With the need for enlargement, an ever-present possibility, long-time plans for buildings should be worked out with care. Fundamental to such forward looking views is the maintenance of good records and maps of the campus.

4.

The Campus, Buildings and Plans

Campus Sites

Now and then, but not oftener than the appearance of a blue moon in the sky, does a college president have a chance to develop a new campus site. The board of trustees makes the final choice, but the president may have the opportunity to determine the bases of the decision. Very few educational institutions have adequate campus sites in this country, or anywhere else for that matter. Often the beginnings are laid in the middle of a small town, which later may become industrialized, with the result that the college is crowded into narrow quarters and cannot expand its campus except at high cost for the additional real estate. The usual procedure when the situation becomes desperate is to buy new acreage at some distance from the birthplace of the college. There are a few instances where institutions have moved to another town, as Yale did in its early history, or have given up their old campuses and purchased larger acreage on the edge of the city.

How many acres should a college campus contain? In the words of the old farmer the answer would be, "All the land contiguous to the original site." The expansion of college activities, along with recreation facilities, student housing and faculty needs requires a large area. Even a small college ought to have a campus of 160 acres; and when it comes to a large state university, the combined campuses will run into several thousand acres.

To illustrate this, I offer a list of items comprising a college plant which is to house, teach and direct a thousand students. Let us begin with the buildings which contain the library, recreation rooms, and science activities; add to these the other areas needed for the care and recreation of students, and so set up a standard for the institution:

	Acres	
1. *Buildings*: Teaching area needed	20	
Recreation buildings	5	
Housing—dormitories	20	
Faculty residences	20	
Service buildings and garages for trucks, and the like	2	
President's house and grounds	2	
		69 acres
2. *Grounds*: Athletic and play. Football gridiron with stadium	6	
Football practice field	3	
Baseball and diamonds	3	
Track	3	
Tennis courts (20)	3	
Golf course	40	
		58 acres
3. *Walks, roads, and parking space*	25	
		25 acres
4. *Campus adornment*: Shrubs, flower beds, trees, gardens	8	
		8 acres
TOTAL ACREAGE		160

Naturally, this classification and the assignment of space will be open to criticism on liberal grants of land for purposes of education. Yet I am certain that the development of such an

institution will require that much land, although it may be allocated differently. If we go into the requirements of larger institutions, principally those engaged in research and experiment stations, the land areas mentioned in the illustration are inadequate. An agricultural experiment station can use with benefit several thousands of acres. Again, the work of an engineering experiment station might easily need considerable amounts of land, as in the instance of aeronautical engineering, which requires a landing field of at least twenty-five acres. The time is now here when college administrators will travel by air; athletic teams are already flying by plane. The land question may thus become another "Sinbad and the Old Man of the Sea" for the college president.

The problems contained in finding a site and developing a plant are so numerous and so tied up with technical matters that no one man has the time or the knowledge to work them out. "The man who is his own lawyer has a fool for a client." The same may be said of any president who tries to carry the whole load. The wise man will seek the best architect, the most experienced engineer, the most honest and highly gifted builders. Even then, the result is largely in the lap of the gods.

M.

A Landscape Architect Should Plan the Campus

The employment of a landscape architect to plan the campus layout and locate new sites has become as general as the employment of an architect to plan a building. However, it has not been long since the chairman of the building committee or the president of the board, looking over the campus, would finally stick his cane in the ground at some preferred place and say, "We will locate the building here." And there it was built.

Not only is a first campus plan made, but over the years as building after building is erected, it is enlarged until another

plan is set up modifying the original to suit the growth and change, yet retaining the desired symmetry.

It is only as a competent landscape architect, experienced in campus planning, struggles with the many campus problems from year to year that these various demanding problems are solved. How much parking space is needed here and how much there? How wide should each road and walk be? How will the buildings differ in size? Which of the prevailing types of architecture should be finally adopted?

It has been impossible for anyone to anticipate the growth of our colleges and universities. Those now enrolling more than 20,000 enrolled only about 5,000 from 1890 to 1900.

A competent landscape architect can no more anticipate the future size of an institution than can anyone else; but he may observe certain laws of balance, keep certain vistas, and group buildings together that serve related subjects, modifying the plans from time to time so that there is harmony and unity throughout.

A landscape architect should be selected who has had experience with college and university campuses. Such a man will possess valuable knowledge and understanding of the problem. It is helpful to visit some of the college campuses he has planned. The college administration should select a man in whom they have large confidence, then keep him over the years. He should collaborate with the college architect. They should work together toward the desired goal. It is easier to draw a horizontal line on a drawing board and design a building on that line than to get the exact grade of the land at the location and design a building to fit into the site. I still remember with pleasure a building on the Smith College campus which I saw forty years ago. It fitted perfectly into a slightly rolling location and seemed to grow right out of the ground. A good landscape architect can add greatly to the beauty of a university and to the joy of its occupants.

One other matter related to landscape architecture may properly be mentioned here. There is always a violent protest when

trees are cut down on a college campus, yet trees must be removed when buildings, walks and drives are to be built.

The best way to counter criticism for cutting down trees is to plant trees and shrubs systematically each year. An annual appropriation must be made for the purchase. It is surprising what a showing this continuous planting will make on a campus over ten years' time.

H.

Preparing Building Plans in Advance of Need

During the depression years of 1930 to 1934, there was no chance at all of securing funds for the erection of buildings at Iowa State College. At the same time, there were several buildings we needed badly: a veterinary clinic, science building, an addition to the library, a men's dormitory, and a women's dormitory. Each of these buildings called for extensive planning. An arrangement was made to secure the help of an able graduate in architecture to work on plans under the supervision of Prof. A. H. Kimball, then head of architectural engineering. Faculty committees were set up which prepared a statement of the needs of each building. Our young architect drew up plans embodying the requirements outlined. Various arrangements were tried, and over the three or four years a final agreement was reached on floor plans for several buildings; rough estimates were made of cost.

The first building for which money was secured was the Veterinary Clinic Building, in 1937. The appropriation was too small to erect the building that had originally been planned. However, it was a rather simple matter to remodel the plans so that they came within the appropriation.

As each building became a possibility through an appropriation, our plans prepared years in advance were very largely followed, because they embodied the best thought of those who would use the building.

One of the difficulties in erecting a college building is to

secure adequate time to consider all the requirements of the departments concerned. The architect wants to push his work to completion. Professors are slow to embody intelligently their real needs in an architect's plan. This deliberate consideration at a time when no money for building was available finally resulted in more usable buildings than hurriedly drawn plans could possibly have produced.

Iowa State College was fortunate in having a department of architectural engineering and a capable young graduate architect glad to work during the depression on our plans. However, any college could enter into an arrangement with the college architect to draw up plans under similar conditions without extra cost beyond the architect's regular charges for each building.

I am convinced that it is good economy for a college or university to prepare plans for four or five buildings in advance of having the funds with which to build them.

H.

Architecture Is Important

In earlier days of higher education, the buildings which housed the academic activities were bare, unattractive and inexpensive. A square or oblong, two- or three-story building with little or no pretense of beauty was the rule. Money was scarce, and architects none too skillful. Examples of this condition are to be found in the early buildings erected on the campuses of land-grant colleges. A few of them still may be seen, however, on campuses of many other institutions. Now and then exceptions are to be found as in the central building of the College of William and Mary, but the main building at Vassar with its mansard roof is an example of an early architecture. Now that the institutions of higher education have come into funds through gifts or tax appropriations, the architectural appearance of their buildings has greatly improved.

Three types of architecture and their variations cover the

offerings of architects for college structures. These are Georgian, Gothic, and Modern. The first two, in the main, place the emphasis upon exterior appearance rather than upon the functional purpose. Both Gothic and Georgian are noble styles of architecture, but neither is well adapted to college use. The Gothic in particular hinders proper lighting; and while the same is true of the Georgian in a lesser degree, it cannot be regarded as the best exterior for a university building. The modern architecture emphasizes the functional purposes of a building and lays special stress upon lighting. A building used for teaching and research must have as its main purpose carefully developed employment of space and light. Anyone who has seen the Gothic structures on some of the campuses of this country is impressed with the monumental beauty of the exterior but appalled by the absence of good planning and lighting in the interior.

There is considerable prejudice against modern architecture, based on preconceived notions. Such buildings look too much like factories, it is said, and are therefore unsatisfactory, especially on a college campus. However, modern architecture is in reality based upon classic principles. When employed by skilled artists, the results are highly gratifying. More and more modern architecture is coming into use, especially in England and the northwestern areas of this country. It is so well adapted to the needs of education that it cannot be denied a place on the campus. Harvard University, long an adherent of the old Colonial and Georgian architectures, has built a large structure planned and decorated by modern and forward looking architects. A notable example of the change that is taking place is to be seen in the buildings on the campus of Miami University, in Florida. Here site, climatic conditions and needs have been skillfully considered, resulting in a remarkably beautiful campus. Why should educational institutions lag behind the development in architecture any more than they should sit back and refuse to teach the modern phases of physics and chemistry?

M.

Faculty Housing as a University Project

While my experience with providing homes for the faculty has been very limited, I believe it will throw some light on the problem.

Inasmuch as the institution has large resources, there is a tendency on the part of the faculty member to expect the rent to be low and generous funds available for decorating and repairs. Faculty housing by a college or university appears to me to be a greater source of annoyance than of satisfaction. However, under certain conditions, faculty housing has been forced upon some institutions.

It is better to have a business agency of the institution handle the project rather than the institution itself; for example, the alumni trustees, if such are organized. Also, a committee elected by the faculty might be very helpful in determining rentals and in setting up regulations relative to repairs, rights of occupancy and like problems. If this faculty committee had had a part in the original arrangements for securing the building funds, meeting the interest and paying the principal cost of repairs, insurance and upkeep, they would prove more intelligent in dealing with the situation.

If such a project were to stand wholly on its own feet, or with a definite amount of subsidy, it would be easier for a faculty member to understand, especially when handled by some subsidiary organization as suggested.

Personally, I oppose a rent-free house for a faculty member as a part of his salary. The professor tends to forget that his house is a part of his salary. Unless the size of the institution is rigidly fixed, any amount of growth will call for more houses, or for some of the faculty to live in college buildings and some, in private homes. I believe it is wiser to rent the houses or apartments to the faculty members outright.

This matter is further complicated by the fact that the need for housing is usually greatest among the lower ranks of the faculty where salaries are smaller and the ability to pay rent, less.

In any town of reasonable size, it would seem possible for an institution to work in co-operation with the chamber of commerce or some specially organized group to insure reasonable housing for the faculty, except in times of emergency, such as 1945-1947.

In my opinion faculty housing is an enterprise upon which any institution should enter with extreme caution.

H.