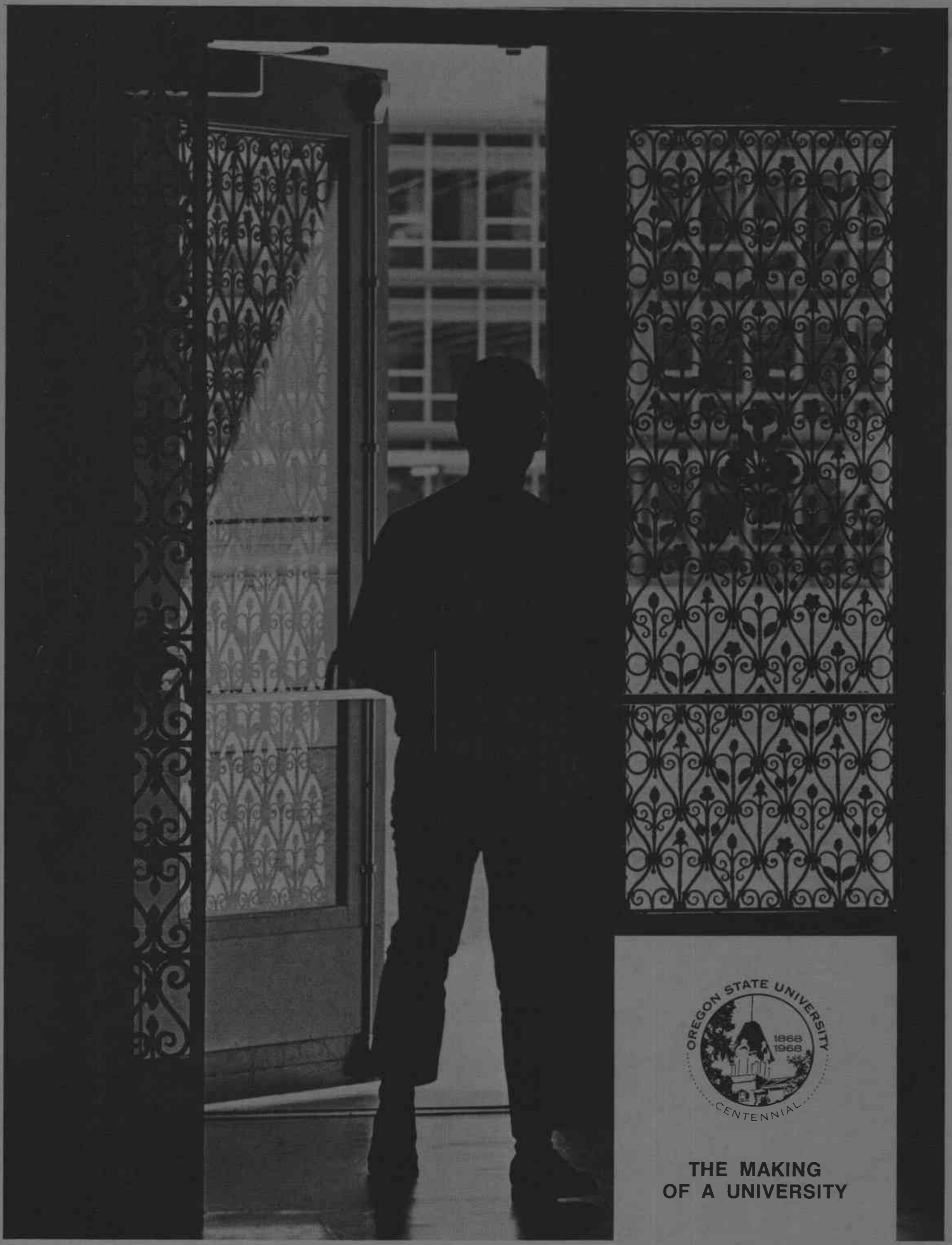

OREGON STATE UNIVERSITY
1868
1968
CENTENNIAL

THE MAKING OF A UNIVERSITY

THE COVER

Oregon State University is what it is today because its past makes it so. It is clear, too, that today's university will influence that of the future. The silhouetted grille is, for generations of students, reminiscent of the past, for it is in the foyer of Kidder Hall—formerly William Jasper Kerr Library, intellectual center of the campus. Beyond the young man is the new Kerr Library that symbolizes the future.

THE AUTHOR

Dr. James W. Groshong was commissioned by the OSU Centennial Committee in fall 1966 to write a narrative of the university as part of the institution's activities commemorating the centennial. This volume is the result of his work.

Groshong, a professor of English, was a logical choice as author of such a narrative because he is a native of Corvallis, an alumnus of OSU, and a faculty member since 1950.

His prose style was recognized in 1965 when Groshong's short story, "The Gesture," was selected as one of 15 best American short stories of the year. It was included in Houghton Mifflin's anthology, *Best American Short Stories, 1965.*

In his preface on page 4, Groshong explains the philosophy of the approach he has taken to his historical assignment.

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THE MAKING OF A UNIVERSITY 1868-1968

By James W. Groshong

William A. Finley
1865-72

Henry B. Miller
1896-97

Frank L. Ballard
1940-41

Benjamin L. Arnold
1872-92

Thomas M. Gatch
1897-1907

Francois A. Gilfillan
1941

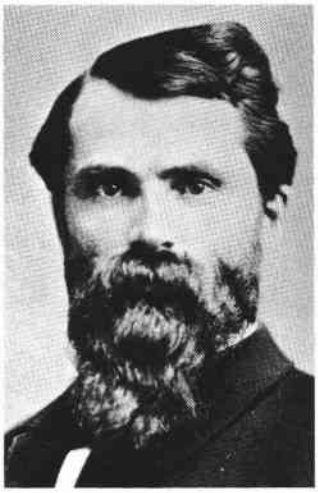
John D. Letcher
1892

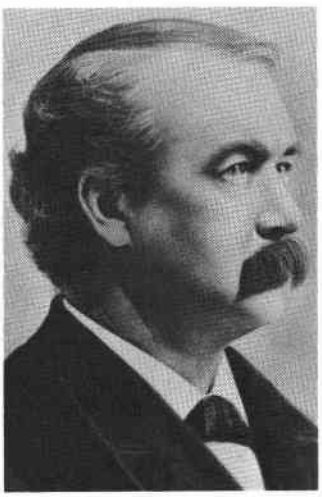
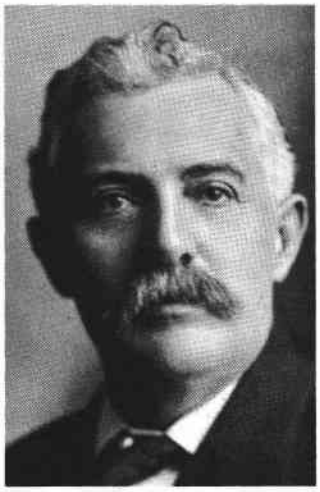
William J. Kerr
1907-32

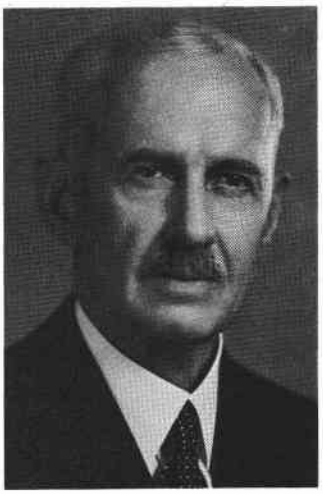
August L. Strand
1942-61

John M. Bloss
1892-96

George W. Peavy
1932-39




Achieving the posture of a centenarian suggests a certain state of venerability. As a part of our Oregon State University centennial observance, we need to remind ourselves of our foundations, of our origins, and of our heritage—as Professor James Groshong has done in this most fascinating narrative.

Professor Groshong points out that this is not a history—that it never was intended to be. We hope a comprehensive history of Oregon State University will come later. But the author has graphically portrayed the spirit—the "feel"—of the institution and some of the major influences along its 100-year journey.

An anniversary such as this provides unusual opportunities to recognize the contributions and services Oregon State University has made to the state and nation over the past century. Oregon State's history is rich with accomplishments and successes. The university's transition from its 19th century beginnings to its sturdy 20th century stature as one of the nation's important land-grant institutions has not always been easy. But it has been sound; and in remarkable accord with the pulse of the people of Oregon.

We are grateful, indeed we are genuinely indebted, to the hundreds of men and women faculty members, deans, presidents, and friends of Oregon State University who have had such important parts in the history and welfare of the institution. The future of Oregon State University, now beginning its second century, impels all of us in Oregon to recognize the imposing responsibilities that are ours in assuring and perpetuating OSU's distinctive educational, research, and public service functions. The university looks forward to its second century with great anticipation and bright expectations.

James H. Jensen, *President*

Preface

At the beginning of its second century, Oregon State University is a very large and complex organism. It has almost as many students as Portland had residents in 1868. Its faculty and staff together would make a town larger than Corvallis in the same year. Its physical plant covers hundreds of acres and its value in dollars runs into the tens of millions. The mass and variety of its work are implied in a remark by the Spanish philosopher Ortega y Gasset. The modern university, he wrote, is "a tropical underbrush of subject matters." Obviously, even a cursory accounting for the rise, growth, and achievements of OSU would require many volumes—one for each school, another for the Agricultural Experiment Station, another for athletics, and so on. Moreover, only a full treatment of this kind could be called an institutional history in any sense acceptable to the historian.

Fortunately for the present occasion, however, something of the meaning in a century of growth can be conveyed by briefer means. Before it is fully grown, an institution, like most other complex organisms, must pass through infancy and adolescence. In the process, it is strongly influenced by heredity, environment, and nutrition. One assumes that analysis of these formative influences can reveal a good deal about the essential character and personality of the organism. It is at any rate the thesis of this brief sketch that OSU at the beginning of its second century is what it is because it was to a considerable extent made that way by the Oregon environment, the needs of its people, certain pieces of creative legislation, and the work of individuals who held critical posts at critical times. Said another way, the thesis is that OSU would now be greatly different if these influences had been different.

The narrative attempts to trace these forces through the birth, infancy, and adolescence of the institution, 1868-1932, and concludes with an outline of the struggle toward maturity that culminated when OSC became OSU in 1961.

Unfortunately selection means omission. In the main it was impossible to deal here with individual schools beyond the noting of their origins. One necessary exception, however, is the School of Agriculture. For more than 60 years OSU, then OAC, was by law and by name the agricultural college of the state, and for most of that period its policies and planning were directly influenced by its agricultural mission. Some discussion of agricultural affairs in the earlier years is, therefore, imperative. The other significant exception is the School of Humanities and Social Sciences, the emerging of which was the critical event in completing the parts of the university.

It was also possible to deal in detail with only a few of the many persons who have left substantial evidence of their influence on the growth and direction of the institution. This is likewise unfortunate, for people in every sense make a university. But no brief treatment could even list all the noteworthy, much less give them the attention they deserve.

The same may be said for those who helped in the making of this publication. Departments and schools contributed chronologies. Several persons helped with highly useful advise and criticism. A sizeable committee managed the logistics. But the name at the top of the list must be that of Mrs. Harriet Moore, whose knowledge of the Oregon State University Archives and of local and regional history proved the most useful single resource.

Now a word more about Ortega. There is truth in his remark about "tropical underbrush," for universities live under relentless pressure to produce new courses of study as well as new and bigger research programs. But if his phrase suggests the rapid growth and proliferation of a university's work, it fails even to hint at a much more important fact: *that in the long run all that work is intended either to enrich the human intellect or in some way to advance man's physical welfare.* Much of it, of course, does both. During its first century OSU has had to find its own balance, its own adjustment, between these two functions. It is continuing to do so as its second century begins.

JWG

Corvallis
August 1968

Engraving of Corvallis in the 1870's as seen from a spot near the present Waldo Hall. From Wallis Nash's book, Two Years in Oregon.

In an environment only a generation removed from the primeval, the needs of Oregonians in the 1860's were simple and stark: food and shelter, literacy, a little comfort. Roads and railways had to be built, natural resources harnessed, goods bought and sold. By 1865 Portland was already by far the state's largest city, with a population of about 15,000. The rest of the state could produce hardly more than twice that number. Three fourths of the towns and nine tenths of the people were in the Willamette Valley, one of the world's great agricultural basins, where land and climate were among the nation's finest for general farming. There were vast timber lands, rivers teeming with fish, even mineral riches. But getting at these effectively would require decades, for Oregon was a big state, sparsely settled and virtually isolated from the centers of American civilization.

The people of Oregon appear to have understood early the importance of schools and schooling to the future of their state. Framers of Oregon's provisional government had taken verbatim from Nathan Dane's *Ordinance for the Government of the Northwest Territory* (1787) a portion reading "Religion, morality, and knowledge, being necessary to the happiness of mankind, schools and the means of education shall be forever encouraged." In his inaugural message to the territorial legislature in 1849, Governor Lane strongly supported the idea of public education, and in the same year came the first school law providing taxes for school support. During the next two decades several colleges and universities were established, among them Willamette University (1853); Pacific University (1854); and Sublimity College (1858), whose first teacher was Milton Wright, father of Orville and Wilbur Wright. Various academies and church-supported schools were active by the 1860's in Portland, Sheridan, Lebanon, Eugene, McMinnville, Albany, Soda Springs, Philomath, and Oregon City—these in addition to the one at Corvallis which was to become Oregon State University.

A community academy had been established at Corvallis in 1856, with John Wesley Johnson, later the first president of the University of Oregon at Eugene, among its early teachers. The academy became officially Corvallis College in 1858 and came under control of the Methodist Episcopal Church South in 1860. Just 10 years later* this small school was named the official agricultural college of the state of Oregon. The event is explained in part by a congressional act.

On July 2, 1862, Abraham Lincoln signed the Morrill Act, in which the key passage called for the establishment in each state of

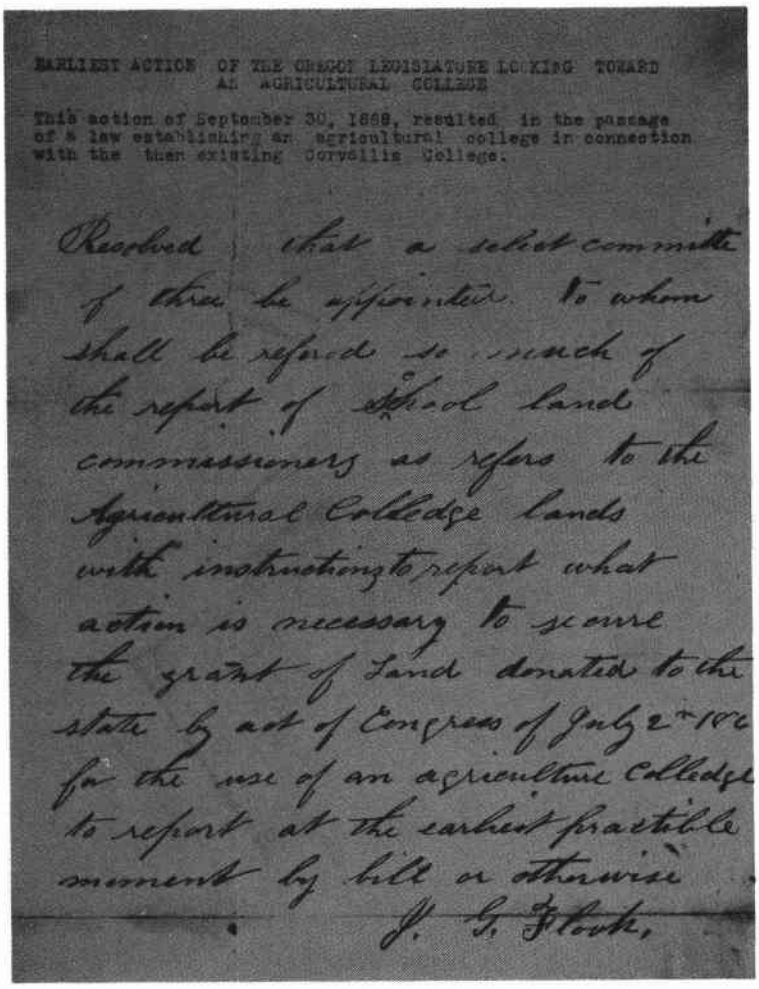
> at least one college, where the leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

Among other particulars the bill provided that each state was to receive 30,000 acres of federally owned land for each representative of that state in the Congress of the United States, the proceeds from these lands to be used to finance the ambitious educational program already noted. As its share Oregon got 90,000 acres.

The chief agent in the making of this unique legislation was Justin S. Morrill of Vermont, who seems to have been motivated chiefly by two forces: concern over private exploitation and waste of public lands which ought to be used for public benefit; and a profound conviction that the "industrial classes" named in the act should have more and better opportunities in education. Morrill was aided greatly by other able men. One was Jonathan B. Turner of Illinois, Yale graduate and professor of Latin and Greek. Another was Horace Greeley, who used the power of his New York *Tribune* to good effect in promoting the ideas of Morrill and Turner. Others behind the act were Ezra Cornell and Thomas Green Clemson, both of whom founded major institutions of higher learning.

The implications of this revolutionary legislation are somewhat hard to grasp today, perhaps because we live so fully in its consequences. In 1862 America had no universities which would deserve the name now. Although a number of institutions which were later to become great colleges and universities were already in existence, their curricula were derivative imitations of those offered for centuries, virtually unchanged, in Oxford and Cambridge. Henry Cabot

* Corvallis College was temporarily designated the agricultural college of Oregon in 1868, but the designation was made permanent in 1870.

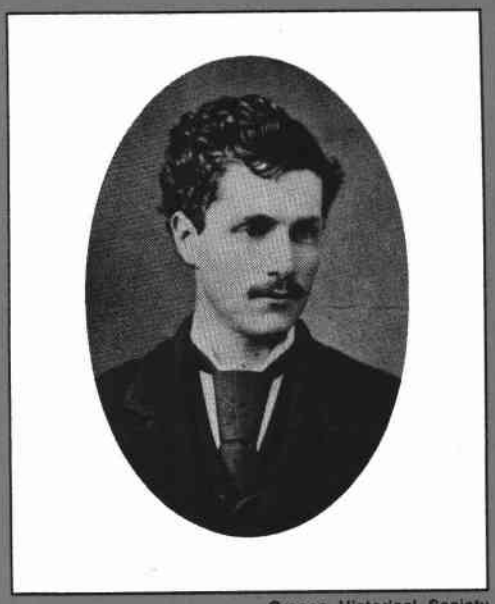


EARLIEST ACTION OF THE OREGON LEGISLATURE LOOKING TOWARD AN AGRICULTURAL COLLEGE

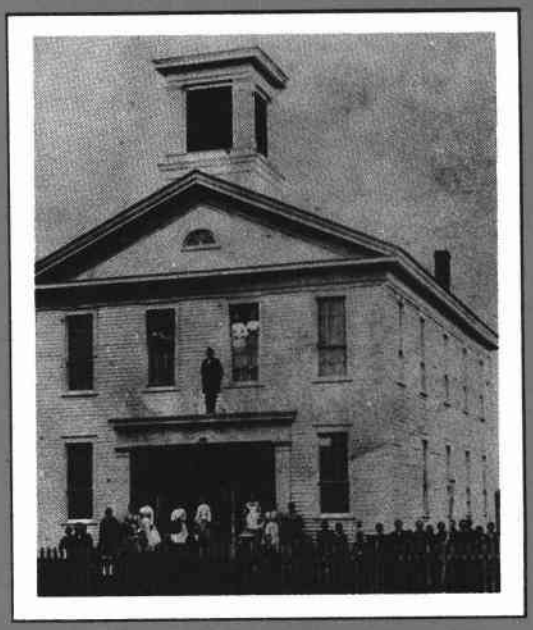
This action of September 30, 1868, resulted in the passage of a law establishing an agricultural college in connection with the then existing Corvallis College.

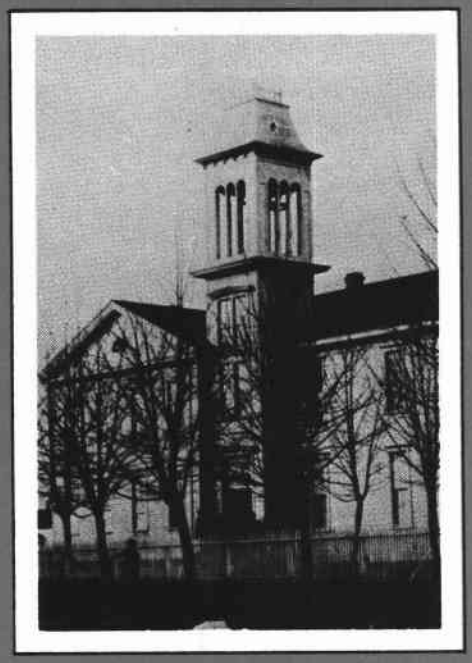
Resolved that a select committee of three be appointed to whom shall be referred so much of the report of school land commissioners as refers to the Agricultural Colledge lands with instructions to report what action is necessary to secure the grant of land donated to the state by act of Congress of July 2nd 1862 for the use of an agriculture Colledge to report at the earliest practible moment by bill or otherwise

J. G. Flook,



Oregon Historical Society





Top left. *Resolution by the Oregon Legislature, Sept. 30, 1868, is the first recorded action by that body looking toward the founding of an agricultural college. When the legislature designated Corvallis College as the agricultural college of the state of Oregon, the institution qualified for grants of land under provisions of the Morrill Act of 1862. The act provided land to be used by the states for endowing, supporting, and maintaining publicly controlled colleges.* ***Top right.*** *Wallis Nash, English lawyer, friend, and neighbor of Charles Darwin, first visited Corvallis in the mid-1870's and later became an influential regent of Oregon Agricultural College.* ***Above right.*** *Corvallis College as it appeared about 1865. Operated by the Methodist Episcopal Church South, it stood on Fifth street between Madison and Monroe.* ***Left.*** *Corvallis College was remodeled in the 1870's, enlarged, and fitted with a new tower. Presidents Finley and Arnold worked in this building, the latter moving his offices to the present Benton Hall when it was completed in 1889.*

Education for the "Industrial classes"

Lodge, for example, complained that when he entered Harvard as a freshman in 1867 he was exposed to instruction no different from that offered by the same institution a century earlier. The formal study of science was little known at Harvard or elsewhere.

The struggle of science to gain a place in higher education is too well known to warrant much review here. It had to storm an intrenched position held for centuries by Greek and Roman culture, religion, mathematics, philosophy, and logic. But by 1862 the pronouncements of English intellectuals like Mill and Bentham—and especially the debates of Matthew Arnold and T. H. Huxley—were widely known all over the western world, and pressure for change was everywhere.

One aim of the Morrill Act was to establish science and technology in American higher education; another was to make higher education available to the "industrial classes," people who need to work for a living. Beyond minimal instruction in reading, writing, and arithmetic, education was still a privilege of the professional classes and the well-to-do. But Morrill was the son of a blacksmith. Moreover, the man who signed the bill was himself a sometime rail-splitter who had taught himself to read.

Oregon officially accepted the provisions of the Morrill Act in October 1862. Yet it appears that the expiration date might have passed without further action if W. W. Moreland, an instructor at Corvallis College, had not been clerk of the Oregon Legislature during his vacation periods, and if B. F. Burch, a member of the board of trustees of the college, had not been president of the Oregon Senate. According to Mrs. William A. Finley, wife of the president of Corvallis College, it was Moreland who urged the legislature to act before it was too late. The first requirement was that a college be named the state's official land-grant institution. Corvallis College won out over Willamette University, the only other contender, and in 1868 was designated the agricultural college of Oregon "until other provisions be made." Two years later arrangement was made permanent.

When Corvallis College became a state institution in 1868, it was still housed in a frame building on Fifth Street between Madison and Monroe. Its offerings were not significantly different from those of a half dozen academies then operating in western Oregon. Greek, Latin, and moral philosophy dominated the slender curriculum. Freshmen were offered Sallust, Ovid, and Virgil among Latin authors, and Xenophon, Herodotus, and Homer among the Greeks. In the second and third years, Horace, Cicero, Tacitus, Juvenal, Sophocles, and Demosthenes were added. President Finley himself taught both Greek and Latin.

But as the state's agricultural institution the college was obliged to present instruction of the kind specified in the Morrill Act. Accordingly, a three-man commission on regulations and courses of study, appointed by the legislature, recommended a curriculum featuring mathematics, English, natural science, languages, military exercises, agriculture, and moral philosophy. But then as now curricular adjustments took time, and for more than a decade little could be done to carry out the recommendations.

Prospects were less than encouraging. In the summer of 1868, the college was deeply in debt with no resources available or in sight, though the acceptance of the mandate from the state carried with it the obligation to establish an experimental farm (it was donated by citizens of Benton County in 1871) with all appropriate equipment, largely to be paid for by the college itself with some support from the community. State support was slight and slow, and the college lived in fiscal crisis. Teachers often went unpaid and had to support themselves with other work —which probably explains W. W. Moreland's secretarial job with the legislature.

President Finley did what he could. He was an able and hardworking man. But Mrs. Finley found herself less and less able to tolerate the rainy winters of the Willamette Valley, and for her sake Finley felt obliged to resign in 1872 and move to California, where he died in 1912. Mrs. Finley lived well into her 90th year, dying in 1937.

Finley's successor was B. L. Arnold, a Virginian and Confederate veteran, who came to Corvallis after several years of teaching and a college presidency in the South. In his obituary, printed in the Corvallis *Gazette* for February 12, 1892, Wallis Nash, veteran member of the board of regents, observed that when

Oregon Historical Society

Top left. *The original Chemical Laboratory building, built in 1892, is now the paleontology laboratory.* ***Left.*** *A Willamette Valley farm such as this led Wallis Nash to describe the valley in the 1870's as a farmer's paradise where even the lazy could make an easy living. Insect pests and plant and animal diseases were not yet widespread in western Oregon.* ***Above.*** *An early sawmill, producing lumber that sold for $10 per thousand board feet.* ***Below.*** *The campus as it was 80 years ago. At extreme left is Fairbanks Hall (then Cauthorn, a residence hall). Waldo Hall was not yet built, its site still being occupied by the home of Wallis Nash. Before Waldo was begun, the Nash home was moved to a new site on Jefferson street.*

When I took charge

Arnold arrived in Corvallis in 1872 the college claimed, on legal grounds, the title of the state's land-grant institution, but that "it did not, perhaps could not, do much to justify the name." It became Arnold's job to justify the name. Except for a special course in agriculture, his education had been almost entirely in belles lettres, and he remained personally more interested in these than in scientific or technical subjects. Yet he thoroughly understood the nature of his assignment and set about achieving a college of the kind envisioned in the Morrill Act.

In his first report to the governor of the state, he began by summarizing the problems he faced in assuming the presidency:

> When I took charge of this Institution in the fall of 1872 I was met by three very serious embarrassments. First, the Institution was in debt in every department. This, I may remark, has been removed. In the second place, there was no money and scarcely any resources. In the third place, there was no chemical apparatus; there was a tolerably good apparatus for physics. Of course all was paralyzed. Nothing could be done till an appropriation was made. An appropriation of $5,000 a year was made on the 15th of October, or rather the bill appropriating that amount was approved at that date.

Then he described his efforts to organize the institution in accordance with the governing legislation. The first step, he proposed, was to divide the work of the college into two "departments" each consisting of several "schools." Nowadays, of course, the nomenclature would be reversed: the school would be the larger element, ordinarily containing a number of departments.

A Literary Department was to be divided into schools of ancient languages, modern languages, history and literature. The Scientific Department was to have schools of mathematics; engineering; practical mechanics and technology; physical science (including chemistry, natural philosophy, biology and agriculture); and moral science (political science, ethics, logic, social science). The lineaments of today's OSU are clearly visible in this simple curricular outline.

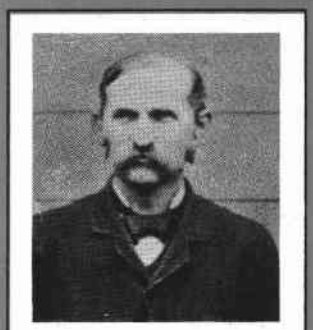
Simple and straightforward as it was, however, it was too big a bite for a faculty of four: Arnold himself and three teachers. The college could for the time being offer "only such subjects as are conditions of others"—a happy phrase embracing an idea deeply imbedded in the history of higher education in Oregon, though commonly expressed with more words and less elegance. Arnold proposed as the imperative subjects mathematics, languages, physical science, and moral science. History and literature, engineering, and practical mechanics and technology would have to await money and staff.

From this and other reports by President Arnold it is clear that he did not interpret the Morrill Act or the instructions of the legislature to mean that he was to supervise the building of a trade school or technical institute. He appears to have taken seriously those portions of the act which specify that classical and scientific studies other than those requisite to agriculture and the mechanic arts are not to be excluded from the land-grant institution; and that the aim was to "promote the liberal and practical education of the industrial classes." Said simply, with virtually no facilities and little support Arnold hoped to produce educated men and women.

The rest of President Arnold's first report makes good reading. In good presidential fashion he outlines both immediate and long-range needs of the institution—that for money exceeding all others, of course. Anticipating the Agricultural Experiment Station to come 15 years later, he explains the importance of agricultural chemistry, reports briefly on a soil study conducted by himself, and mentions that studies on wheat had begun. The research orientation of the university was hinted at already in 1874.

In his earlier years Arnold headed the Department of Moral Science and later taught English. He also appears at times to have taught physics and chemistry and, as already noted, conducted various agricultural experiments. But for sheer versatility—a quality much desired in all instructors at the college in the 19th century—B. J. Hawthorne of the language department probably had no peer at the time. Like Arnold a southerner, having served at Gettysburg and Appomattox, Hawthorne became the institution's first full-time teacher of language. But he had other obligations, as suggested in his contribution to the *Biennial Report of 1874-6:*

> I would respectfully state that I have actually taught classes [in English, German, French, Latin and Greek] for the last two years. This has compelled me to labor at least 10 hours a day. And in addition to all this work, I teach a class in Botany and also one in Fruit Culture.



Top left. *The first branch experiment station was built at Union in 1901.* ***Center left.*** *An early demonstration of agricultural spraying is conducted on campus (1912). Building in background is Benton Hall.* ***Bottom left.*** *A demonstration train is parked on a siding near Hermiston, about 1912. These trains carried elaborate exhibits of agricultural installations, equipment, and stock all over the state. Specialists from OAC went along to explain applications.* ***Top right.*** *Among the specialists who traveled with the demonstration trains was James Withycombe, director of the experiment station from 1900 to 1914. Here he shows students the points to look for in judging swine.* ***Above.*** *Early "county agriculturists" and the auto in which they crisscrossed Oregon.* ***Right.*** *In 1915, this white leghorn hen became the most famous chicken in the world. Named "Lady Macduff" she earned the OAC Agricultural Experiment Station a world record in egg production by laying 303 eggs in one year.* ***Bottom right.*** *This is the only known photograph of E. E. Grimm, first director of the experiment station, from 1888.*

For all this Hawthorne received $1,200 per year. President Arnold received $1,500. Both were paid in state warrants discounted 10 percent.

Arnold's experiments with white soil, reported in 1874, were the first official research conducted by the college, though the Agricultural Experiment Station itself would be another 14 years in coming. Meanwhile the state seemed to lack interest in scientific agriculture. In 1889 Edgar Grimm, a graduate of OAC in 1880 and newly appointed director of the station, reported in the first station bulletin that heretofore no more than $1,400 had been available in any one year for scientific work of any kind; and that the general apathy was likely a result of

> the newness of the country; its fertility; exceptionally fine climate . . . giving certainty to crops; freedom from insect pests; and the extensive tracts of grain and grazing lands to be occupied practically without cost.

Grimm is borne out by Wallis Nash, English lawyer, neighbor and friend of Charles Darwin, who made his first trip to Oregon in the summer of 1877 on behalf of a syndicate of English investors. With him was the noted naturalist H. N. Moseley, fellow of the Royal Society. What he saw led Nash to return to the valley later and to become a distinguished regent of OAC.

Good farm land could be had for as little as $5 per acre—and it was a rule of thumb that the farmer should expect to regain his investment in five years. There was so little of disease and infestation that a man could grow blightless wheat, wormless apples, potatoes without nematodes (Nash saw a crop uniformly six inches long and without blemish). Alfalfa stood waist high and produced three crops a year. For Nash an important indication of the country's prosperity lay in the fact that a traveler never packed a lunch. When he felt hungry he stopped at the nearest farmhouse, where he would likely be offered a dish of hot meat, mashed potatoes, a cooked fruit—usually applesauce—and quantities of hot bread fresh from the oven with cucumber pickles and assorted jams and jellies. The farmer had the assurance of plenty of water, mild winters, little risk of damage from storm or flood. He could build his home and farm buildings from good fir lumber at a cost of $10 per thousand board feet.

But Nash also found much to deplore. Living, for example, was almost too easy, Nash wrote:

Living... almost too easy

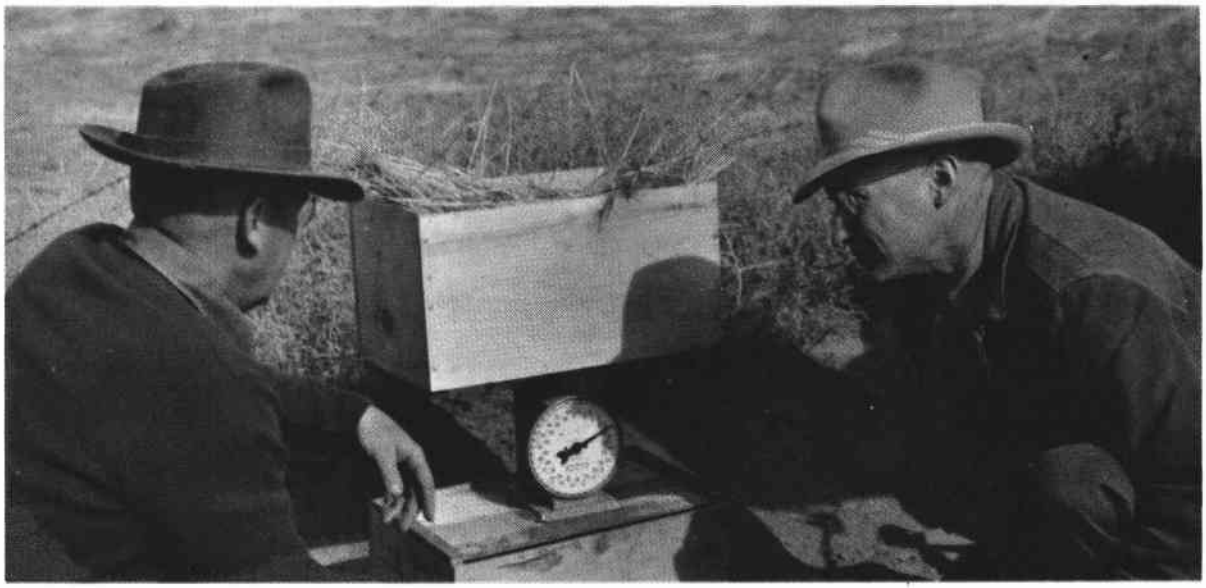
> Where idleness and slovenliness were evident, even there the richness of the soil protected the settler from the want he seemed so thoroughly to deserve.

It simply was not the English way, especially the insufferable prodigality. Deer were a staple food and so abundant that the hind quarters were used and the rest left for the buzzards. Portions of a hog which in Europe made human food were here given to the dogs. Worse, in a region which seemed to him ideal for general dairying, farmers imported their butter and cheese, preferring to feed their whole milk to the calves.

Nash saw clearly that without careful tending this richness and abundance could not continue forever. Wheat was the standard cash crop, and farmers customarily planted successive crops of it until the land wore out and then moved to cheap virgin land to plant more. What would happen when there was no more cheap virgin land—or when the economy shifted and wheat no longer meant a sure income—or when pests and diseases arrived, as they surely must? Unlike most of the farmers themselves, Nash saw an immediate need to diversify crops, restore the damaged soil, and give more attention to the scientific management of the state's enormous resources in timber and fish.

Wallis Nash knew what scientific agriculture was about. So did the president of the college. In his report for 1884 Arnold called attention to the work of experiment stations in Europe and noted that Congressional Bill 7498, proposing the establishment of experiment stations under federal auspices, had been favorably reported by the Committee on Agriculture and was now before the Congress. He recommended that the Oregon Legislature send a memorial to the Congress urging passage of this bill as highly favorable to the interests of Oregon. The legislature did not act on his recommendation, however, and two years later Arnold tried again. Bill 7498 was now known as the Hatch Bill.

The Hatch Bill became the Hatch Act of 1887, which established agricultural experiment stations in the land-grant institutions, Oregon's included. Like the Morrill Act, from which it largely derived, the Hatch Act provided liberally for both applied and pure science, its aim being "to promote scientific



Above. *E. R. Jackman, right, was a longtime member of the experiment station staff. Shown here with a co-worker, he became the leading figure in the production of grasses and legumes in eastern Oregon.* ***Right.*** *OAC forestry classrooms looked this way 40 years ago.* ***Bottom left.*** *A metal statue, known to a generation of students as "The Lady of the Fountain," is paraded triumphantly before a track meet crowd in 1922 after having been stolen and lost the preceding three years. Student body president and officers of the Class of 1922 are in the entourage.* ***Bottom right.*** *In less troubled times, the Lady posed serenely in a triangular plot on the lower campus near the present Eleventh street entrance.*

Helping to solve practical problems

investigation and experiment respecting the *principles and applications* of agricultural science." The act further provided $15,000 per year in federal funds for the support of each experiment station established under the act. Small as it was, this sum increased the total operating budget of the college by more than 50 percent. Federal support increased periodically thereafter.

President Arnold and his staff began at once to build a station, using as a basis the 35 acres of farm land given the college by the citizens of Benton County in 1871. The first bulletin, written by Director Edgar Grimm, appeared in 1888, and by 1890 station publications had already covered a wide range of subject matter, most of them having to do with helping the farmer to solve his problems: raising hogs; controlling weeds; irrigating pasture land; improving soils; selecting proper varieties of grains, grasses, fruits, vegetables; constructing useful buildings.

Because its responsibilities extended to the entire state of Oregon, the station had to look beyond the Willamette Valley across the Cascades to eastern Oregon, which was high, arid country unsuited to the kind of agriculture which flourished in the valley. Accordingly, with $10,000 furnished by the legislature, a branch station was established in 1901 at Union, Oregon, for the study of livestock management, and feeds, soil, and cash crops appropriate to the region. Subsequently 15 more branch stations* were set up for dealing with Oregon's widely dissimilar agricultural regions.

It is scarcely possible to summarize the effect of the experiment station idea in monetary terms. One attempt suggests that national farm income may have been increased by as much as ten billion dollars a year. Experimental work under the Hatch Act has produced new varieties of vegetables and fruits; improved strains of meat animals and fowl; new and more economical farming methods; new machinery and equipment. It has either eliminated or controlled most pests and weeds. In Oregon along with the Extension Service, the Agricultural Experiment Station has influenced virtually every farm home in the state, increasing incomes and making life healthier, more comfortable, and more dignified.

* Two experiment stations have been closed (Burns, 1954; Oregon City, 1963) and the station at Talent was consolidated with the Medford station.

The experiment station idea also had a direct effect on the development of American higher education in the latter 19th century and after. Money provided by the Hatch Act freed large numbers of scientists for full- or part-time research by providing support independent of teaching budgets. Where research, such as it was, had been largely a catch-as-catch-can enterprise, outside the established academic routine, it rapidly became a regular part of the university's work, co-equal with instruction. The Hatch Act and its consequences in station work had much to do with this development.

Once their experiment stations were established and functioning, it was inevitable that the agricultural colleges—in Oregon as elsewhere—would eventually have to discover a way of working with the farmer and his family in the home. The station made the first direct link, but the staff could not pursue research, publish results, and at the same time maintain direct personal relationships with the farmers. The farmers were busy people too, not much given even to vacations, and except for a handful who happened to live near the college, few could afford the time to make frequent trips to Corvallis for the information they needed. From the beginning much was done by mail.

Among others, Abraham Lincoln Knisley, experiment station chemist, produced such a voluminous correspondence that it is hard to see how he managed at the same time to continue his proper work. Many of his letters, some of them handwritten, were detailed and specific:

January 18, 1902

Dear Sir:
Your communication about fertilizers for onions has been referred to me. Soils best adapted for onions are usually rich in organic matter and generally respond to applications of potash and phosphoric acid. If it could be easily obtained I would advise using from one-half to one ton of wood ashes per acre broadcast. If this is not obtainable use muriate of potash at rate of 150 to 200 lbs. per acre. . . .

He often had to write with patience and restraint:

December 29, 1902

Dear Sir:
Your letter of Dec. 20 at hand. The sample of water in tin cans also came in due season. This last sample is not good for analysis as it came in *old cans*. Water should be sent in *new* jars or jugs. If possible the station would rather not get mixed up in any litigation as this line of work is outside of our legitimate investigations. . . .

OBSERVATIONS AND REGULATIONS.

Every student who enters this school is expected to be honest, to speak the truth, to obey all rules expressed or implied, to be polite and respectful in his bearing towards fellow students and the faculty, and to visitors and employes; to be prompt, attentive, and diligent in his work.

Contempt of authority by disobedience, insolence, or in other ways, will be followed by suspension or other punishment.

Defacement or damage of College property, gambling, drunkenness, fighting, obscene or profane language, indecency, the entering of drinking or gambling saloons, or any offense liable to criminal prosecution, will be punished by suspension.

Whenever the College life of any student is such that his influence directly or indirectly, is injurious to the work of the institution, he will be relieved from further attendance at the State Agricultural College.

Top. *Excerpt from 1895-6 college catalog.* ***Above.*** *Alpha Hall was the first residence hall at OAC. This photograph was taken about 1890. Among other duties, Dean Snell supervised the kitchen at Alpha, managing during the 1890's to keep board costs under a dollar per week per person. (Uniforms are explained on page 16.)* ***Left.*** *Professor George Coote instructs a class of young ladies in vegetable gardening, 1891-2. Coote had been Wallis Nash's gardener in England and came to this country with his employer, eventually becoming a professor of horticulture. At the extreme left is Martha Avery Fulton, wife of John Fulton, long-time member of the department of chemistry. Her family was among the first to settle in Benton county. Note brick facing of Benton Hall, surfaced with concrete in 1900.*

The "lady doctor" arrives

But despite the pressures imposed by the burden of work, Knisley, like others in the station, had a friendly relationship with many of his correspondents.

December 16, 1902

Dear Friend:
Your note concerning the hay has been received. . . .
P.S.: We are having warm weather and rain. Bulbs will soon be in bloom out of doors. The frogs are waking up and spring will soon be here. K.

The Knisley letters show in detail the enormous responsibility already assumed by the station for providing information to farmers. It also shows that many of the problems of the farmer could not be solved satisfactorily by mail. Attempts to work out this problem led eventually to the idea of the county agent, and thus cooperative extension was born.

A first step was taken in 1894, when the first Farmers' Institutes in the western United States were convened on the Corvallis campus. Similar institutes were organized throughout the state. Nationally, 2,700 institutes had attracted over 800,000 farmers and their wives by 1902. In subsequent years, institutes were greatly extended so that by 1914 they had attracted more than 3,000,000 people in every state and territory. These institutes and short courses led eventually to the establishing of the Cooperative Extension Service. The Oregon Extension Service was established in 1911, and the first county extension agents began work the following year in Marion and Wallowa counties. Two years later, the first extension specialist in home economics, Anna M. Turley, began touring the state and lecturing to women on food problems, nutrition, kitchen arrangements, and clothing.

In 1914 when the Smith-Lever Act gave major congressional support to extension work throughout the nation, Oregon already had county agents working in 15 counties; and with the increase of congressional appropriations in 1917, 10 more were added.

Boys' and Girls' Industrial clubs, established in 1911 as part of the original extension plan, became the 4-H Club, operating in towns and cities as well as in farm communities. Today club membership is divided almost equally among urban homes, suburban nonfarm homes, and farms.

The historic link between the station and extension is nowhere better illustrated than in the professional life of the late E. R. Jackman, who became agent for Wasco County in 1920. By 1922 he had established over 200 grass nurseries planted with 50 species of grasses and legumes. Within 10 years, information from this project had provided the basis for the seeding of over 200,000 acres of crested wheatgrass in the Columbia Basin—an incalculable boon to the stockmen of the region. Toward the end of his career Jackman began development of additional nurseries for the study of 137 varieties of alfalfa, and results of this work led to the planting of grazing-type alfalfas all over the Northwest. Not surprisingly, it was said that E. R. Jackman knew more ranchers by their first names than any other man in Oregon.

Sometime during the 1880's President Arnold concluded that fulfillment of the mission of the college required special studies for young women whose career was to be marriage, home, and family. The board of regents (which then outnumbered the faculty 13 to 8) agreed and set about finding an appropriate person to become professor of household economy and hygiene. Wallis Nash, by now secretary of the board of regents, became the principal agent in the search.

Just how the board learned about Margaret Comstock Snell is not clear, though an otherwise unidentified "F. B. Linn" is mentioned in the official record as having been involved in some way. Whatever the source, Wallis Nash wrote to Miss Snell at once. She was then at her home in California, where she had been associated for some 15 years with the Snell Seminary for young women founded by her family in Benicia but later moved to Oakland. The idea of a "lady doctor" did not immediately appeal to all the regents, but Nash prevailed and Dr. Snell arrived in Corvallis at the start of fall term 1889.

A sharp impression of the woman as she was at that time is conveyed in a letter to Thomas E. Cauthorn, treasurer of the board, from Mrs. Wallis Nash, who was in California with an invalid son.

She is a tall finely developed woman of 35 years [she was in fact 45], but looking older from the fact of her hair being prematurely grey.

Her manner is particularly pleasing and genial, and young people would, I should think, take very readily to her. . . . She seemed to me to be a woman of strong character not caring to walk in the common groove of either thought or fashion; and has evidently a warm, large heart anxious to help those under her influence to a better knowledge of practical things of her life as far as her working sphere permits her.

Top. *An ROTC detachment is drawn up in front of Benton Hall, 1889. If the uniforms suggest the southern confederacy, one must remember that Corvallis College was founded as a southern Methodist institution and, although it was officially a state school after 1868, it remained under the influence of southerners virtually until the turn of the century. Benjamin Arnold himself was an officer in the Confederate army.* ***Far left.*** *Margaret Comstock Snell as she appeared in 1907, the year of her retirement.* ***Left.*** *George W. Peavy, dean of forestry from 1910 to 1932 and successor to William Jasper Kerr as president, ready for a sojourn in his beloved timber country, 1915.* ***Above.*** *Bandstand is dedicated, 1910. In background, Agriculture Hall is still under construction.*

Is there a market?

This proved a shrewd and perceptive estimate. Margaret Snell indeed avoided the common groove. Her medical training having interested her chiefly in the preventive side of medicine, she believed profoundly in the salubrious effects of sunshine and fresh air. A life-long Episcopalian, she habitually prepared the local congregation (where Wallis Nash served as organist, choir director, lay reader, and Sunday school superintendent) for a more healthful Sunday service by opening all the windows wide, regardless of season. She carried with her a commodious wicker basket containing a folded man's handkerchief—carefully starched and ironed to show that because of rigorous adherence to her own principles she did not have to use it.

That a certain eccentricity could also creep into the performance of her official duties is suggested by a passage from her portion of President Gatch's report to the legislature for 1902.

> Experiments have been made with prunes to a limited degree. It is quite interesting to note by inquiry how few really eat prunes with a liking for them. A large percent of those who were questioned on the subject, admitted a distaste for the fruit in any form as a sauce. If they ate them at all it was with medicinal inclination. . . . It has set us to wondering where all the Oregon prunes are to find a market. Certainly they are not for home consumption for a small percent of Oregon palates crave this mummified fruit. We regret having to make this statement when prune growing is one of the industries of our state.

But such crotchets are inseparable from the indomitable dedicated, learned, humane woman she was. She devoted herself to banishing forever the idea that domesticity should mean dullness and drudgery for wives and mothers. Margaret Snell believed that being a wife and mother in a home was a great creative opportunity. She wrote in *The Oregon Countryman* in 1908:

> By all means, let the thoughts of women be widened by the living, vitalizing work on the farm where the mind is brought in direct contact with the ideas of God in every living thing. . . . A woman can have no higher work than to help create a Garden of Eden. . . . Here, [in a rural atmosphere] with a background of hills and sky, you can work out your destiny in clean air, unconfined by walls and ceilings. Here you may be . . . free . . . or a slave, according as you use your mental powers and spiritual force to ennoble yourself and those about you.

She believed strongly in the value of the manual skills—sewing, cooking and the like—but she also saw, with President Arnold, that mastery of these skills was not in itself the entirety of education. Far from it. In the 1902 report she wrote:

> The senior class work in aesthetics is of the highest mental and moral value. Here the student is no longer left to "wander about in worlds not realized;" here she learns to know herself and something of her relation to the forms about her in the natural world, and in the world of art; here she learns to recognize all form in the universe as ideas of God—in the world of art, as man's ideas, seeking expression of himself to his fellow men. This highest expression of his being is found in what is termed the Fine Arts—the arts of discourse, architecture, music, painting, sculpture, landscape, and occupy two terms' work. [*sic*] An acquaintance with each of these great avenues of expression is a matter of great importance to men as well as women, for it familiarizes one with the highest output of human power, and teaches the possibilities of the mind and spirit.

Knowing too that a class in cooking or sewing occupied the hands, but relatively little of the mind, she filled the gap with crisp gems of literary history and moral precept:

> Poor Oliver Goldsmith—known as Little Noll.
> He wrote like an angel, but looked like Poor Poll.

Or:

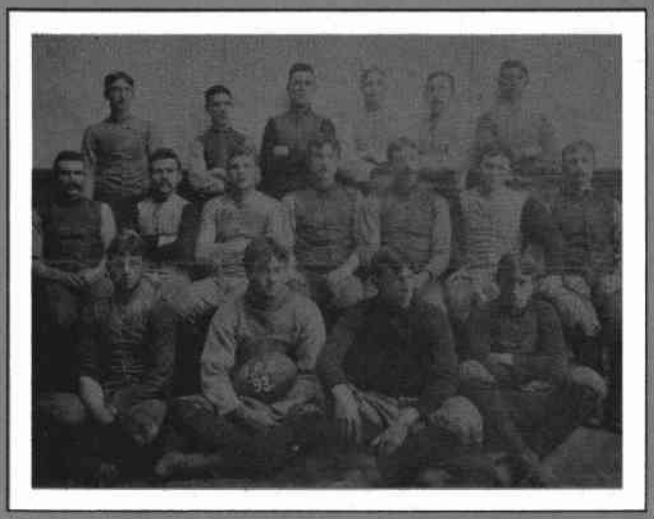
> When a young man and young woman are out for a walk in the country and they approach a fence, the young man should cross the fence first and walk straight ahead while the young lady gets herself across.

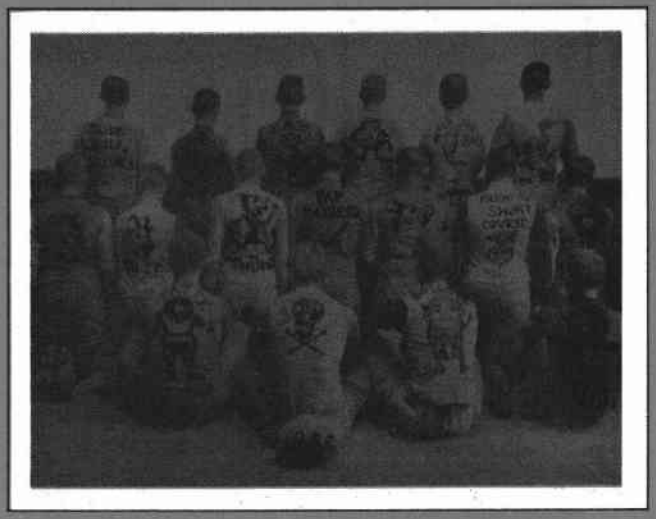
The first professional home economist in the far west, Dr. Snell had duties other than teaching. She also operated Alpha Hall, the girls' dormitory, and its kitchen. President Bloss reported proudly in 1896 that Miss Snell had reduced the cost of living in the girls' dormitory to less than $1 per week per person. Yet there is no record that any of the young ladies complained of being ill-fed or ill-housed. In 1894 she worked with the Village Improvement Society to raise money for planting shade trees around the public school buildings in Corvallis. Several of those trees are now to be seen at the west end of Central Park in Corvallis. Other "Snell trees" stand around the Arts Center on Seventh Street (formerly the Episcopal Church where Dr. Snell attended to opening the windows) and around her own home and apartments on Jackson and Monroe streets.

When she died in 1923 she had been in retirement, but full of projects, for 16 years.

The Morrill Act remains general where it might be specific, especially on crucial questions of curriculum and institutional identity. The Congress had given little attention to these matters, and even in 1862 Mor-

Oregon Historical Society





Top. Prune dryer and crew are reminders of a once-flourishing Oregon industry. But Dr. Snell puzzled over the market for the mummified fruit (see page 17). ***Second from top.*** *Early ROTC cadet band.* ***Above.*** *OAC's first football team was portrayed from front and back, 1893. Team was coached by Will Bloss, son of President Bloss.* ***Left.*** *Student foresters and pipe-smoking professor H. R. Patterson prepare for a field trip in their ancient truck, the only transportation available for many years.*

The Sorosis Literary Society, 1898. This group lived in the Nash house on present site of Waldo Hall.

rill himself seemed to have been unsure about them, though in later years his pronouncements became quite positive. "It was a liberal education," he declared in 1888, "that was proposed. Classical studies were not to be excluded, and, therefore, must be included." At one point he even contended he had not envisioned the establishing of agricultural schools at all, but rather schools of science to complement, though in no way to oppose or contradict, the work of the literary colleges of his day. "Obviously," he wrote, "not manual, but intellectual instruction was the object."

Morrill's hindsight notwithstanding, the act is ambiguous — but fortunately so: the ambiguity permitted broad, flexible interpretation. Beyond the requirement that agriculture, military science, and the mechanic arts be taught, the land-grant colleges were free to grow and develop largely as they determined to do.

Interpretations of course varied considerably, from college to college and even within particular colleges. OAC, for instance, began by interpreting the act rather broadly, along the lines of Morrill's retrospective judgment. Thus for Arnold the act seemed to call for a combination of liberal and scientific education to produce liberally educated men and women trained in useful specialties. By contrast, President Kerr tended to read the act as condoning only those liberal studies which were of direct use in the training of specialists, though he stressed continuously the importance of subjects like English and history.

His attitude, however, also signified changing conditions in the state. In the 15 years between the death of Arnold and the arrival of Kerr, problems of higher education had grown more and more complex. Other state-supported institutions of higher education were growing, and paying for them was becoming a major problem. Decisions about curricula and general policy in one institution therefore were likely to have effects in another. Moreover, dozens of agricultural colleges were emerging all over the United States, and OAC was inevitably influenced by what they were doing and was influencing them in turn.

But in the 1870's and 1880's there were no established models to follow in the making of an agricultural college, and OAC's liberal interpretation of the Morrill Act is understandable. The influence of its origins as a literary college was then still strong, stronger than that of scientific agriculture, which was almost too new to have a history. Arnold and his faculty were educated chiefly in language, literature, and history. The college was small; its influence, limited.

Lacking models, then, the agricultural college of Oregon had to construct an identity for itself. As in so many other matters Benjamin Arnold saw the issues clearly. In 1885 he outlined for the governor and the legislature three postures the college might conceivably adopt: liberal-arts college, technical institute, or trade school:

> There are, and always have been, three principal classes of people in the community, formed by their several views of Agricultural Colleges and their work. The first class regard these Colleges merely as institutions of learning, differing in no respect. . . . from other Colleges. The second class holds that they are, or ought to be, wholly technical. The third considers them as mere workshops for training boys in plowing, . . . stock-raising, carpentering, blacksmithing, etc.

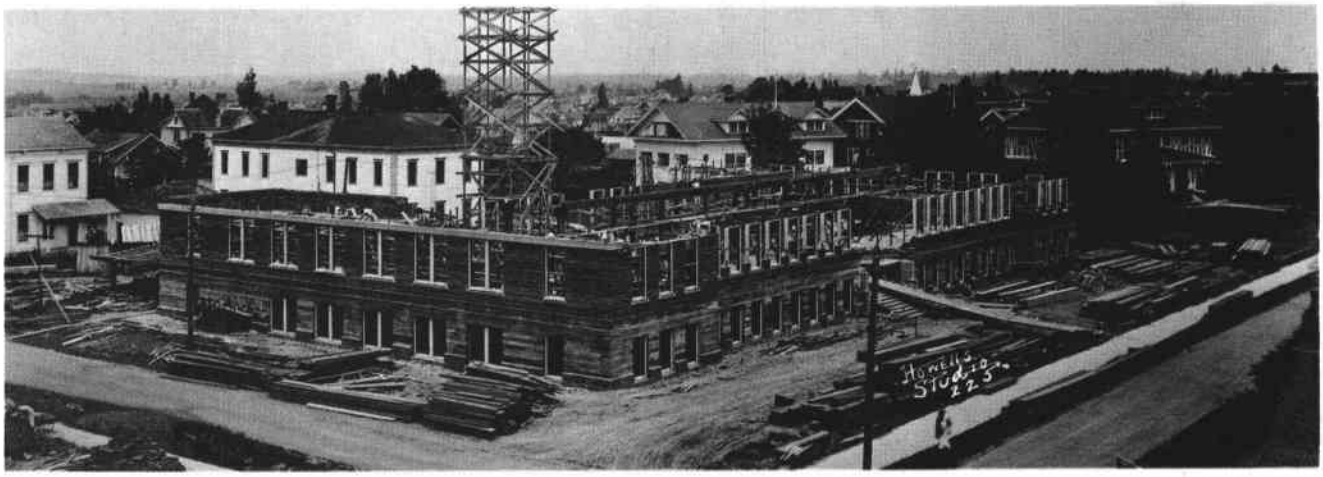
Four years later he returned to the subject, this time emphasizing its curricular aspect. Again addressing the governor and the legislature, he pointed out how very hard it is to set the curriculum for an agricultural college.

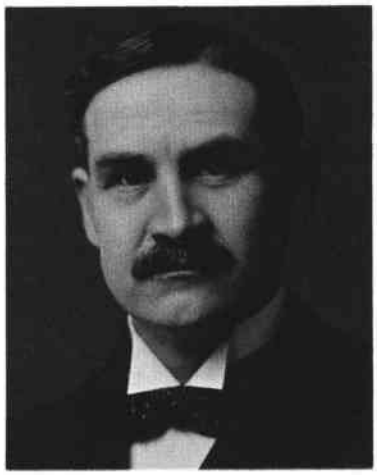
> The first difficulty arises out of the *extent* of the course. If on the one hand the curriculum be less extensive than that of an ordinary college there is a loss of dignity and respectability, and with it a loss of the best young men and women, precisely those most needful for the present and future prosperity of the college.

Here Arnold presumes a standard reminiscent of Matthew Arnold's famous definition of education as the being aware of "the best which has been thought and said in the world." Thus OAC's president considered the "best young men and women" to be those who, sharing this awareness, see life and experience in a rather larger and richer context than do those whose education is largely vocational. It is in this sense that the generally educated are "best" and "most needful for the present and future prosperity of the college."

But given the needs of the state, the conventional liberal-arts college does not answer fully either, said Arnold:

> If on the other hand the course be equally extensive with that of an ordinary college, it is claimed that students are rather trained away from the farm than to it; but in either case agricultural education suffers.





Top. *Commerce building, now Bexell Hall, was constructed in 1921.* ***Second from top, left.*** *This is the earliest photo of a pharmacy class. When it was made in 1903, pharmacy was still part of chemistry. The professor is C. M. McKellops, second person left of stove.* ***Second from top, right.*** *William Jasper Kerr in the middle years of his administration.* ***Above.*** *Dedication of the Memorial Union was in 1929. Maj. E. C. Allworth was manager of the building from then until he retired in 1963.* ***Left.*** *Journalism class of the early 1930's was taught by Professor Fred Shideler, now director of university relations.*

In an agricultural state the farms could not operate without farmers.

Going one way was injurious to the idea of general education; going the other way hurt farming. In rejecting either alternative Arnold implied a middle course: train specialists, but educate them too. As he well knew, this meant doing two jobs instead of one. The substance of this doctrine, implying the double task of education plus training, has remained with the institution for 80 years, and the problem of weighing and balancing the twin objectives is as difficult now as it was for Arnold.

Another curricular dilemma Arnold cites has to do with the problem of pure vs. applied science, which for practical purposes is the problem of intellect vs. human welfare as the scientist states it for himself.

> The second difficulty springs out of the relation between pure and technical studies; the technical depend on the pure for significance, and therefore come logically after the pure in order of time; hence, if the technical come too early in the course they cannot be understood; if too late they are never reached by the majority of students.

These remarks had far-reaching implications for the future of the institution. By "pure" studies Arnold meant those aiming at a basic understanding of how and why things are as they are and work as they do. By "technical" studies he meant those which use the principles of this basic knowledge for specific practical purposes. Biology is considered a "pure" study because it aims to impart basic knowledge about various forms of life, while a course in farm crops is a "technical" study because it uses biological principles for a specific practical purpose—the growing and cultivating of plants to sustain life. What Arnold was really writing about is the working difference between science, which is concerned chiefly with knowledge, and technology or applied science, which is knowledge devoted to solving problems.

With the growth of the Agricultural Experiment Station, the college had to decide where to put the emphasis: how much time, money, and energy should go to "pure" research—the accumulation of basic knowledge—and how much to "applied" research—the solving of problems? The language of the Hatch Act left both "principles and applications" within the province of the station. But from the outset the small staff was inundated with requests for practical information, and necessity determined the choice.

Balancing "pure" and "technical" studies

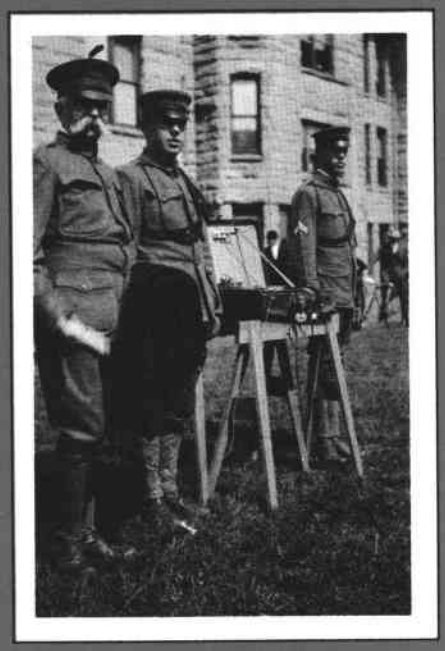
As Wallis Nash had foreseen, farming by ear had its early limitations. Pests, plant and animal diseases, mismanaged soils, and marketing problems were already facing Oregon's farmers when the station began its work. Whatever the latitude offered by the Morrill and Hatch acts, Oregonians generally, including their elected representatives in government, tended to regard research in their agricultural college as primarily a problem-solving function.

There was also the paramount question of money, of which Oregon, and consequently OAC, had far less than it needed. Research, and especially pure or basic research, is a costly and often high-risk investment. Therefore, research support has always tended to favor projects most likely to produce relatively rapid and assured results: projects in animal breeding, soil improvement, sprays and pesticides, and the like. Seen strictly as investment, moreover, these have paid off over the years at a rate which can only be described as phenomenal.

Nevertheless, the principle stated by Arnold—that pure studies must come first—remained inviolable. Applied research, problem solving, requires continuous replenishment of the fund of basic information. Today, for example, solution of the practical problem of cancer awaits the further discovery of basic information about the behavior of cells in the human body.

Even when pressure to deal with immediate needs has been greatest, therefore, OSU's commitment to problem solving has never been and could never be total or absolute, partly because of the nature of research itself.

In practice, the difference between pure and applied research is often hard to distinguish. A project may have a strictly practical objective and still produce basic knowledge. For example, a food preservation experiment using radiation to eliminate decay-causing organisms in meats uncovered a previously unknown substance highly resistant even to powerful doses of radiation. Applied research thus made an important contribution to basic knowledge. It can go the other way too: pure research may, and very often does, produce eminently useful information for solving problems. A scientific analysis of a small marine organism for strictly "pure" purposes almost accidentally revealed that varying the kind and inten-



Top. *This alumni reunion was in the late 1920's. Dr. and Mrs. Kerr are standing right rear. Tents were meeting places for various classes.* ***Center, left.*** *A laundering class in 1911.* ***Center, right.*** *Ellsworth Erwin, campus mail carrier, set a record for continuous employment by the institution that still holds: 55 years.* ***Far left.*** *A class in camp cookery, 1917.* ***Left.*** *Sgt. Cyrus Dugger (with mustache) demonstrates ROTC field communication.* ***Above.*** *Early typing class.*

More than a farmers' school

sity of light could force the organism to manufacture several times its natural proportion of fat. This is a contribution to basic knowledge, but it also suggests the possibility, at least, of obtaining vast quantities of vegetable fat from ocean water to help feed the many millions of undernourished people in the world. In much scientific research the distinction between pure and applied is clear only in the intent of the research and in the scientist's attitude toward what he is doing.

As President Arnold understood very well, an institution of higher education must do both kinds of work. The question is not which one, but how much of each.

Meanwhile OAC was the state's agricultural college by law, and just 10 years after Arnold's review of the problems of institutional identity President Gatch declared before the board of regents:

> Our college should forever remain as it is—emphatically, the farmers' school.

It did not, of course, remain a farmers' school. But in Gatch's time it was that in at least two senses: it was so named by Oregon law, and it served a population of which about three fourths still lived on farms. But the institutional doctrine of education *plus* training applied to agricultural students as well as to others. During the Gatch administration, for example, students in agriculture were required to study the English language, English literature, speech, history, drawing, political science, and psychology, with additional electives available in language, literature, and science. Of a faculty of 26, moreover, at least a third taught subjects having no direct connection with agriculture, engineering, or related fields. Gatch himself taught psychology and economics. Professor Berchtold, dean of the college, taught history, modern languages, and civics. (At various times in his long tenure he taught not only history and languages, both ancient and modern, but also the English language, English literature, drawing, music, and physics. He was also for 30 years head of the English department.) Others taught drawing, photography, elocution and physical culture, and music. Courses were regularly offered in the history of civilization, as well as in Greek and Roman, medieval, modern, and ancient history. The English department taught etymology and syntax, grammar and mechanics, rhetoric, composition, English literature, and American literature. "Elocution" included courses in voice culture, diction, and general speech. Graduating seniors were required to present theses.

Furthermore, liberal studies were being pursued in ways not revealed by the catalogs of the time. At least a third of Margaret Snell's seniors chose for their theses subjects in literature and history: "The English Drama," "The Development of Chivalry During the Crusade" [sic], "Literature of the Pacific Coast," "Influence of Epochs on English Literature;" "Emerson's Place in American Letters;" "Representative Writers of the Elizabethan Era;" "Important American Novelists of the Last Half of the Nineteenth Century," and so forth.

If a college education is not only an accumulation of courses and credits but also one's total experience of a college or university and the people in it, then at the turn of the century OAC offered a substantial general education comparable to that available in many a liberal-arts college. Students also had access to broadly educated and stimulating faculty like Berchtold, Snell, and later Mrs. Kidder, whose influence, both inside and outside the classroom, was great. OAC was a farmers' school, indeed, but it was also a good deal more than the phrase implies.

Yet social, political, and economic complexities made a fixed stance impossible, and in the years immediately after the retirement of President Gatch in 1907, the evolutionary process quickened.

OAC's new president, though only 34, had already headed Utah's two major institutions: the University of Utah and his alma mater, the state agricultural college in Logan. When he left in 1907 for his new assignment in Corvallis, the Logan newspaper praised him as Utah's most distinguished educator. He rapidly acquired a similar reputation in Oregon.

It is difficult to assess briefly the influence of William Jasper Kerr on the growth and development of the institution. Every president to some extent stands on the shoulders of his predecessors, and Kerr was able to draw on a considerable bank of thinking and action left behind by men like Benjamin Arnold. Moreover, Kerr arrived at a time when conditions in the state were favorable for rapid expansion, as they had not been under Arnold or even under Gatch. But it is none the less true that the college and the state had never before had the benefit of

such a combination of skill and energy as was exemplified in the new president. In his first year he established four major schools: Agriculture, Engineering, Home Economics, and Commerce. Subsequently, except for Humanities and Social Sciences, he supervised the creation of all the major schools which now make up Oregon State University: Forestry (1913); Mines (1913, incorporated with Engineering in 1932); Pharmacy (1917); Education (1918); Health and Physical Education (1931, designated a division in 1932); and Science (1932). The present School of Business and Technology (1943), though analogous in many ways with the original School of Commerce which was transferred to the Eugene campus in 1932, is legally different from it. Nearly all the subject matters within these schools had been taught by the college previously. But it was Kerr who organized them in patterns consistent with those to be found in major institutions elsewhere.

In his quarter century as president he supervised the building of most of the major buildings on the campus, among them the Men's Gymnasium, the Women's Building, Home Economics, the library (now Kidder Hall), Graf Engineering Laboratory, Dryden Poultry-Veterinary Hall, Covell Hall (physics), Production Technology (industrial arts), the Armory, the Memorial Union, and others. In 1907 he came to a 225-acre campus worth $229,000. In 1932 he left a 555-acre campus worth $7,500,000. His first annual budget totaled $88,000, his last over $2,000,000.

Pages could be filled with such data. But they would reveal little of the missionary zeal touched with austerity which was his temper, a temper which quickly permeated his faculty and became a moving force in the growth and expansion of the college. Something of both man and spirit is suggested by portions of his speech before the presidents of the land-grant institutions in 1931:

> That land grant institution . . . that most fully surrenders itself to the state and nation in a spirit of service, that institution shall truly be greatest among us.

For social and semantic as well as academic reasons, this doctrine would not be framed in these words today. Neither Kerr's use of the term "service" nor his idea of surrender readily fits a modern faculty's conceptions of personal and professional dignity.

Top. *OAC track team, 1902. Coach and trainer was W. O. Trine, second from left, back row. Next to him, with medals, is S. L. Burnaugh, who died in August 1967, age 91.* ***Center, left.*** *Ida Evangeline Kidder, about 1918. She founded the OAC library.* ***Center, right.*** *Electrical engineering laboratory, 1928.* ***Above.*** *A laboratory session in science probably about 1920 or earlier.*

Kerr: great circles of helpful service

But now is not then. Kerr's zeal and the support of a faculty believing with him greatly enlarged the scope and influence of the institution. His own summary, also from the 1931 address, states the case:

> Great circles of helpful service . . . radiate from these centers—service that has changed deserts into gardens, redeemed abandoned lands, evolved new and more profitable crops, multiplied production, created new industries, conquered disease, destroyed pests and plagues, harnessed natural power and thereby increased human efficiency, guided agriculture and business, made science the handmaiden of the housewife as well as of the captains of industry, revealed the processes of nature, and put into the hands of man the tools that enable him to work with natural law in shaping his own destiny and that of his country.

With his doctrine of service and selflessness he obliged a still hesitant state to accept, then to affirm, and finally to celebrate the advantages created for it by its land-grant college.

In its continuing adjustment between the demands of the intellect and those of human welfare, the college under Kerr increased the balance in favor of the latter. Even before the reorganization of 1932, Kerr habitually described the institution as "a technical college emphasizing applied science." Its development in this direction was greatly influenced by social, political, and economic forces. Although still small, the population of Oregon was growing, and an ever-greater proportion of its children were going to college. This meant a continuing strain on the state's financial resources. When Kerr became president the pressure was beginning to be noticeable, and two years later, in 1909, the state took its first major action to coordinate its facilities for higher education by creating the State Board of Higher Curricula to govern the subsequent development of OAC and the University of Oregon in Eugene. Its aim was to continue the broadest possible range of educational opportunity at these two major institutions but at a cost within the resources of the state. As shown above, until 1900 or thereabouts OAC had continued to offer a considerable range of liberal arts subjects. But with its liberal arts university only 40 miles away the state could no longer afford unrestricted duplication. In an early decision, therefore, the board confined studies in engineering and commerce to the Corvallis campus and major work in the liberal arts and related subjects to the University of Oregon in Eugene. This was the first in a series of actions to make the curricula of the two schools separate and distinct.

In 1929 the Board of Higher Curricula became the Oregon State Board of Higher Education, with jurisdiction over all institutions of higher education in the state. Boards of regents for the individual schools were dissolved. The new board had immediately to deal with the crisis created by the economic depression. Only drastic measures would help. For a time it seemed that only one of the major institutions could survive. A proposal to consolidate the two institutions on the Corvallis campus had considerable support.

After long study the board emerged with a plan which in effect was an extension of principles established by the Board of Higher Curricula. The new plan proposed "to eliminate unnecessary duplication of equipment, courses, departments, schools, summer schools, extension activities, offices, laboratories, and publications." All this required extensive rearranging of people and facilities, and by 1932 the changes were completed. Oregon State College (the name changed by agreement in 1932, though not officially until 1953) became the state's center for all major work deriving from the biological and physical sciences, and the University of Oregon the center for major work in the liberal arts and related fields.

Despite the travail caused by the changes, the reorganization had the desired effect. The two institutions most critically affected, along with the others in the state system, survived and continued to do productive work.

Liberal studies at OSC as a consequence were considerably diminished, but they did not disappear. William Jasper Kerr had always stressed the importance of liberal studies in the land-grant college. As early as 1905, when still president of Utah State Agricultural College, he declared in an address before the national convention of the Association of American Agricultural Colleges and Experiment Stations:

> The modern demands in education forbid that any State institution of higher learning should be confined to a narrowly prescribed course of instruction. Along with the distinctive work in any of the technical courses, the demand for a liberal training is imperative and cannot be ignored.

In his biennial report for 1906-8, however, he made it clear that in a land-grant institution the liberal arts should have a limited, largely utilitarian function. He cited yet again Morrill's provision for "liberal and

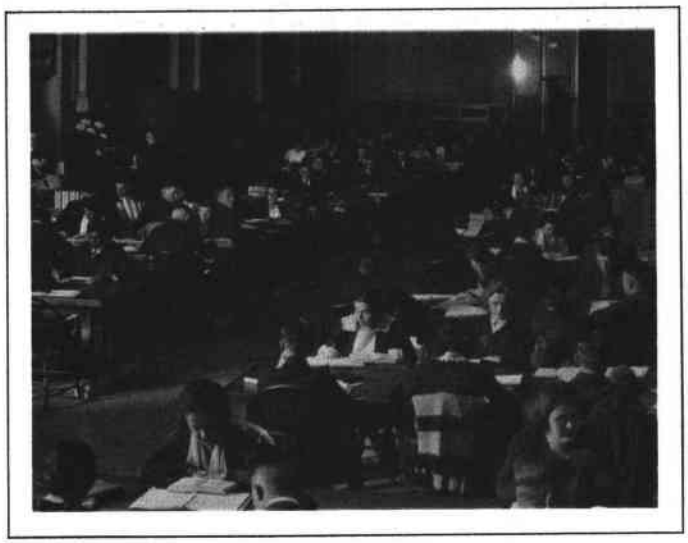
practical education," but saw these as working together "to apply science in the industries of life." For him, liberal studies in an agricultural college meant:

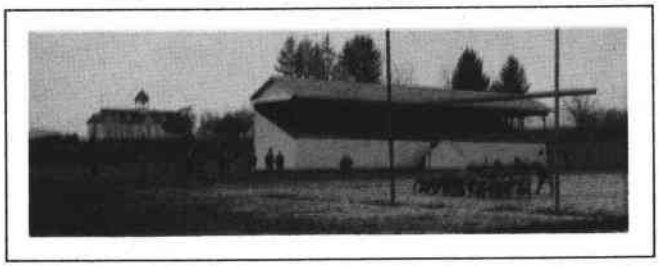
> . . . sufficient English to give a reasonable degree of accuracy and facility in the use of the mother tongue and some appreciation of standard literature; the history and political science necessary for a comprehensive understanding of the origin and development of industrial, political and social institutions; and such knowledge of modern language as may be needed to keep in touch with the scientific development of at least one foreign country.

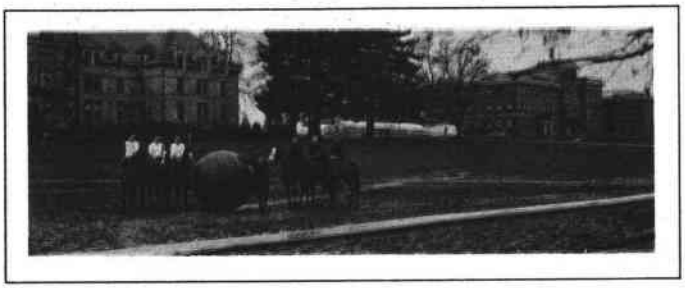
Kerr's convictions made it easier for him, and thus for the institution, to accommodate the reorganization of 1932. Yet he was none the less vigorous in promoting the cause of general education in ways which conformed with his own views and the requirements of the state. Among these was developing a good library.

During its first 40 years OAC had no library worthy of the name. Instructors had their own collections, some of them—those of Berchtold, Snell and Horner for instance—substantial. But the concept of the library as an information and research center for undergraduates as well as graduate students and faculty was not common at the time, even in older and larger institutions than OAC. Most of the small income of the college had to be expended for salaries, buildings, and equipment. Students had to have chairs to sit on, roofs to keep the rain off, and at least a minimum array of equipment with which to learn the rudiments of physics and chemistry. For the first 40 years, books meant chiefly textboks, and these were purchased by the students themselves.

The present library of over a half million volumes appears to have had its beginning in the Corvallis Library Association (CLA), which, late in 1872, incorporated for the purpose of organizing a general library. The association issued stock at $50 a share in gold coin. It disbanded in 1880 and turned its collection of 605 books over to the Adelphian Literary Society, a student group at OAC. But OAC had no satisfactory place for the books and no librarian to look after them, and as a consequence many volumes in the original CLA collection disappeared. The college itself provided no money for the purchase of books, but the Adelphian Society assessed each of its members 50 cents a month for book purchase.







Top. *Main reading room in library about 1921.* ***Second from top.*** *Famous "pyramid" play used by OSC "Ironmen" to stop placekick. Man at top is Clyde Devine. Opponent here was University of Oregon.* ***Third from top.*** *Bell Field grandstand, 1902.* ***Above.*** *Polo practice with pushball, 1926. Polo was flourishing sport at Oregon Agricultural College in 1920-30.*

She opened the world

By 1885 the Adelphian Library contained a thousand volumes, all of which were housed in a room five feet square in the college building standing near the present city hall on Fifth Street between Madison and Monroe streets.

In either 1887 or 1888 the library was moved to Room 36 of the new administration building on the hill, now known as Benton Hall. Again, for lack of systematic supervision, boxes of books lay in a hallway for months, and again many volumes disappeared. In 1890 official ownership of the library was transferred to the college, though its operation was still entirely in the hands of students for the next eight years. Student librarians, paid by the hour, were apparently given no instruction in librarianship. Their chief obligation seems to have been to do what they could to retain possession of the books for the library and keep some semblance of order in the reading room. At least one member of the faculty was unaware of the library as late as 1893.

But books continued to accumulate in Room 36, so many that (according to a possibly apochryphal story) their weight caused plaster to fall from the ceiling of the chapel immediately below, narrowly missing President Bloss. This stark evidence, presented so abruptly to the chief officer of the institution, seems to have brought immediate action. The library was removed to larger quarters.

The college was now growing rapidly, and it was becoming increasingly apparent to both faculty and administration that better management of the library was imperative. Consequently a full-time, though yet nonprofessional, librarian was appointed for the beginning of the school year 1899-1900, and thereafter the library remained a full-time concern. The first professional arrived in 1908: Ida Evangeline Kidder.

Mrs. Kidder, though already 53 years old, had graduated from library school (University of Illinois) just two years earlier. But she knew her business thoroughly. After saturating herself with the necessary information, she began a 12-year campaign for more books, more staff, and better housing. To say that she was successful hardly does her justice. As sole librarian for the college, she came to a library of 4,284 volumes housed in a single room in the administration building. She left a new library building of 37,000 square feet (now Kidder Hall) staffed by nine professional librarians, and 35,000 volumes.

If her professional contributions were great, her effect on the personal lives of students was even greater. Like Margaret Snell, she saw her professional work as a means of getting at the moral, spiritual, and aesthetic centers of life. Her favorite authors were Emerson and Shakespeare, her favorite work the Bible. For several years, in rooms in Waldo Hall, she conducted an informal seminar in great works for the benefit of all who wished to attend. Many did.

When she died on February 29, 1920, following a cerebral hemorrhage, ceremonies appropriate to her place in the affections of the student body were arranged, this despite the ban on large public gatherings because of the influenza epidemic raging at the time. Her body lay in state in the library building on March 2, the day of her funeral, with honor guards at the casket. Classes were canceled from 10 to 2. Her funeral train included a faculty honor guard and the college band played a dirge.

Years later, a former student from India, speaking of Mrs. Kidder, said, "She opened the world to me. She showed me all the world akin." Many others could have said the same thing.

Another action during the middle years of the Kerr administration was especially significant for general education and for the future of the institution. In 1918, all courses in general instruction were for the first time assembled in an administrative unit under their own dean, the first of whom was the distinguished scientist E. J. Kraus. For some time departments of English, languages, social sciences, and natural sciences had existed as independent departments outside the schools or in some cases inside the technical schools. First named the Division of Service Departments, the name was changed in 1922 to the School of Basic Arts and Sciences though the disciplines within the school did not have the independent professional status which would otherwise seem implied by the name. With the reorganization in 1932 the school was re-named the Lower Division, offering freshman and sophomore courses in the liberal arts in certain basic subjects to parallel those offered at the University of Oregon.

The unification of the liberal arts in 1918 formed

the nucleus of the School of Humanities and Social Sciences, though it was 40 years in the making.

After supervising the reorganization of the institution as directed by the state, William Jasper Kerr resigned as president, having completed exactly 25 years in that position. Some evidence of his reputation is suggested by the fact that in 1932, after a quarter century as the chief officer on the Corvallis campus, he was appointed the first chancellor of the Oregon State System of Higher Education.

With the departure of William Jasper Kerr, the college completed a major volume of its history. The next cycle of events ended in 1961 when the college became a university, a culmination few in 1932 could have anticipated. Even today it is hard to see the period whole and clear. For while the institution suffered the protracted pains of change, principles and issues sometimes became so intermixed with temperament and self-interest, both individual and institutional, throughout the state, that one cannot yet with any confidence propose final judgments. Another generation will no doubt be able to bring to these perfervid times the sober analysis they deserve. Meanwhile the official records afford at least a bare outline of what happened:

In 1932 OSC was officially a college of science and technology with a strictly practical objective: to train people to do the world's work. There was no denying either the quintessential importance of this mission or the readiness and competence of the institution to perform it. After two thirds of a century of development, its armament, even when inhibited by depression, was formidable.

Under the leadership of its long-time dean, George W. Peavy, who succeeded Kerr as president of the college in 1932, the School of Forestry was already established as one of the two or three finest in the United States. The college had been training engineers continuously since 1891, and the School of Engineering was becoming nationally known in all the major branches of the field. Home Economics was drawing students from all over the world. For 30 years OSC had been the state's only agency for the training of pharmacists—as it remains today. The School of Education was producing a substantial share of the state's grade and high school teachers.

Top. *Heavily wooded section of McDonald Forest, where OSU student foresters have done their field work since 1937.* ***Center, left.*** *Student surveying team on lower campus, 1931.* ***Center, right.*** *Prof. Jacob Jordan at controls of the 500-watt transmitter he built and operated as KFDJ, 1925. Station later became KOAC.* ***Above.*** *Pre-war OSC flying club.* ***Below.*** *OSC war bond campaign, WWII.*

Toward being a university

Even the brand-new School of Science, which was by definition concerned more with knowledge than with training, had already acquired through inheritance the means to provide basic work for students in the technical and professional schools.

And so on. Training in all of these disciplines was of the highest importance to the state, and OSC was well equipped to provide that training. Yet, as the period 1932-60 was to show, restricting the college to work of this kind posed serious problems, both for the institution and for the state.

One problem was that of fragmentation. Although in theory a student could acquire a complete higher education within the state system, he could do so perhaps only in theory. At OSC his opportunities in the liberal arts were very narrowly restricted. At the University of Oregon his opportunities in science were similarly limited. The student willing to make the necessary transfers for the sake of the education he wanted was understandably rare. At OSC, since the day of Benjamin Arnold, a conviction had been deeply rooted in the institutional consciousness that higher education ought to be more than training, its objectives not all definable as "practical."

Another problem, also deriving from OSC's being a unit in a system, suggests analogies with family life. A child acquires strength and a sense of security from his family even while he is spatting with his siblings and growing occasionally restive under parental authority. But as he matures he feels more and more strongly the need to have a life of his own, to be himself as well as a member of a family. Moreover, the enlightened family—notwithstanding heated discussions at the dinner table over the size of the weekly allowance and prior rights to the family car—is likely to support him in all his reasonable ambitions. A family grows strong in this way. Thus OSC, while working hard to fulfill the mission given it by the state, also remained conscious of itself as an institution with its own history, its own personality, its own needs and wishes.

Meanwhile, however, Oregon had fewer than a million people and an assessed valuation of only $900,000,000. With such slender means the state could at best afford what it now had: a complete program of higher education the parts of which were contributed by individual institutions. At this time no state-supported institution offered a complete education in itself; the University of Oregon became such an institution only in 1941 when it acquired a School of Science. Until conditions changed significantly there was no alternative to the present system. The depression was of course a major factor.

The reorganization of 1932 was completed just as the state and nation faced the low point in a devastating economic depression. By 1934 unemployment had already affected more than 10 percent of the population of Oregon. OSC suffered accordingly. Nearly 4,000 full-time students had enrolled in 1930, but only 2,249 in 1934—and the latter figure represented about one third of the total registered in the entire state system in that year. The OSC faculty shared in a $1 million salary reduction. Many staff members were released outright. All budgets were cut drastically. Yet, ironically, despite these handicaps the combination of unemployment, a depressed agriculture, and drouth only brought new burdens of responsibility upon the college. For several years the institution's concern was the revitalizing of the economy.

By 1937-38, however, a general recovery was reflected in rising enrollment throughout the state system and gradual restoration of budget reductions, and the institution felt able to look up from its rehabilitation work and consider once more the question of its function in higher education. Institutional thinking at the time was summarized for the state board by M. Ellwood Smith, dean of the Lower Division, who contended that opportunities in general education at OSC were inadequate; and by President George Peavy, who suggested that higher education ought to improve itself with "constantly renewed attacks upon the frontiers of knowledge" and constant efforts to "supplement and enrich" present programs.

By 1941 it was clear that the original conception of a university made of incomplete institutional units was not going to serve the developing needs of the state. Accordingly the University of Oregon requested and received a School of Science—the first major break in the allocations principle established in 1932—and became the state's first complete institution of higher education.

OSC was now far behind other land-grant institutions in the number and variety of majors it was permitted to offer. A survey showed that 18 similar institutions offered a total of 20 majors: 14 offered social science; 11 arts and letters; 7 music; 6 fine arts. OSC offered only nine majors—in science, forestry, home economics, pharmacy, engineering, nursing, agriculture, education, and secretarial science. The deficiencies were evident.

In 1942 OSC was granted two additional majors—in mining and business. But the state board was not yet prepared to redefine the position of OSC in the state's educational scheme:

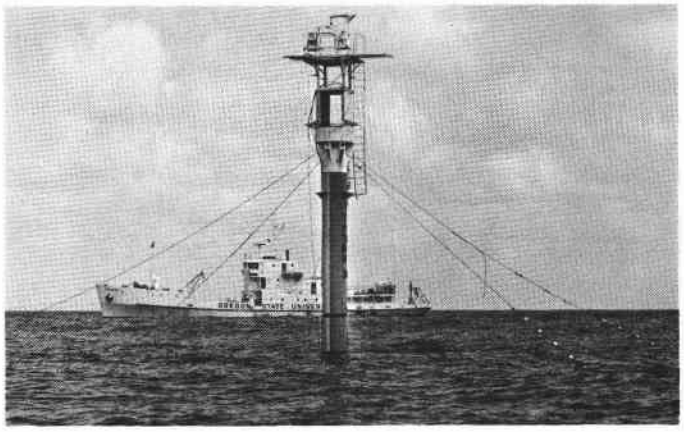
> The land-grant college is . . . peculiarly adapted to meet the practical needs of its people. . . . [It has] specific objectives of combining technological preparation with broad citizenship training, with expectation of immediate practical use.

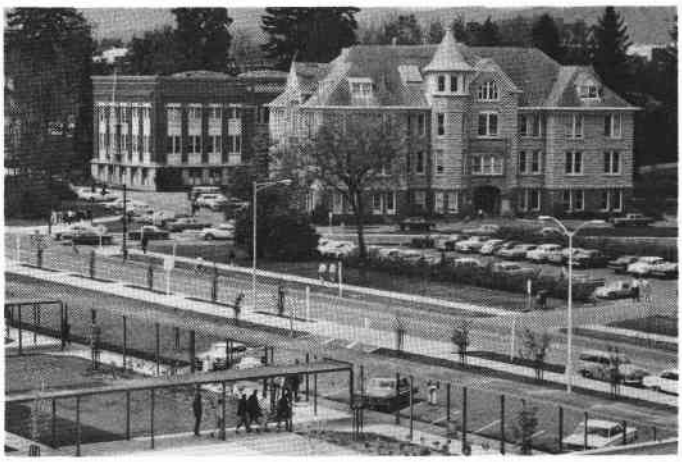
Having emerged from the catastrophe of depression, OSC had now to face the even greater catastrophe of war. Again enrollments fell. Many faculty members left the campus for war work. Military training became a major responsibility of the college. But even in the middle of the war the new president, A. L. Strand, anticipating the return of peace and a rapid increase in enrollment, addressed the board on a theme first stated more than a half century earlier by Benjamin Arnold: *the need for balance between education and training.*

> The student who . . . puts a liberal goal first should nevertheless emerge with a means of livelihood; the student who puts his professional preparation foremost should emerge with at least the essentials of a liberal education. Oregon State College must steer a course directly between a futile liberalism on the one hand and an excessive vocationalism on the other.

Two years later, with veterans already straining the institution's facilities, President Strand returned to the subject which was now becoming more and more explicitly a major concern of the college: its deficiencies in liberal and social studies. He reminded the board that all work in the liberal arts at OSC was confined by law to the so-called service departments, which were poorly equipped to do the job given them because they were permitted only a few courses and these at a low level.

During the next eight years there were many such exchanges. Then in 1954 came a hint that a shift in emphasis might be in the making. Chancellor Charles





Top. *The OSU Marine Science Center at Newport is the university's campus on the coast and arm of broad-based marine science research that has captured the imaginations of Oregon citizens. Excellence in marine research, teaching, and extension is hallmark of Oregon State's new sea grant program.* ***Center.*** *First man-made structure to be installed on Cobb Seamount, a 10,000-foot undersea mountain 310 miles northwest of Newport, was research buoy Totem II placed there by OSU. This buoy yielded to stress of the sea, but research on ocean buoys is continuing.* ***Above.*** *Recent photograph of Education Hall, from Jefferson street residence halls.*

Yaquina Bay and the town of Newport in the 1870's. From an engraving in Two Years in Oregon, *by Wallis Nash.*

D. Byrne officially described OSC as providing "well-rounded general education for the specialist in agriculture, business and technology, education, engineering, etc." Although this sounded like earlier pronouncements on the same subject, there was a significant difference. For 25 years few elementary courses in liberal subjects at OSC had been officially justified on the grounds that they were important for "citizenship training." Now one heard again, officially, the term "general education." At the same time President Strand reported enriched programs for especially able students in the liberal arts.

Like significant changes in the past, the pending policy shift grew from developing needs of the people. The reorganization of 1932 was a response to depression in a thinly populated state. But by 1956 that population, now relatively prosperous, had almost doubled, and enrollments were burgeoning in all institutions in the state system. OSC now had a student body of almost 7,000 and enrollments were increasing at the rate of about 10 percent per year with no end in sight. If in 1932 the problem had been to salvage higher education for a thin population, in the 1950's it was to expand facilities fast enough to accommodate growing numbers of students, of whom OSC alone was now registering more than the entire state system could muster 20 years earlier.

Speaking for the board in 1942, Chancellor Frederick M. Hunter had stated that "duplication of courses within the limits of the actual needs of the students has always been practiced." Those needs were unquestionably there now, not only for professional and vocational courses but also for more access to the humane tradition in liberal studies. The war had taught the ultimate lesson—that the most difficult problems are human problems. It was now possible to ask seriously whether the basic education necessary to the understanding of those problems was properly subject to a system of allocations.

In 1956 came the first unqualified declaration that degrees in liberal subjects should be made available at OSC. They are logical now, wrote President Strand, and will be imperative soon. He added that several hundred students were not doing the work they wanted and needed because it was not available to them—and that OSC was now the only institution in the state system not offering liberal arts degrees.

Two years later Chancellor John R. Richards hinted even more broadly at a policy change when he spoke of "renewed recognition" of the value of liberal studies to all students regardless of their vocational interests.

When the changes came, they came rapidly. In 1960 OSC was awarded a School of Humanities and Social Sciences with a divisional major in humanities and another in social sciences, though with a strong minor requirement in science in recognition of OSC's traditional orientation. Of this new development President Strand observed officially that now OSC's students in liberal arts would no longer be "junior college students in a university environment."

In 1961 Oregon State College became Oregon State University, and its new president, James H. Jensen, was to supervise a succession of changes in the traditional posture of the institution which even five years earlier would have seemed impossible.

In 1965 the first departmental degree in a liberal arts field—English—was authorized at OSU. Since then, degree programs have been established in history, art, economics, speech, political science, Russian studies, French, German, psychology, music, and sociology. There is good reason to believe that as conditions warrant, developments will continue in this direction.

What all this meant for OSU and the state is hard to summarize briefly, but a few points stand out.

First, and most obviously, it meant new opportunities for OSU's specialists in humanities and social sciences. They were now participating in the work of the institution as full-fledged professionals.

Second, the strengthening of a part meant a stronger whole. When the board asked each institution to contribute its share to an official *Guidelines* for the state system, OSU's response included the following statement:

> A university grows strong around a distinguished faculty devoted to liberal studies in the sciences, the arts, the humanities, and the social sciences as well as in the technical and professional disciplines. Oregon State University, therefore, is defined as a university composed of schools in which the liberal studies are pursued together with professional and technological schools which depend chiefly on the sciences and social sciences.

A comparison of this with earlier descriptions of the mission shows the difference between narrowness and breadth, between fragmentation and wholeness.

Third, the new posture meant greatly increased educational opportunities and therefore better service to the state. By 1962 more than 1,000 students were registered in the new School of Humanities and Social Sciences. Today there are nearly twice that many. Students in other disciplines benefit from greatly expanded opportunities for general education and intellectual cross-fertilization and ferment.

Fourth, the new orientation gave the university new opportunities in research and problem solving, not only in the liberal and humane fields but also in science and technology. An illustration shows why.

A few years ago specialists from OSU were invited to a foreign country to demonstrate modern methods of planting and producing feed crops. By adopting these methods farmers could expect to double or triple their production, and thus their income, in a short time. The technical side of the demonstration was uniformly successful. But the farmers continued to prefer their own primitive methods and consequently their ancient poverty with its inevitable companions—disease and deprivation, ignorance and despair. Here was modern technology at its best blocked by human problems. As individuals, those in charge of the project understood these problems. But as specialists they were not prepared to deal with them. They needed the professional help of sociologists, psychologists, anthropologists, and linguists. OSC could not have provided that help. Today's OSU is acquiring the strength to do so.

But it will take time for the youngster to acquire the necessary muscle. Meanwhile, as it matures, the new School of Humanities and Social Sciences has the support and encouragement of the longer established disciplines, all of which were growing and adding to their strength and reputation during the years in which the idea of the university was slowly forming. Today these have national—and some of them international—influence. A few examples make the point, though one could have a fat book from the evidence of the last decade alone.

No school of forestry in the world can claim superiority to OSU's. The Department of Oceanography is one of a small number of major oceanographic agencies with international influence. OSU's engineers sit in key positions with the country's biggest corporations—General Electric, Westinghouse, Boeing; in the United States space program; in both public and private projects using nuclear energy.

OSU scientists continue to win national and international honors in both pure and applied work. In problem solving they have recently, for instance, revitalized the mink industry by proving the relation of diet to the production of healthy, lustrous pelts; identified the flavor principle in cheese; discovered, as mentioned above, a radiation-resistant organism in meat. OSU is also a national center for the study of chemicals used in the control of weeds and insects.

Among recent contributions to basic knowledge OSU scientists have shown how bacteria change nitrogen into forms essential to plant life. In so-called "solid-state" research they have added much to our understanding of the physical and chemical properties of crystalline substances such as those which make the functioning part of the transistor. They have also contributed significantly to the understanding of the molecule.

And still the opportunities multiply. Just as OSU is preparing to celebrate its centennial year as a land-grant institution, it is declared one of the nation's three sea-grant centers as well, with substantial federal support. The university can now greatly expand its work, both pure and applied, in virtually all of marine science. The potential is unlimited.

Thus, at the beginning of its second century, OSU displays its heritage in its everyday work. With students it still carries out the double job of education and training, trying always to improve both. The problem of balancing the demands of the intellect with those of human welfare remains, though one can never again eclipse the other. The same may be said for the problem of pure vs. applied research. All the signs point to more and more attention to both—but not to one at the expense of the other. Again, *versus* gives way to *and*.

Which is to say that OSU is giving itself fully to the work of a university—to searching out the truth about man, life, and the universe, and to making available to society all the by-products of that search.