REITH LECTURES 1963: A University in the Making

Albert Sloman

Lecture 5: A University Town

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The members of the University Grants Committee certainly have an eye for natural beauty, although this is not one of the points they mention in discussing their choice of university sites. Perhaps they take it for granted, like good looks in a wife! Anyway, Wivenhoe Park, Colchester, compares favourably with the site of any of the other universities. Motorists driving to Clacton and Frinton cannot fail to notice, as they leave the Colchester by-pass and climb Clingoe Hill, the splendid park on their right with its fine trees, its white lodges, and high red house. Most of its 200 or so acres run into a valley which cuts the site in half, and which slopes from two lakes in the north-east westward to the river Colne. The park dominates the surrounding countryside and looks across the river to Colchester itself. The architect’s plan for the University of Essex is tailored to this attractive site. It takes into account its shape and contours, its exposure to wind and sun, its means of access. But it is a plan above all which gives physical and visual expression to the academic ideas I have been discussing in my earlier lectures. Some of the problems which have been thrown up are peculiar to Essex, but most of them are general problems of university development. Our solution, therefore, though very different say from that of York, may serve to call attention to what is at stake in the physical development of universities today.

Let me first outline the plan proposed by our architect, Mr Kenneth Capon, of Architects’ Co-Partnership. The spine of the university will be built in the valley below the two lakes, and the main teaching buildings will spread like ribs upwards and outwards over the slopes of the valley at right angles to the spine. The valley-bed will carry all the main services and will be spanned by a series of five offset platforms which will separate pedestrians from the traffic underneath. The central buildings will bridge the valley and so transform the five platforms into intimate squares, and one will be able to walk from one platform to the next as on a raised street. The students’ flats will be built, we hope, in towers which will be grouped snugly together between the rib-like teaching buildings, so that all the students for many years to come will be within two or three minutes’ walk of the university centre.

Cultural Centre
The surplus clay soil of the valley will be used as a dam to form a third lake, one incidentally which the eighteenth-century landscape designer of the park had himself envisaged to complete his scheme. The western arc of this lake and the connecting squares covering the spine road will form a recognizable centre, focal to the whole design like the main street of a town. It will be entirely free from cars, and with its library and physical education building, its lakeside restaurant and theatre, its shops and society rooms, it should be animated at most hours of the day and night. Here will be concentrated the intellectual and social life of the university. The core will be
enclosed except on the east by tightly packed buildings capable of accommodating in
some seventy or eighty acres facilities for teaching and research for 10,000 students,
with residence for many of them and study facilities for them all. The fifty acres of
flat land will be used mainly for playing fields, and the remaining seventy acres will
be kept as parkland. The plan is one of startling compactness. It does not rival, it is
ture, the plan of the University of Illinois to provide in forty acres of down-town
Chicago for 20,000 students. But its density is without precedent in this country. It is
a plan for a university town, not for some pavilions in a park.

Let me tell you why. In the first place because, as it seemed to us, it would allow the
university to grow big and at the same time preserve a powerful sense of unity. Two
hundred acres of land would have allowed the American campus-type development
with impressive buildings distributed round the site at conspicuous points accessible
to a perimeter road and with an open area in the middle. Pedestrian ways could have
criss-crossed the site, allowing for students and staff to educate each other as they
stroll from lecture to lecture. In the English climate the scheme is not without its
snags. The students more often than not may be scurrying to escape wind and rain or
huddled together waiting for the sky to clear; and no one is more irritable than a wet
don. The dispersed campus plan may well be the answer for small universities, but it
presents serious problems for big ones. There is the practical difficulty that as
communications lengthen students are no longer able to move on foot from building
to building in the ten-minute interval between lectures. ‘It’s got to a fifteen-minute
walk here’, said a disconsolate building officer in one big university, ‘and even then
you need the stride of a giant’.

Buildings Integrated and Interlocked
But there are more serious dangers. As buildings move further from each other they
have to become more self-sufficient. They need their own libraries and common
rooms, for example, and before you know what has happened they are isolated and
remote. Another danger is that, in order to leave room for teaching and research
buildings to expand, living accommodation gets pushed out to the edge of the site,
you create a separate residential area, and unless you are careful the whole centre of
the university goes dead in the middle of the afternoon. We are trying to avoid both
dangers. Just as our organization of studies and our curriculum attempt to cross the
boundaries between traditional departments and faculties, so our buildings interlock.
They are planned as a continuous block zigzagging across the valley, with central
subjects like mathematics and social studies centrally sited and linked physically as
well as academically with, on the one hand, the physical sciences and on the other,
comparative studies. Similarly, just as we have tried to avoid the division between a
student’s working and social activities, so the teaching and living buildings are, as far
as possible, integrated.

This is why we have planned our residential and study accommodation in towers
close to the university centre, why too we have designed rooms for dubs and societies
as well as coffee bars as part of the teaching buildings. But above all the compact plan
seemed to us the best way, perhaps the only way, of keeping together as a single
academic community a university of several thousand students. The architect’s plan
for Essex, with buildings running one into another, reflects the wholeness of the
university experience with no sharp division between work and leisure. It reflects also the merging of one subject with another. In short, it gives cohesion.

**Seventy-five Hundred Cars**
The compact plan has, we think, other advantages. By its intensive use of land it allows ample scope for expansion, and the architect has shown how even 20,000 students could be catered for without destroying the single centre or the coherent pattern. A university needs the greatest possible freedom for future developments, many of which cannot be foreseen. Consider, for example, the vast problem of cars to which the Buchanan report has called attention. We decided at an early stage that cars would go on increasing at an alarming rate, and that students as well as staff would like to have them. Assuming that a university of 10,000 students has 15,000 people around, and that there is one car for every two of them, this means 7,500 cars, and at 175 cars to the acre there would need to be more than forty acres of car-parking. By building over the valley we are able to separate cars from pedestrians, which in our view is essential for the standard of physical environment which a university centre merits. The lower deck itself provides some parking space adjacent to the main buildings, and our intense development leaves space on the periphery for parking first at ground level and later on a multi-storey basis. We have been able we believe to meet the legitimate needs of car owners, and at the same time protect the pedestrian. We have at least reckoned with the car, and have tried to adopt a positive approach to it.

A university’s severest limitation is ignorance about its future, the total inability to predict with any accuracy its long-term requirements. There has therefore to be continuous planning, never a fixed physical plan. Universities will always grow and change. They are never completed. A crippling feature of the lay-out plan of so many universities in this and other countries has been the failure to anticipate really big expansion.

We believe, too, that ours will be an economic plan. The concentration of all teaching, residential, and social buildings means that reading rooms and common rooms, squash courts and coffee bars, can be used to the maximum and need not proliferate. It reduces also the cost of roads and of essential services, which do not have to reach every part of the site. And the valley provides a convenient and relatively cheap way of separating the pedestrian squares from the road below, with its traffic and car parking, and also its ducts for electricity, gas, and water, heating and drainage. But the most important saving of our concentrated plan may prove to be the intensive use it makes of extremely valuable land which should make up for the additional cost of the pedestrian platforms and some high building. In the long term, the total cost per square foot of usable building area will, we believe, be lower with dense, than with dispersed, development. Land in this country is scarce. It has to be used sparingly.

We have been conscious all along of the dangers of an attractive park in the country. For some years the university is bound to be more cut off from the community than if it were in a town, and it could easily become cloistered and introverted. By going for urban rather than campus development we shall ourselves provide, we hope, much of the variety and liveliness of town life. The five squares will be our main street and we shall have our own shops and coffee bars, bank and post office. But we do not intend
to be self-sufficient. The architect’s plan, by fixing the spine of the university in the 
valley sloping towards Colchester, draws attention to the shortest and most direct 
route to the town, a mere half a mile to its edge. It allows easy access also in a 
southerly direction to Wivenhoe. Students will quickly come to have their favourite 
haunts in both towns, to use their shops and cinemas, restaurants and churches, and 
bring colour and vitality to their streets. And the people of Colchester and Wivenhoe 
in turn will be able to use some of the university’s own facilities. The very presence 
of the university will add greatly to the population of both towns. Two economic 
historians recently calculated that for every undergraduate in Oxford and Cambridge 
in 1911, five or six people were needed to provide services for them. And some 1,250 
students at University College, Ibadan, in Nigeria in 1960, together with teaching and 
administrative staff, college servants, wives and children, gave a total population of 
10,000 living on college property that is seven additional persons for one student 
place. A conservative estimate is that for every student four other people will be 
added to the permanent population of the neighbouring area. Colchester and 
Wivenhoe will continue to grow fast and it is only a matter of time before the 
university town, at present standing alone, joins hands with both.

Dense development of the kind we propose has, we know its disadvantages. In the 
first few years there will be all the noise and mud of building, close to rooms being 
used for teaching and research. But the pedestrian squares should shield us at least 
from work on foundations. And we should quickly complete one of the squares and so 
give even the first students a sense of the total design. There will always be some 
noise and movement in the university centre. But the squares are large and the 
buildings round them only two and three storeys high so that sunshine can enter and 
the noise can escape. And the large new lake will open the centre out. Students will be 
able to pass quickly from the crowded squares to quiet and privacy by the lake-side 
and in the park.

I come now to the individual buildings, and here speed of construction is a vital 
consideration. It is the experience of most universities that a building with 
complicated services costing around £500,000 takes two years to plan and another 
two years to build. And since the planning of buildings for a new university cannot 
advance far, either without some idea of the layout plan or the advice of the first 
members of staff, they are unlikely to be ready for occupation within four years of the 
appointment of the Vice-Chancellor and the architect. But most of the new 
universities will be ready to admit their first students earlier than this, and clearly they 
do not want to be held up by lack of buildings. Equally clearly, a university site 
cannot be ruined for ever by hasty and inadequate preparation. Nor can the design of a 
single building run ahead of the general plan; the whole must precede the part. The 
physical planning of the site will be judged in 2064 by how it meets the needs of that 
time, not by the emergency requirements of two or three years a century before. 
Broadly speaking the dilemma can be resolved either by making use of temporary 
accommodation before permanent buildings are ready, or by planning and putting up 
the permanent buildings much more quickly than has been possible using 
conventional methods of construction.

Temporary accommodation can be found in old buildings purchased and converted 
for university use. But the sites of the new universities are mostly clear, so that 
buildings available for purchase and worth converting are likely to be some distance
away, perhaps five or even ten miles, and the university runs the risk that for several years it will be divided between two or more centres. But temporary accommodation can also take the form of new buildings made up of light prefabricated sections, and intended to last for a few years. The disadvantages of such buildings are that they can cost almost as much as permanent buildings because they need the full range of services like heating and light, water and drainage, and because they are single-storey they are extravagant in site space. Also, properly maintained, they can last fifty years or more; even the University of Colorado has so-called temporary buildings dating from the first world war. They cannot, therefore, properly be regarded as temporary. But as permanent buildings they are not satisfactory. Since the sections are standard many of the rooms will be too large or too small for the purpose required, the acoustics are often poor, and heavy equipment cannot be attached to the roof or to the partitions. But sectional buildings have the very real advantages that they can be erected extremely quickly, and by providing accommodation for the first two or three years they allow ample time and care to be given to the permanent buildings.

The alternative, as I have said, is to shorten the period of four years which it has taken in the past to design and erect a permanent building. The planning period could be cut if all universities would accept a standard design for certain types of building, and concentrate their own efforts on variants from it, and on fitting it into their overall plan. And they would have a much more flexible building into the bargain. Too many buildings in the past have been designed to meet the wishes of a particular professor. It would help too to have more information on many of the special services required, for example the preparation of food, where planning has to reflect rapid technical advances. On the construction side, research has led to the development of industrialized building systems by which a standard set of components, columns and beams, windows and doors, internal and external walls, can be mass produced and quickly assembled. The University Grants Committee itself is investigating ways in which the universities can build more rapidly and more cheaply than by conventional methods, in particular by the use of the many different forms of system building. The committee is also encouraging universities to co-operate more with each other for example by the bulk buying of a wide range of building components, like floor coverings and fittings, and by large joint contracts to take the fullest advantage of system building.

The choice between temporary or permanent buildings to meet its needs of the first two or three years is one which each new university must make for itself. Essex will go for permanent buildings, and will erect them quickly by using an industrialized system of construction. Perhaps the best known of these, CLASP, is a light system, and with its limitation at present to four storeys, with a span of not more than thirty feet, and with a maximum loading of sixty pounds per square foot, it is not suitable for the dense development over a valley which we require. But by using a heavy concrete system, which we shall have to evolve ourselves, we shall erect the frame and exterior panelling of a large mainly four storey building and fit it with a roof and windows. We shall then concentrate on making one part of it ready for immediate occupation. By this means we hope to plan and put up a major building in just over two years, to be ready by October 1965. Though designed for use ultimately by the physics department it will begin as an all-purpose building and by a series of moves will be progressively vacated by different users as new accommodation becomes available for them, until ultimately the department of physics is left as the only...
occupier. It is, of course, a permanent building and fits into the layout plan for the university. Until it is ready—that is, during our first year—the students will work in Wivenhoe House and in a small, new building associated with it.

Another problem concerning the first buildings is who should design them. At Essex the appointment of the planning architect was the first after my own. Throughout the past year he and his staff have worked closely with me, and with my academic and administrative colleagues. Rarely a week has passed without our seeing something of each other, exchanging information and discussing ideas. This intimate contact between client and architect has certainly ensured that the needs of the university have been fully understood and allowed academic and architectural ideas to develop together. And it has resulted in a design which faithfully reflects the university’s academic proposals, and gives physical shape to its essential function. We have thought it both right and desirable at Essex that the planning architect should himself design the first important university buildings. There is the practical point that if the buildings are to be ready quickly their planning must coincide with the planning of the general layout, and only the planning architect can cope with site development and individual buildings simultaneously. But we also wanted the planning architect to design enough of the first complex of buildings to set a standard and impose his own personality. With the tight urban development of the university other architects will have to work within the limits of the general layout. A prima donna would spoil the whole plan. Mr Capon will, we hope, establish a grammar which later architects will follow, each with his own individual style.

I want, finally, to say a word or two about the siting of new universities. The University Grants Committee has listed seven factors which influenced it in its decisions. Of these, most of the new universities would, I believe, emphasize the supply of suitable lodgings. For many years to come this will certainly be their greatest problem. And I should like to take advantage of these lectures to plead with householders near universities, particularly those who are the parents of students living away from home, to offer what accommodation they have. The argument for a 200-acre site outside a town has been sharply attacked by those in favour of universities in the heart of industrial cities, where they can be associated with urban redevelopment. This at least can be said for the reasonably large and unencumbered site in the country: the land can be acquired relatively cheaply, and it allows freedom to plan as well as room to expand. But I would argue myself that a university fortunate enough to have a 200-acre site ought to provide for a student population of at least 5,000, that is twenty-five students to the acre. What is good enough for California is surely good enough for crowded England.

I have two additional criteria to suggest for the choice of a site. First, assurances about access. Our own site in Essex is bounded on the whole of its north side by the London-to-Clacton road, and this is the only means of access to the university from Colchester. Already the road is inadequate for the week-end and holiday traffic which it bears, and in a few years’ time it will be used by several thousands of staff and students. Something is already being done, but without a real leap of imagination forward to the traffic conditions of the nineteen-eighties and the money to back it, it will always be ten or twenty years—and several lives—too late. A university presents serious traffic problems, and before it is sited the local authorities and, if necessary, the Ministry of Transport, should be consulted on how they can be solved.
My second point concerns the use of land surrounding the site. Universities are not just interested in the site which they own, but in the far larger area of 500 or even 1,000 acres which surrounds it. It is extremely important that neighbouring land should be developed in a way which will promote the university’s wellbeing. And this is not simply to ensure that it remains attractive to the many staff and students who will be living there, although we can learn from the experience of the city centre universities of Chicago and Columbia, where whole areas nearby threatened to become derelict. But with the increasing need for co-operation in university, industrial, and government research, industrial firms and research centres with interests overlapping those of departments in the university should be given special consideration in the fierce competition for building sites close by. The nearness of such units, with the interchange of ideas and the association of people which it encourages, can easily transform a mediocre department into one with an international reputation. The university ought to be assured of a say in the development of this larger area before it is finally sited. I need hardly add that in order to meet national needs a university requires from those who control the planning of an area an appreciation of its essential requirements and speedy action. The University of Essex, at least, has so far met with nothing but goodwill and co-operation from its local authorities.

Let me revert to the site. As, time and again, in these last twelve months of planning, I have walked over the park with the architect, with my colleagues, with prospective members of staff; I have been impressed by its personality. In all kinds of ways it has influenced our physical plans. This personality we have tried to preserve. Buildings and squares will soon mask for ever the charming valley, but they will follow its contours. Yet because our plan is urban and our scheme compact, we shall see beyond these central buildings, and in marked contrast, the rolling slopes, the trees and the lakes of Constable’s well-known painting now hanging in Washington’s National Gallery. A tight homogeneous township of streets and squares, bridges and towers, arcades and terraces will be elegantly and graciously framed by the surrounding parkland. Thus we hope the site’s personality can, for as long as we care to look ahead, go on exercising its peculiar magic and charm. Wivenhoe Park is a beautiful place. We have tried to do it justice.