. It is a great thing to have laid out the course of financial legislation during nearly half a century; it is one of the greatest things to have blazed out the paths by which half the college men of the future shall climb the heights.

^a These statistics are compiled from Bulletin 97, Office of Experiment Stations, and from the World Almanac and Encyclopedia for 1901.