

LANDSCAPE ISSUES

LANDSCAPE ISSUES

Volume 7, Numbers 1 and 2, November, 1990

Foreword: A homecoming	3
Editorial: Sound ideas	5
Articles	
The landscape of agriculture	Tom Turner 9
The nature of place: settlement planning and the natural environment	Stephen Owen 16
Brain recharge: Michigan landscape students in Britain	Michael Hodges 27
The state of the local environment	Paul Selman 32
The conservation of churchyards: design and management	Bodfan Gruffydd 40
Notes and reports	
A summer evening churchyard, Lechlade Grongar Hill	Percy Shelley 46 Rev. John Dyer 48
The Marchfeldkanal-System: a bioengineering case study	GordonHyden 51
Computers in practice	Robert Moore 58
Oxford Science Park: Travers Morgan design competition successes	Arthur Gelling & Namrita Singh 68
Countryside planning at the CGCHE	Paul Selman 77
Landscape dissertations, 1990	80
Book review	83
Information for contributors	84

Landscape Issues,

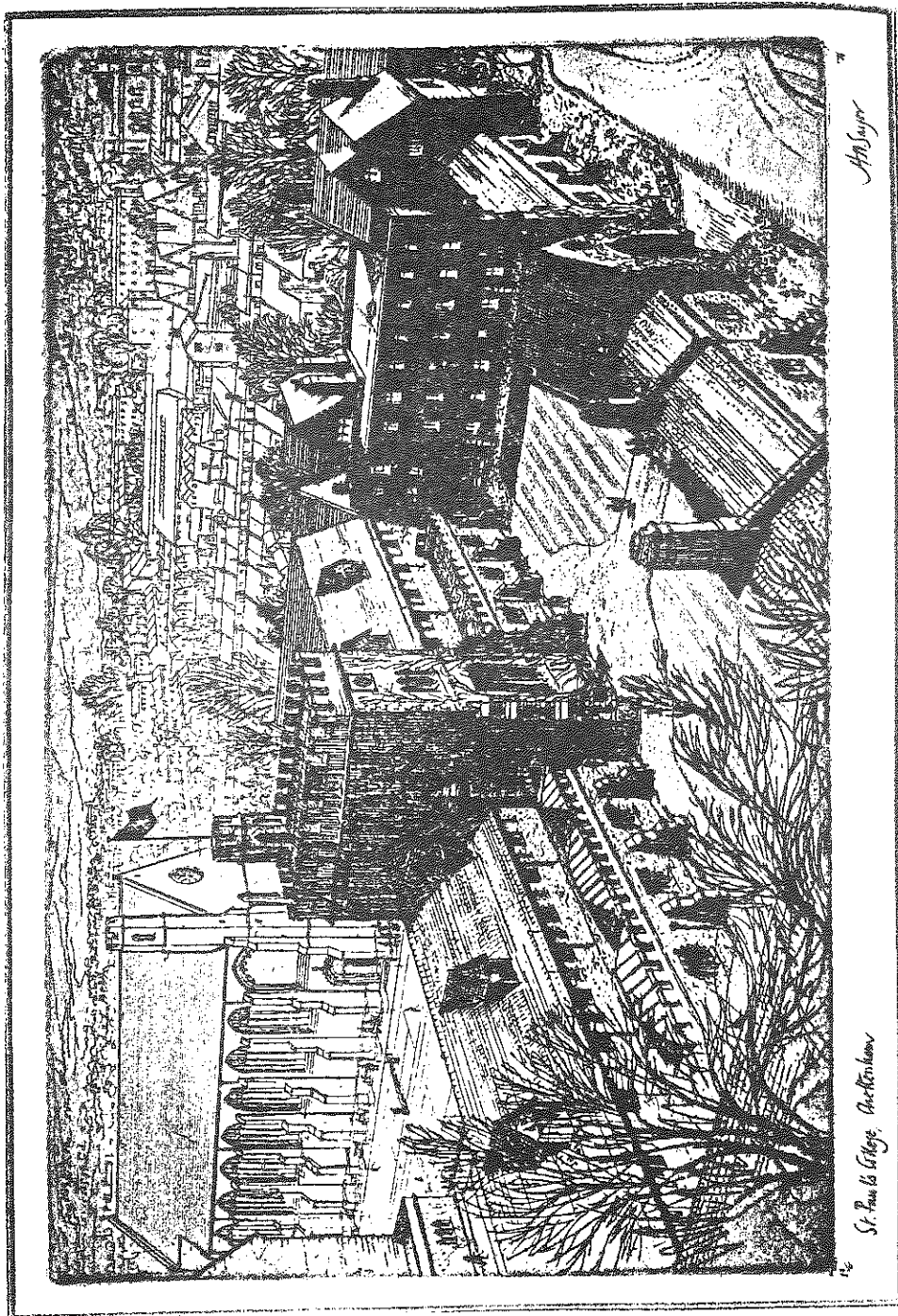
Department of Countryside and Landscape,

Francis Close Hall, Swindon Road, Cheltenham, GL50 4AZ

Telephone: (0242)532922/53293. Fax: (0242)532810

Two numbers published yearly; subscription is £5.00

ISSN 0265-9786



A HOMECOMING

After a ten-year sojourn in Gloucester the 'Cheltenham School of Landscape Architecture' has returned home. It seems that, irrespective of the changes that the course undergoes, it remains in the affections of its growing ranks of graduates and in the world of the professional landscape architect as the 'Cheltenham School'. To most of us it is very reassuring to know that in spite of the considerable achievements of the past fifteen years or so something of the spirit of the early years remains: a commitment to the landscape as an aesthetic ideal, a belief in the social imperatives of environmental improvement and above all a dedication to the personal development of the individual through education.

The facts are that the 'Cheltenham School' has been absorbed into yet another institution, the Cheltenham and Gloucester College of Higher Education, and that as a consequence it is set to continue its work in a new faculty and departmental organisation. A further consequence has been a move back to Cheltenham, a move that is appreciated by staff and students as offering new opportunities while affording the reassurance that derives from a pleasant working environment.

The voice of student reaction to the town is raised in approving unison. Residential accommodation is generally more congenial than in Gloucester and, apparently, the night-life also. Of course, being a town of trees, flowers and parks has an obvious appeal, but perhaps the 'commodity and delight' of the theatre, the literary and music festivals, rural walks and the 'races' will also quickly become part of the shared experience of the student landscape architect from Cheltenham. Yet while tourist publicity may proclaim the town's picture-book virtues there are also sufficient environmental shortcomings to furnish material for a variety of locally-based design projects.

The more immediate home of the landscape courses is Francis Close Hall, named after that energetic evangelical and educational reformer of the mid-nineteenth century. The campus evokes a collegiate tranquillity through its quad, security through its sentinel gate-house and the religious ethos of the institution through its massive chapel. The Cotswold-stone walls, parapeted, buttressed and pierced by arched openings here and there support vigorous growths of Virginia creeper. The visitor can't fail to be impressed! Yet, like the town itself, there is another side to FCH, a side which speaks of environmental neglect and aesthetic insensitivity which throws down a challenge to the designing skill of tomorrow's landscape architects.

*Colin Young,
Course leader,
BA (Hons) Landscape Architecture.*

SOUND IDEAS

An article in an earlier issue of this periodical (November, 1987, p.4) drew attention to the landscape designer's preoccupation with "how will it look?". This concern for the visible is clearly justifiable when we consider the dominance of sight over the other senses. Yet the world is one of rich sensory experiences and is increasingly a world of sounds, some pleasant, some unwanted. Sounds which are unwanted can be called noise and it is not difficult for each of us to list those noises we find most irritating: the incessant drone of a motorway, the repetitious hammering of pneumatic drills, or even the whirr of microlite aircraft described by Adam Sage as akin to a flying lawnmower!

The susceptibility of people to what we can call noise varies widely and it is extremely difficult to be objective about reactions to it: indeed precise predictions are impossible. There is, however, a fairly wide consensus on the most offensive sounds and the recent Government White Paper on the environment, "This Common Inheritance" (Cm 1200), has embraced the issue of noise pollution. In it the Government restates its commitment to reduce noise problems, and in addition to supporting existing

controls has proposed tougher restrictions for the so-called "noise-makers" and extended provision for insulation grants for the "noise-sensitive". The Department of Transport already, it argues, considers the impact of traffic noise on local people in its careful alignment of new roads or by screening them with mounds. Local planning authorities, likewise, are conscious of tolerance standards and have powers to establish Noise Abatement Zones.

There is a large literature dealing with questions of noise prediction and protection as they relate to the external environment, and town and transport planners, architects and landscape architects have for many years relied on the techniques and formulas developed by the Department of the Environment's Building Research Establishment, which has particular expertise in this area. For the landscape architect, a thorough understanding of noise can have a significant influence on many design proposals since judicious landforming, planting and site planning can do much to obviate the remedial costs of, say, noise barriers or secondary glazing.

But returning to the tenor of the article mentioned at the start of this piece, there is a second and deeper level of sound consciousness that is relevant to the landscape architect: the undesirability of an impoverished external sonic environment. While on the one hand it is vital to suppress unwanted sounds, it is equally important to preserve or even enhance the distinctive qualities of outdoor spaces by using evocative sound effects. As with sight and smell, landscape architects need to design for sound as well. They should encourage greater sensitivity in people towards their environment, urging them to consciously register and recognise isolated sound events, rising above what in many urban areas is a monotonous traffic drone. This does not necessarily mean the creation of new sounds, challenging though

this may be, but by thoughtful design of landform and vegetation and by careful choice of surface materials and textures, the ambient sounds can take on new variations, enriching the total experience of the place.

Some of the best examples of designing for sound derive from Islamic traditions of gardens: splashing jets of water, wind chimes and song birds albeit caged. Aviaries are a feature of some British parks but perhaps better is to design with plants that attract not only birds but also bees, butterflies and other insects. Correct treatment of pedestrian surfaces can add interesting sounds: the crunching of gravels, the mellow tones of wooden boards or the crisp sounds of granite setts. The nature of the spaces also affects sound reception, particularly to those with impaired vision: enclosed spaces, substantially vegetated, produce different echo effects from more open areas. Studies have also shown how increased humidity, such as in the vicinity of a stream or pond, can alter tonally any sounds heard.

At night the sonic environment takes on new meaning. Since hearing is more sensitive when light is lacking or when artificial lighting causes bizarre visual effects, there is additional scope for the creative designer. Sounds, as part of multi-sensory experiences, can evoke various moods: for example, the sound of moving water may be perceived as promoting tranquillity, especially if it is capable of drowning out distant traffic noise. The rustle of wind blowing through the foliage of different species of tree can, likewise, produce soothing results and the idea of wind chimes has also been extended into aeolian sculptures, which when creatively lit at night generate stimulating *son et lumière* effects.

Within our 'soundscape' there is a place for both low-key design

of background sounds as well as making features of discrete sonic events. In the modern urban environment these foreground sounds, which normally would give identity to each neighbourhood, are frequently drowned out, and it would be a tragically missed opportunity if, for want of some sound ideas from landscape designers, the cherished and glorious poetry of place were to fall on deaf ears.



THE LANDSCAPE OF AGRICULTURE

Tom Turner

What, if any, is the landscape designer's role with regard to agriculture? The question has interested me for a long time and my interest was revived by Nigel Curry's excellent article in *Landscape Issues*(1).

When writing a book on *Landscape Planning*(2), I considered writing a chapter on agriculture but decided against the idea. A number of reviewers criticised the book for this omission. They argued that agriculture is the dominant rural land use, and one cannot plan the 'landscape' without giving it due consideration. The reason for my omission did not arise from a lack of interest in the subject. Far from it. My concern was partly that trying to

Tom Turner is Director of the Diploma in Landscape Architecture course at Thames Polytechnic. He has written books on landscape planning and garden design, and is currently preparing a report on a green strategy for London.

prepare landscape proposals for agricultural land was like trying to advise on the aesthetic and environmental aspects of Concorde. One really has little to say unless one is an aeronautical engineer. I also believed that Concorde is the most beautiful aeroplane ever made, that agriculture has created some of our most beautiful 'landscapes', and that landscape designers might not do as well as farmers in making new agricultural landscapes.

Another concern was that some of my own views on agriculture did not stem from my training as a landscape architect. Take the case of farm walls in the uplands. It is tragic that they are being neglected and replaced by post and wire fencing. When one thinks of the vast amount of money which goes to subsidising hill sheep farmers, one can't help thinking that some of the money should go to a Farm Wall Grant. Let us assume that this policy were to be adopted, as it has been to some extent in some National Parks. Would it be best managed by economists, planners and builders, or by landscape designers? I suspect that the designer's role should be restricted to advising on which walls were most in need of preservation from a visual point of view. Since I studied economics before landscape architecture, I can never be sure whether my own interest in the regulative background to agriculture comes from economics, landscape design or a fondness for hill walking.

There is also a linguistic problem in defining a role for landscape designers with regard to agriculture. In writing about the ecological context for landscape design, Ruth Tittensor writes that "Bared down, the landscape is geology, topography, soil, climate, fauna, flora. And time - i.e. history"(3). In my view this is correct, but it defines what I have described as the geographer's sense of 'landscape'(4). If one defines landscape in this way then the prospectus for design seems exceedingly limited. How can one

design the geology, the soil, the climate, the history, or even the fauna and flora?

I believe it is better to use 'landscape' in the designer's sense, to mean 'a good place': a place in which man can live in harmony with the environment. We want an environment which is 'good' from the visual, ecological, spiritual and functional points of view. One can then argue that the farmer's responsibility is for the 'functional' aspects of the agricultural environment and that ecologists, landscape designers and others are concerned with non-food objectives. If one of the objective's of the Concorde project had been to improve environmental conditions then there should certainly have been environmentalists on the design team.

Landscape advice to farmers

Perhaps the first piece of advice from landscape designers to farmers was that field corners should be used for wild life and tree planting, because they are difficult to plough. It has always struck me as a policy which could produce bizarre visual results, and which would be against the interests of crop husbandry.

At a later date landscape designers became very concerned about the removal of hedgerows. I have no doubt that this is a most important policy in some areas. In other places the policy is highly questionable. Woodlands provide better habitats than hedges and open countryside can look very beautiful. This suggests a policy of some hedgerow preservation, some hedgerow removal and some woodland planting. But I have been sorry to see landscape designers ally themselves with the outright preservationists.

Agriculture was also the subject of the only major policy paper

to have been issued by the Landscape Institute in recent years: *Farmed Landscapes: A Balanced Future*(5). It is a well-argued and, in many ways, a commendable document. But one has to ask whether it has anything to do with landscape design. One way of considering the question is to review the education which landscape designers receive and consider whether it covers the subject matter. A typical landscape course covers design, history, theory, technology, and professional practice. The recommendations in this report cover improvement grants, farm investment programmes, the agricultural advisory service, the Home Office model bylaws, chemical spraying regulations, capital transfer tax, forest policy and other matters. Since none of these matters is likely to be covered in anything but the most cursory form in UK landscape courses, one must again doubt whether landscape architects are the best qualified professionals to make the necessary recommendations. I would like to hear other opinions on this subject.

The objectives of rural policy

On the Orwellian theory that government ministries do the opposite of what one might expect from their names, so that the Ministry of Peace is concerned with War, one might expect a Ministry of Agriculture to be concerned with not cultivating fields. The set-aside scheme is the clearest evidence of this tendency, but there are many others. Our own Ministry is of Agriculture Fisheries and Food (MAFF). The Orwellian theory would lead us to expect that the additional responsibilities are for limiting the amount of fish caught and the amount of food produced; and the theory would not mislead us.

MAFF does in fact have many objectives and it is this aspect of Curry's article which leads me to believe there is a role for

landscape designers in agriculture. It would be an invaluable service to public policy if the objectives were to be defined and ordered. Amongst many worthy objectives, I believe we would discover others that are obscure, self-contradictory, anachronistic and against the public interest.

Curry points out that although "a paramount objective" of agricultural policies has been "to maintain farm incomes" they have led to the substitution of capital equipment for labour and therefore to a loss of jobs in rural areas. This is a clear example of a conflict between objectives.

In the early days of the agricultural support system one of the prime objectives was strategic. Just as a shortage of timber during the First World War led to support for forestry after 1919, so a shortage of food during the Second World War led to support for agriculture after 1945. If there is no more need for short range nuclear weapons in Europe, is there any more need for a 'strategic' agricultural industry? This may be an example of an out-dated objective.

Another aspect of agricultural support in the post-1945 regime was the high level of land drainage and river improvement grants. This policy was challenged at the public inquiry over the proposed drainage of Amberley Wild Brooks in 1976. The drainage scheme was shown to have an exceedingly doubtful economic basis and to have disastrous environmental consequences. This is an example of a policy which is against the public interest.

An analysis of the true objectives of rural policy would also reveal that the prioritisation of the list is disputed by different interest groups within the body politic. But at least we should be pleased that MAFF *does* have a number of objectives. One of the most

intractable problems in land use policy is its domination by professional groups which are preoccupied by a single interest, be it road building, afforestation, land drainage or water supply.

Curry argues that agricultural support funds should be diverted from capital to labour. If these funds became available for rural objectives, instead of agricultural objectives, then there would be great opportunities for landscape design in the countryside. Farm walls could be repaired. Trees could be planted. New habitats could be established. Stormwater could be detained and infiltrated, to protect downstream urban areas from flooding. New farm ponds could be made. Public rights of way could be cleared. New footpaths could be made. Small car parks and picnic places could be created. Some hedgerows could be cleared, some could be managed in the traditional manner, some could be replaced with new farm woodlands, planted for environmental rather than timber objectives. The land which is set-aside could be the land which it is most desirable to set-aside from a landscape point of view. The experimental areas for these policies should continue to be the National Parks and the Green Belt.

The opportunities for landscape designers in agriculture would be greatest if Britain were ever to have legislation for land reorganisation, as they do in the Netherlands. This is a way of replanning the rural landscape: the land is taken into public ownership, replanned, and returned to the private sector.

It is my personal belief that it would be better to argue for a 'multi-objective rural policy', which would include organic food production, than for employment creation. Anyone who has spent a winter working out of doors will know that it can be a bitter type of 'outdoor relief' for the unemployed.

References

- (1) Curry, N., 'Rural Employment and Public Policy', *Landscape Issues* Vol 6 Nos 1 & 2, 1989.
- (2) Turner, T., *Landscape Planning* (1986).
- (3) Tittensor, R., 'An ecological context for designs' *Landscape Issues* Vol 6 Nos 1 & 2, 1989.
- (4) Turner, T., *ibid.* pp 1-5.
- (5) The Landscape Institute *Farmed Landscapes: A balanced future.* (This report is undated but is believed to have been published in 1985.)

THE NATURE OF PLACE: SETTLEMENT PLANNING AND THE NATURAL ENVIRONMENT

Stephen Owen

Introduction

Many people complain that modern settlements are inadequate, dismal and unpleasant. Probably they have forgotten how awful most cities were only 30 years ago. In the 1950s, industrial cities were shrouded in palls of smoke; few buildings were visible and little sunlight ever penetrated the gloom except when the factories were idle. Most buildings were stained black; even the rivers were black and streaked with oil. The air was gritty and there were few trees. Back-to-back houses were overshadowed by factories, scrapyards and even slaughterhouses. Traffic crawled through the fog and buses with 'no spitting' signs were full of coughing people. It would have been difficult to persuade people that cities and towns in the industrial heartlands might be enjoyable places to live in.

Stephen Owen is the Dean of the Faculty of Environment and Leisure, CGCHE. He has written many papers in local planning, concentrating on the design of the physical environment, culminating recently in a book entitled 'Planning settlements naturally'.

Now, many industrial towns at least are pleasanter than they have been throughout this century. Who, in 1955, would have envisaged street cafes, trees and fountains in the centres of industrial towns and nature reserves in the suburbs? Town centres today are more vital than ever and much industry is cleaner. Unfortunately, the improvement is neither uniform nor consistent. Whilst we have rid towns of many of their most appalling features, environmental quality has certainly deteriorated outside industrial cities. A significant feature of this deterioration is that, in the planning of settlements, the natural environment – land, sun, wind, water, vegetation, wildlife – is often ignored, exploited or destroyed.

People are beginning to react against this deterioration. They express concern when local ponds are filled in, when hedgerows are pulled up, when mature trees are uprooted by developers, when wildlife habitats are destroyed. In a more personal and private way they notice when there is no sunshine in their gardens because their houses are badly-orientated or built on north-facing slopes. They feel the bitter cold if they live in low-density housing estates on the northern edges of towns, particularly in Scotland or northern England; they suffer the wind-tunnel effects and wind-blown rubbish of badly-designed shopping centres; they breathe in pollution from factories sited in areas of temperature inversion. Many of these are aspects of everyday life which cause many people discomfort or annoyance, but which could be avoided by better planning.

Lessons from the past

Something has been lost in the way we plan settlements. Before the technological developments of last 200 years, people responded more sensitively to their natural surroundings in establishing and

adapting settlements. There were lower levels of technology and there was less control over the natural environment which meant that people needed to act in harmony with their natural surroundings in order to avoid problems. Economically, people were dependent on the natural environment, for instance through employment in agriculture and fishing, and they had greater personal responsibility for protecting themselves from the difficulties and discomforts of the natural world. They had to understand the natural environment. Moreover, usually, most of the people who changed the landscape whilst building or adapting settlements lived locally.

The location and form of settlements were influenced by the need to overcome problems of climatic exposure, steep slopes and poor drainage and to take advantage of the benefits to be gained from sunshine, good soil quality, and the presence of water and vegetation. In settlements that evolved before industrialisation, the relationship with the natural environment was clear and visible. Settlements were built

- inside river meanders for defence;
- folded into hills in exposed uplands to give protection from cold northerly winds;
- facing south to trap as much sunshine as possible;
- on spring lines for fresh and clean drinking water;
- around natural harbours for safe anchorage;
- hidden away in the clefts of cliffs for protection from biting winds coming off the sea;
- raised on higher ground in river valleys to avoid flooding.

This clarity of relationship is still evident today and is one of the features that make many historical settlements so attractive.

In earlier settlements the smaller scale of change and more gradual evolution promoted responsiveness to the natural environment. A

vernacular tradition evolved in which the forms of settlement and building reflected the processes of nature. And whilst the founders and builders of settlements were not always concerned with aesthetics as such, the appropriateness of their responses often resulted in the design of settlements in which the relationship between natural forces and built forms was, and remains, aesthetically satisfying.

We should be careful, though, not to romanticise the relationship between earlier human societies and nature. It would be fanciful to imagine everyone before the Industrial Revolution exuding empathy with nature, communing spiritually and physically with their surroundings. In fact, the natural environment was harsh. Often life was a fight against nature as it is still for many people throughout the world. Indeed, in some senses, the very notion of settlement derives from people's determination to make themselves independent of the forces of nature.

Careless husbandry

In the developed world over the past 200 years, particularly in Western Europe, North America, more recently Eastern Europe and increasingly in the developing countries, significant changes in the relationship between the physical forms of settlements and the natural environment have taken place. Modern technological developments, linked to substantial economic growth, have given human beings increased control over their natural surroundings and greatly expanded their ability to modify the effects of nature. Unfortunately, due partly to ignorance, greed and careless husbandry, this increased technological capacity has been used in many instances to pursue short-term financial returns without due regard for the natural environment.

Insensitivity to the natural environment has been displayed in many phases of settlement growth during the past two centuries. In the nineteenth century, in densely built-up industrial towns, gridirons of regimented housing defied the natural shape of land and excluded sunshine from squalid streets and alleyways. Water was infected, sewers ran open and filthy industries clogged river valleys polluting air and water. In the twentieth century, in order to make way for the outward expansion of towns, swathes of vegetation cover have been stripped away indiscriminately, and natural drainage patterns have been interrupted. Varied and interesting landforms have been obliterated to flatten land for the cheaper, often industrialised, building schemes designed on a distant drawing board. Housing estates have been built on the edges of towns severely exposed to cold, easterly winds. In the redevelopment of town centres and the construction of high density, high-rise housing schemes, wretchedly uncomfortable turbulence has been induced in outdoor spaces, with little vegetation other than bald expanses of worn grass.

These effects have been exacerbated by vast increases in the scale and rate of physical change responding to a rapid expansion of population and to the financial advantages to be gained from economies of scale. Disregard for the natural environment has continued during a period when, in Britain, there has been a comprehensive and statutory town and country planning system with the power to prevent development which ignores important and mutually beneficial relationships between settlements and the natural environment.

It would be simplistic to claim that either development or technology themselves are in conflict with nature, characterising nature as good and development as bad. Some advances in technology,

cheaply and easily implemented, can overcome the discomforts and constraints imposed by the natural environment and can bring environmental benefits. We need development in towns and cities to provide better homes, schools, jobs and leisure facilities. Economies of scale are a fact of economic life; large numbers of dwellings will continue to be needed; large development schemes will continue to be built. But there need not always be conflict between providing better living conditions and protecting nature. Through good planning and sensible building we can achieve both; we must respond to this challenge.

Features of the natural environment

So what natural benefits to, and from, the natural environment can be fostered through settlement planning? Firstly, there should be a feeling for the surface shape and structure of land, an ingrained inclination to protect its characteristic forms — spurs, curves, terraces or shallow slopes. Planners, in collaboration with designers and developers, should work with the character of land to produce relationships between development and landform that are either harmonious or dramatic and certainly both convenient and comfortable.

It is miserable to live in perpetual shadow; every available minute of sunshine is precious. We should encourage as much sunshine as possible to penetrate the places where people live so that they can play, tend their gardens, sit and rest, shop, walk around or look out from their windows in as much natural warmth and light as is available in a cool climate. Satisfactory sunlighting conditions can be achieved through the considerate location of development, through design advice to developers and through checking development proposals prior to planning permission being given.

Living in places subject to cold winds is uncomfortable and depressing. Positive measures can be taken to secure as much as possible from forceful, cold and wet winds. The planning system has the capacity, for instance, to ensure that play areas, shopping streets and waiting areas are not exposed to cold winds, driving rain or turbulent gusts and to prevent the development of homes in frost pockets.

A fuller understanding of hydrological processes is needed within the planning system. We should prevent building in flood plains, over high water tables and over recharge areas. We should bring streams, ponds and lakes into recreational use and, where appropriate, restrict people's access to protect wildlife habitats. Through imaginative design schemes for canal basins, docklands and riversides, pleasure and excitement can be brought into lives of town dwellers.

We should supplement the widespread use of tree preservation orders by developing a concern to manage vegetation for its microclimatic, aesthetic, ecological, even commercial values as in the newly-introduced plans for urban forests. Through policies and guidance to developers, vegetation can be planted, protected and managed to provide shelter and screening, to absorb noise and pollutants, to provide visual delight and to sustain habitats. At the broader scale, landscape planning strategies are essential.

We should build further on the recently-discovered concern for wildlife and nature conservation in settlements, not just through special designations of valuable habitats but also through management strategies for less special places. Sensitive land use policies expressing a concern for ecological relationships are needed, for instance, deflecting development away from valuable habitats, establishing buffer zones and creating a diverse range

of habitats. It is possible through planning to foster the conditions necessary for a variety of plant and animal species to return to settlements or to colonise an area for the first time.

Even this short account shows that not only is the protection of the natural environment in settlements worthwhile but that the planning system also has the capacity to yield substantial benefits to people from the natural environment. In this respect, planning can help to make settlements more liveable.

How can the planning system improve its performance?

In most respects the planning system itself is strong enough; there is an abundance of laws, regulations and controls. We need people who have:

- a better education in terms of **knowledge, skills and techniques;**
- access to **adequate information;**
- **appropriate tools of implementation;**
- **time to do the job properly.**

Already planners have to take into account a vast range of other considerations in preparing plans and controlling development. Consideration of the natural environment should not just add to the burden. Improvements to the planning system should be straightforward and easily absorbed into normal work. But whilst there are political pressures for quick decisions, people will have to live with bad decisions for many years. If planners have the time to check car parking standards they have time to check exposure to cold winds on sites proposed for housing development.

Planners need a good working knowledge of the natural environment in settlements, applied through rudimentary technical skills,

but planning education simply does not equip them adequately in this respect. Many successful relationships between people's needs or activities and the characteristics of the natural environment are well-established; there is nothing mysterious about people's need for shelter nor how it can be secured. Ensuring maximum possible penetration of sunshine into new development is not difficult. The requirements of different land uses in terms of land configuration are fairly clear. Rudimentary techniques can be learned and applied easily and new techniques such as environmental impact assessments and computer graphics promise a much improved performance in the planning system. Perhaps there is also a role here for a central body – probably the Department of the Environment – in collating a body of good practice and issuing guidance notes.

Information about the natural environment is a basic requirement but it is not normally available to planners as a foundation for decision making. In Britain, physical surveys and maps seem to be considered outdated nowadays, yet they are probably the most direct way of recording and using information about the natural environment. This kind of mapped information and its implications for land use and development plans is available in Netherlands, Poland, Hungary, Australia and New Zealand. It is a great disadvantage that this is not the case in Britain.

A range of **local planning tools** is needed by which considerate treatment of the natural environment can be implemented.

Local planning policies covering whole towns or districts are crucial because they set context for detailed decisions about development – for instance, policies which prevent development in flood plains or which encourage the design of open space networks in new development to reflect the natural drainage patterns, thereby assisting percolation of water

into the ground and reducing run-off.

Land use proposals in development plans should include criteria founded in the natural world. For instance, land for housing should be located in areas that offer the most comfortable microclimate for every day living.

Design briefs should be prepared for individual sites to give advice to developers on how sites might be designed and developed. Design briefs have the capacity to foster the natural characteristics of individual places. For instance, through a design brief the planner can advise the designer to:

- emphasise the distinctiveness of land configuration;
- keep existing streams, trees and hedgerows to mark lines of footpaths and housing plot boundaries;
- retain groups of trees to form focus for open spaces;
- choose an axis of building orientation that affords least exposure to wind and avoids the channelling of wind;
- achieve a close-knit grouping of buildings to secure shelter in areas of exposure.

Development Control can be a significant force in protecting natural environment quality. It should be possible to prevent development that would degrade the natural environment or set conditions on its approval explicitly in the context of policies, plans, checklists concerning the natural environment. Such a range of tools now needs to be developed and applied to its full potential to ensure that the natural environment is treated more considerately through the planning system than it has been at any time during the past fifty years.

Conclusion

Each place is a unique interaction of nature and human culture. Often the natural environment has been a significant influence

on the evolution of that uniqueness, whether through responses to characteristic landforms, climate or local building materials. In settlement planning we need to cultivate rather than obliterate the differences between places that make each one unique. This approach should be adopted in practice by planners who need to know and understand those aspects of the natural environment that contribute to the unique character of places for which they have responsibility, for instance:

- the drainage patterns in particular valleys;
- the gradients and orientations of slope on potential development sites;
- the enclaves in shape of land that afford shelter from cold winds;
- the extent of frost pockets;
- the location and sensitivity of wildlife habitats in areas under pressure for development.

This kind of knowledge should help planners to rediscover some of the responsiveness to the natural environment characterising earlier settlements. Even acknowledging the momentous changes that have taken place this century in the political, economic and technological forces that help to shape settlements, it should still be possible to arrest the alienation of settlements from their natural environment. The planning of settlements can be undertaken positively and creatively to yield benefits of comfort and enjoyment from the natural environment itself. This would be a significant step towards establishing a more civilised culture of settlements to hand on to future generations.

This is an amended version of the inaugural lecture given by Stephen Owen on being awarded an honorary professorship by Pollack Mihály College, Pécs, Hungary.

BRAIN RECHARGE: MICHIGAN LANDSCAPE STUDENTS IN BRITAIN

Michael Hodges

Michigan State University's thirteenth landscape architecture overseas study program enabled fifteen financially self-supporting students of the junior (third year) class to spend their spring term studying in England. Individual landscape architecture faculty members volunteer for the entire organization of these programs, with some assistance from the University's Office of Overseas Study and it has been the author's privilege to conduct the visits to Great Britain. As on the two previous occasions, fall term 1983 and spring 1987, the American students were based with the School of Landscape Architecture at the Gloucestershire College of Arts and Technology on the Oxstalls campus in Gloucester.

Michael Hodges is a professor in the landscape architecture program at Michigan State University, East Lansing, and has special interests in urban design, landscape history and computer applications.

A prime objective of the program is to enable the students to appreciate the geographical and cultural influences creating unique natural and designed landscapes. Our location in Britain and on the edge of the Cotswolds is superb for this purpose and we are able to visit numerous 'classic' examples. These range from prehistoric (Avebury and Stonehenge) and Roman times (Caerleon, Chedworth, Bath, various towns of Roman origin) through mediaeval abbeys and castles (Caerphilly and Chepstow) and Dutch influenced reconstructed gardens (Kew's Dutch house and Westbury Court) to the classic works of the English landscape school (Rousham, Stourhead, Stowe, Blenheim) plus more contemporary works (Hidcote Manor Gardens, Cotswold Water Park, Gateshead Garden Festival) and even a look into the future (Ebbw Vale Garden Festival site).

Architecture and urban design is an integral part of most environments and is also included, with visits to the hard and soft spaces in London, Oxford, Bath, Edinburgh and many fine Cotswold villages, towns and cities, even new towns (Milton Keynes). On top of this many of the students used long weekends to travel to other places on their own.

The first week of the program was spent in London, where, it must be admitted, the students were more like tourists - visiting the Royal Parks, Regent Street, the City, the Barbican and parts of the South-bank and docklands redevelopments, Kew Botanic Gardens and Hampton Court Palace and so forth. In addition to the class field studies, an attempt is made to cover the academic content of three other required courses. This year these were the History of Landscape Architecture, Recreation Site Design and Special Problems - student-chosen individual independent study. This makes Michigan State University's current overseas program unique. It is more than a travel tour, it takes place during a regular

academic term, rather than in the summer, and by including the content of the same courses as those being taught to the students remaining on the East Lansing Campus the participants are able to stay on-track towards earning their Bachelor of Landscape Architecture degree at the end of the fourth year of the accredited program.

The required academic load does place quite a burden on the accompanying instructor-in-residence, but having studio space, an office, and the excellent library at GlosCAT makes this a great deal easier. Especial value is gained from interaction with some of the British students and teaching staff. The interaction is somewhat more limited than we would like, caused by our ten-week spring term starting just before the English Easter break and ending long before the English summer term ends. Our curricula are also different, of course, and the English program has a very original structure which makes joint projects difficult.

Interestingly MSU will be moving to a fifteen-week early semester calendar in 1992 and we understand that as part of the reorganization of the School of Landscape Architecture into the Cheltenham and Gloucester College of Higher Education, based in Cheltenham, it may adopt a semester calendar - however with a February break rather than the Christmas/New Year break which we will have.

To introduce further comparisons between the programs might be to tread on delicate ground. The degree of care given to studying the history and ecology of a site by the English students is impressive, as is their refinement of detail design. We seem to include more site planning, even expecting the landscape architect will take a lead role at times, though we teach it in more fragmented courses than the integrated English studio.

In both countries, despite the fact that the environment and “green issues” seem high on the public agenda, it is ironic to note that the politics of the educational institutions are seeking to radically change traditional landscape architectural education. In MSU’s case the former School of Urban Planning and Landscape Architecture has been merged, though fortunately with still identifiable though not very autonomous programs, into a Department of Geography. The GlosCAT School of Landscape Architecture has just been similarly reorganized to form a part of a Faculty of Environment and Leisure, which includes geography and geology.

Do these changes reflect the way current landscape architectural practices operate? Does it matter? Perhaps not. It is healthy that professional education generally remains a full-time program of higher education at the university or four-year college level. If that means a reorganized academic administrative structure so be it. There will no doubt be changes to the program content – more theoretical academic, multidisciplinary education, less specific technical content. This will be beneficial providing the professional offices can be convinced that they will have to assume a far greater role in the training of young professionals to deal with the specifics of practice.

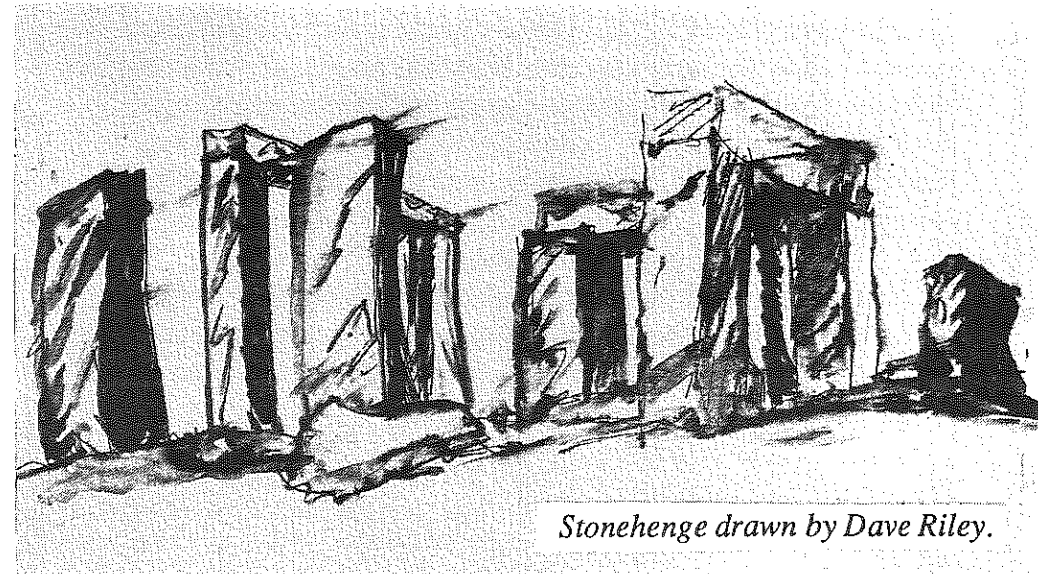
Perhaps this has digressed far enough. To conclude let’s ask how the eight female and seven male students from the mid-west of the United States have responded to their visit to Britain: an overwhelming comment has been. Wow! such an immense (and visible) history everywhere. The magic of the fairytale still spins in my mind every time I see a castle – perhaps that is why I come to England”.

“I can’t remember when I didn’t want to come to England. As a small child I would look through my father’s plant books always

stopping at the botanical prints to admire longer. As I grew older my curiosity for plants increased and when I had free time I began to study botany just for fun. I read as much as I could about plants, places and landscapes. Kew was always mentioned in some respect. When I finally realised I was really going to afford to go to England the most important place for me to visit was Kew Gardens”.

“Seeing the garden at Stowe was a thrill, yet understanding the place illuminates a whole world of knowledge about design and what happens to it through time. I had thought becoming a professional landscape designer would have meant a permanent medium for my creative yearnings. (For years the ‘temporary’ floral design I had practised was enough). Now, after seeing and understanding the changes that have taken place at Stowe through the years, I have come to realize that nothing is truly permanent”

This is an edited version of an article in the current issue of Landscape Design, to whom we are grateful for allowing this publication.



Stonehenge drawn by Dave Riley.

THE STATE OF THE LOCAL ENVIRONMENT

Paul Selman

Introduction

Organisations of all kinds – public, private and voluntary – are currently seeking to present a corporate “green” image. Inevitably, there is a gap between rhetoric and reality as they encounter the very real difficulties of sustaining a genuinely environment-friendly performance in their activities. Amongst the various methods now available to assist them in the task of environmental quality assurance are *state of the environment (SoE) reports* and *environmental audits*. To these may also be added precisely articulated statements of desired objectives, especially “environmental charters” (e.g. FoE, 1989) and “codes of practice”, the former perhaps better suited to public authorities and the latter to industrial enterprises.

Dr Paul Selman is course leader of the Countryside Planning degree at CGCHE. His current research interests include landscape ecology, geographic information systems and environmental management by local authorities.

State of the environment reporting is an attempt to provide accurate and comprehensive profiles of the status of environmental resources at regular intervals. It seeks to interpret trends and conditions in the environment, and identify pressures from human activities that alter the state of critical components. Auditing goes beyond this, and requires environmental performance to be checked against verifiable benchmarks. It thus identifies areas where ambient quality is unacceptable and recommends specific measures to achieve remedial action.

The Role of Local Government

Local authorities have wide-ranging responsibilities which require them to exercise concern for the environment. First, many local government departments – perhaps most obviously planning, education and environmental health – have distinctive duties towards the environment. Second, local government is a major user of goods and services, and operator of transport, so that internal procedures and purchasing policies can have significant impacts on natural resources. Third, local authorities have a more general duty to consider the welfare and corporate identity of their county or district, and thus may publicise information and exercise leadership on matters of civic importance. A number of local authorities now claim to be adopting a more corporate approach to environmental quality improvement and this article looks at a sample of some of the current responses.

The State of the Art

The most voluminous response has been the Kirklees SoE report (Kirklees MC, 1989), whose stated purpose is both to provide a comprehensive baseline of environmental conditions in the District and to act as a spur to targeted improvement. The report is

directed at those individuals in government, industry and non-governmental organisations who might gain from an overall perspective on conditions and trends in the environment, and on the factors thought to be influencing those trends. Its major goal is to "sustain" the environment, based on a threefold definition of sustainability, namely

* productive sustainability, referring to the District's use of natural resources, such as soil or water, so that their long-term productivity is not impaired,

* aesthetic sustainability, involving the maintenance of the District's natural and cultural heritage, and

* socio-economic sustainability, requiring the establishment of an economically viable community in the District.

The District was analysed in terms of the abiotic, biotic and cultural components which constitute its "human ecosystem". This system can be reduced to its component sectors (Figure 1), and the Report devotes a chapter to each of these in turn. However, systematic consideration is also given to the interrelationships of each sector with all other components of the system. Each chapter typically covers the institutional arrangements or legal framework associated with a particular topic, the distribution and condition of local resources, trends in quality status, current policies, monitoring and information provisions, and recommendations for future action.

The "Environmental Strategy" produced by Bolton (Bolton MDC, 1989) is a much more concise and narrowly-focused exercise, and considers only six priority problems. These comprise litter, vandalism, graffiti and dog control; the appearance of housing areas; landscape and landscaping; particular area concerns; aesthetics; and pollution. For each topic, the Strategy describes current conditions and expresses the Council's general aim and specific response arising from the analysis.

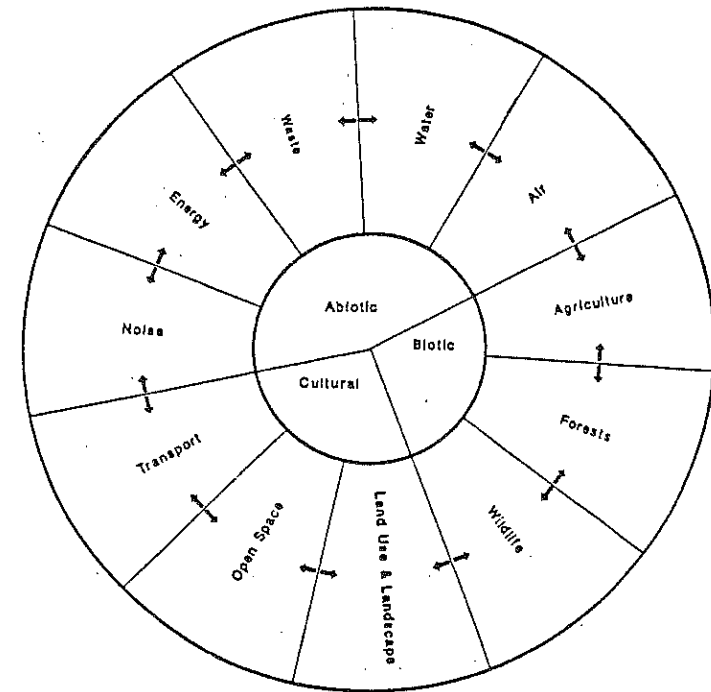


Figure 1: The Kirklees urban ecosystem with abiotic, biotic and cultural subsystems.

Particular proposals are made concerning, for instance, the provision of design guidance, the use of landscaping and maintenance treatments to reduce vandalism, public access to privatised reservoirs, and an anti-litter campaign. The Strategy outlines how results are to be achieved through direct implementation, environmental education, improved relationships with the voluntary and private sectors, and community involvement.

Additionally, Bolton has prepared an environmental audit for part

of its district -Brightmet- which seeks to assess the performance of the Council's "environmental" services for the area (Bolton MDC 1990). Each service (e.g. refuse collection) is itemised in terms of the standard and frequency of its provision, whilst components of infrastructure (e.g. street lighting) are appraised on the basis of their condition. Existing proposals for environmental improvements are then listed. This study is, in reality, more of a condition survey than a genuine audit and few indications are given of what is acceptable in terms of performance standards. The Bolton studies appear to be more concerned with the provision of services to disadvantaged areas than with environmental matters generally. However, they do confine themselves to issues which are clearly the purview of local government, and do not stray into areas where the Council's influence is only peripheral.

A more successful attempt at a genuine audit is that of Newcastle City Council (1990). This establishes overall environmental objectives in relation to socially acceptable standards and converts these into a manageable number of measurable indicators. These relate to various topic areas, including

- * energy conservation and materials recycling,
- * public health, water and air pollution,
- * waste disposal and refuse collection,
- * the City Council's buying policy,
- * transport conditions and
- * the "living city" (i.e. the city as a place for people and wildlife).

Given that the study sets out quantifiable indicators, Council policies can be individually evaluated and the need for further action pinpointed. Each section thus identifies appropriate indicators, specifies a City standard, and formulates an action plan. Corporate commitment to the environment is illustrated by the assignation of overall responsibility for coordination to the Head of Policy Services, and the delegation of indicator measurement to

the heads of appropriate departments. It is recognised that the Planning and Education Departments have particularly distinctive and important roles within the overall strategy.

Work is also in progress on environmental audits in Reading and Lancashire, and key objectives from these exercises may be summarised as

- * provision of comprehensive statements on and analysis of the present condition of the environment,
- * establishing baselines for monitoring future change,
- * identifying shortfalls in information and how these may be remedied,
- * promoting remedial and anticipatory actions and policies,
- * auditing environmental conditions arising from trade and industry, and from the Council's own activities,
- * developing initiatives with, and providing design and practice guidance for, various public and private organisations and
- * assessing the impact of present policies for waste collection and disposal, and the benefits of recycling.

These studies are expected to lead to further actions and SoE reporting.

The launch of Peterborough's Environmental Charter in February 1990 was accompanied by the creation of an Environmental Committee and the preparation of a district-wide local plan incorporating Charter declarations. New initiatives were also instigated, including a feasibility study for a recycling depot and "environmentally friendly" management of public open space. Their Charter amounted to a declaration of intent for the local authority in terms of its own practices, as well as seeking to promote ecologically-sensitive management by other agencies and to raise public awareness (Peterborough City Council, 1990).

Manchester City Council has also signalled its intention to develop a similar charter (Manchester CC, 1990): to date this merely draws attention to their past achievements, ongoing projects and future priorities. It is likely, however, that the adoption of green policies will give greater impetus to, for instance, their proposed light rail transit system and recycling programme. In Scotland, Fife Regional Council (1990) have produced an attractively presented Environmental Charter, committing them to

- * promote initiatives for pollution reduction, derelict land renewal and thrifty resource use,
- * preserve key landscapes and habitats, and improve poor landscapes,
- * protect the public from hazards and unsafe products,
- * publicise and undertake campaigns, and
- * implement procedures to review the Charter and respond to new issues.

Individual reviews of environmental sectors focus mainly on Council policy, but these really serve only as starting points for further deliberation and the development of a corporate approach within the local authority.

Conclusion

Viewed collectively, all the documents include some common themes, particularly those of taking stock, raising citizen awareness, encouraging informed public participation, and instigating appropriate actions. Most, however, share predictable weaknesses, and this is scarcely surprising given Britain's late start and lack of experience in SoE reporting and environmental auditing. In particular, only a minority of the studies succeed in stating specific performance guidelines or in determining a clear standard for the County or City. Moreover, some tend to focus excessively on those topics which lie wholly within the local authority's powers of

implementation, without recognising the broader influence which they might exercise. Equally, other Councils may suffer from taking too diffuse an approach. More encouragingly, it is possible to discern a general recognition that future reviews should lead to targeted and quantifiable action to address key local environmental needs, and that this can only be achieved by gaining a corporate commitment throughout the local authority.

References

Bolton M.B.C. (1989) *An Environmental Strategy*.

Bolton M.B.C. (1990) *Breightmet Environmental Audit: report of the Breightmet Area Action Environment Sub-Group*.

Fife Regional Council (1990) *Charter for the Environment*.

Friends of the Earth (1989) *The Environmental Charter for Local Government*.

Kirklees Metropolitan Council (1989) *Kirklees - State of the Environment*.

Manchester City Council (1990) *Manchester's Environmental Charter for the 1990s*. Pamphlet.

Newcastle City Council (1989) *Environmental Audit: Stage 1 - the objectives and the indicators*.

Peterborough City Council (1990) *Peterborough Environmental Charter - report of conference proceedings and information pack*.

THE CONSERVATION OF CHURCHYARDS: DESIGN AND MANAGEMENT

St. J. Bodfan Gruffydd

We should perhaps first forestall any confusion which may exist concerning churchyards and cemeteries. Cemeteries as we generally know them today are of comparatively recent date, necessitated by the concentration of large urban populations; they have their own design and management problems according to various national needs and customs. A cemetery may be designed to become a public park, as was the first public park in the United States of America, or it may be designed to fulfil the dual purpose of burial and passive recreation, as more recently in Basle and Zurich.

Here we are concerned with churchyards, usually attached to churches and having long continuity as burial grounds, reaching

Bodfan Gruffydd, PPLI, has had over forty years experience in landscape design. His practice is in Malvern and he is well-known for his research in the protection of historic gardens and parks.

back to mediaeval and Roman times, and even further as archaeology folds back the frontiers of knowledge. Churchyards have unique characters which must be understood if we are to look after them properly. These special characters have to do with the spiritual as well as the visual ambience and are often best expressed by our poets.

One immediately turns to Gray's *Elegy*:

Beneath these rugged elms, that yew-tree's shade
Where heaves the earth in many a mould'ring heap,
Each in his narrow cell for ever laid,
The rude forefathers of the hamlet sleep.

The breezy call of incense-breathing morn,
The swallow twittering from the straw-built shed,
The cock's shrill clarion, or the echoing horn,
No more shall rouse them from their lowly bed. (1)

So they lie, "Earth to Earth, Ashes to Ashes, Dust to Dust," to join the organic stream of birth, death and renewal. The head stones, the table tombs and the elaborate monuments above them give evidence of their silent presence; to weather slowly, as the bones below; to crumble into soil and join the cycle of continuous renewal. In this ambience,

Old Yew, which graspest at the stones
That name the under-lying dead,
Thy fibres net the dreamless head,
Thy roots are wrapt about the bones. (2)

It is the sense of quietude and of the slow progression of the seasons, where nature pursues its way, that contributes to the spirit

of a churchyard. It has to be sensed while contemplating the visual ambience for the *genius loci* to be appreciated. Then one understands that nothing should be done to break the bond between the living and the dead; for they are part of us; we were nurtured on their blood. As an old inscription says, "You are strong as the land which bore you, eternal as the land which covers you". Natural decay is part of the evolutionary process. The head stone totters, falls and crumbles.

Half hidden in a graveyard,
In the blackness of a yew,
Where never living creature stirs,
Nor sunbeam pierces through,

Is a tomb-stone, green and crooked -
Its faded legend gone -
With one rain-worn cherub's head
To sing of the unknown.

There when the dusk is falling,
Silence broods so deep
It seems that every air that breathes
Sighs from the fields of sleep.

Day breaks in heedless beauty
Kindling each drop of dew,
But unforsaking shadow dwells
Beneath this lonely yew.

And, all else is lost and faded,
Only this listening head
Keeps with a strange unanswering smile
Its secret with the dead. (3)

Thus, as slowly the stone's inscription weathers away, it does but mark the passing of another element in time, its site possibly becoming another topographical feature in our landscape as the burial sites of our ancestors.

In the churchyard of Bromham the yews intertwine
O'er a smooth granite cross of a Celtic design,
Looking quite out of place in surroundings like these
In a corner of Wilts 'twixt the chalk and the cheese'. (4)

Sincere dedication to this relationship of the living with the dead should ensure that the first principle in the management of churchyards is to follow the natural processes, at most easing the falling tombstone to a more comfortable horizontal position on the ground, or preventing graves being choked with brambles or ivy obliterating inscriptions.

It may be that part of the churchyard is still being used for burials or an extension for this purpose is needed. There may be some pressing reason for simplifying arrangements, for changing methods of maintenance, access or part use: then some easing of head stones from the vertical to the horizontal may be justified, always presupposing minimum possible interference with grave sites and their markers. Dame Sylvia Crowe warned me, "You be careful, Bodfan, to disturb things as little as possible, for any proposal for a churchyard raises fearful controversy!" It is the same for trees: it doesn't matter what you do to a tree, it's bound to be wrong!

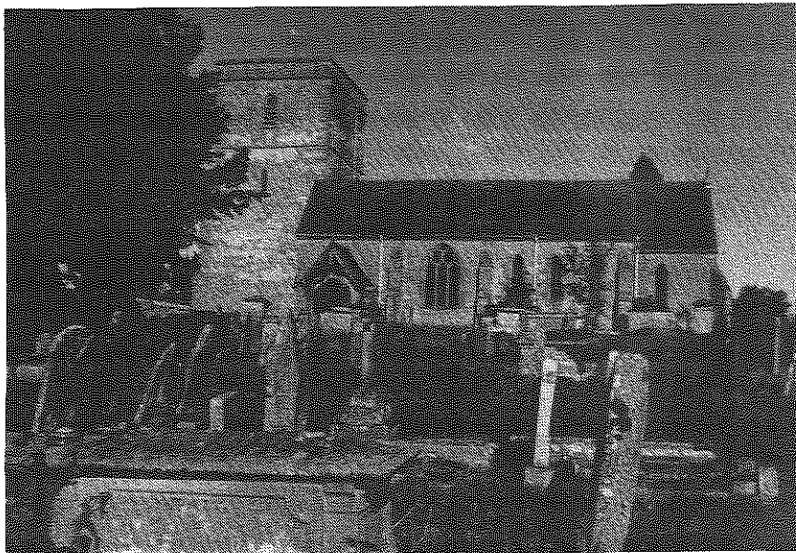
Then there are the historical aspects of churchyards in recording events, akin to the parish register, reflecting changing times, changing habits, with humour and pathos:

Under bare Ben Bulben's head
In Drumcliff churchyard Yeats is laid
An ancestor was rector there,
Long years ago, a church stands near,

By the road an ancient cross.
No marble, no conventional phrase;
On limestone quarried near the spot
By his command these words are cut:

Cast a cold eye
On life, on death,
Horseman, pass by! (5)

Historians now and in the future will want to trace through the story of that place. We must think of their scholarship as we have regard for field archaeology in the protection of historic landscapes, and if we do disturb, leave the record of what was found.



Grave markers of good hard stone (or cast iron) retain legibility for centuries; if we do preserve, we should guard them with great care, remembering co-incidentally that continuity involves change and that the old in time, unaided, gives place to the new. The extent to which we may plan to arrest the ravages of time has to be considered in relation to other factors affecting the weathering of surrounding artifacts, for it is important to give way gracefully to the inexorable march of time.

Notes

1. Thomas Gray (1716-1771), 'Elegy written in a country churchyard'.
2. Alfred Lord Tennyson (1809-1892), 'In memoriam'.
3. Walter de la Mare (1873-1956), 'The stranger'.
4. John Betjeman (1906-1983), 'The burial of Thomas Moore'
5. William Butler Yeats (1865-1939), 'Under Ben Bulben'.

Editor's note: I am indebted to Bodfan Gruffydd's article and to some comments from my colleague, Martin Spray, for giving me the idea to publish some poetry in Landscape Issues. 'Grongar Hill' is a classic landscape poem and 'A summer evening churchyard' I happened on fortuitously in an anthology that my mother recently bought for me in a second-hand bookshop. If you have any suggestions for future 'poetry groves' let me know.

A SUMMER EVENING CHURCHYARD, LECHLADE

Percy Bysshe Shelley (1792-1866)

The wind has swept from the wide atmosphere
Each vapour that obscured the sunset's ray;
And pallid Evening twines its beaming hair
In duskier braids around the languid eyes of Day:
Silence and twilight, unbeloved of men,
Creep hand in hand from yon obscurest glen.

They breathe their spells towards the departing day,
Encompassing the earth, air, stars and sea;
Light, sound, and motion own the potent sway,
Responding to the charm with its own mystery.
The winds are still, or the dry church-tower grass
Knows not their gentle motions as they pass.

Thou too, aëreal Pile! whose pinnacles
Point from one shrine like pyramids of fire,
Obeyest in silence their sweet solemn spells,
Clothing in hues of heaven thy dim and distant spire,
Around whose lessening and invisible height
Gather among the stars the clouds of night.

The dead are sleeping in their sepulchres:
And, mouldering as they sleep, a thrilling sound,
Half sense, half thought, among the darkness stirs,
Breathed from their wormy beds all living things around,
And mingling with the still night and mute sky
Its awful hush is felt inaudibly.

Thus solemnized and softened, death is mild
And terrorless as this serenest night:
Here could I hope, like some inquiring child
Sporting on graves, that death did hide from human sight
Sweet secrets, or beside its breathless sleep
That loveliest dreams perpetual watch did keep.

from GRONGAR HILL

Rev. John Dyer (1700-1758)

Wide and wider spreads the vale,
As circles on a smooth canal:
The mountains round, unhappy fate!
Sooner or later, of all height,
Withdraw their summits from the skies,
And lessen as the others rise:
Still the prospect wider spreads,
Adds a thousand woods and meads,
Still it widens, widens still,
And sinks the newly-risen hill.

Now I gain the mountain's brow,
What a landscape lies below!
No clouds, no vapours intervene,
But the gay, the open scene
Does the face of Nature show,
In all the hues of Heaven's bow!
And, swelling to embrace the light,
Spreads around beneath the sight.

Old castles on the cliffs arise,
Proudly towering in the skies!
Rushing from the woods, the spires
Seem from hence ascending fires!
Half his beams Apollo sheds
On the yellow mountain-heads!
Gilds the fleeces of the flocks:
And glitters on the broken rocks!
Below me trees unnumbered rise,
Beautiful in various dyes:
The gloomy pine, the poplar blue,
The yellow beech, the sable yew,
The slender fir that taper grows,
The sturdy oak with broad-spread boughs.
And beyond, the purple grove,
Haunt of Phillis queen of love!
Gaudy as the opening dawn,
Lies a long and level lawn,
On which a dark hill, steep and high,
Holds and charms the wandering eye!
Deep are his feet in Towy's flood,
His sides are cloth'd with waving wood,
And ancient towers crown his brow,
That cast an awful look below;
Whose ragged walls the ivy creeps,
And with her arms from falling keeps;
So both a safety from the wind
On mutual dependence find.
'Tis now the raven's bleak abode;
'Tis now th'apartment of the toad;
And there the fox securely feeds;
And there the poisonous adder breeds,
Concealed in ruins, moss and weeds,

While, ever and anon, there falls
Huge heaps of hoary mouldered walls.
Yet time has seen, that lifts the low,
And level lays the lofty brow,
Has seen this broken pile complete,
Big with the vanity of state;
But transient is the smile of fate!...

Ever charming, ever new,
When will the landscape tire the view!
The fountain's fall, the river's flow,
The woody valleys, warm and low;
The windy summit, wild and high,
Roughly rushing on the sky!
The pleasant seat, the ruined tower,
The naked rock, the shady bower;
The town and village, dome and farm,
Each give each a double charm,
As pearls upon an Æthiop's arm.

See on the mountain's southern side,
Where the prospect opens wide,
Where the evening gilds the tide;
How close and small the hedges lie!
What streaks of meadows cross the eye!
A step methinks may pass the stream,
So little distant dangers seem;
So we mistake the future's face,
Eyed through hope's deluding glass;
As yon summits soft and fair,
Clad in colours of the air,
Which to those who journey near,
Barren, brown and rough appear;
Still we tread the same coarse way,
The present's still a cloudy day.

THE MARCHFELDKANAL-SYSTEM: A BIOENGINEERING CASE STUDY

Gordon Hyden

The Marchfeld is a flat alluvial plain in the east of Austria, bounded on the west by the city of Vienna, on the south by the River Danube and on the east by the River March, from which the area gets its name. The region is about 1000 square kilometres in area and is one of the most agriculturally-productive regions in Austria, supplying Vienna with much of its fresh produce. The temperature gives optimal growth to the crops of the area, and the soil, particularly in the south, is very fertile. The limiting factor for agriculture is the low rainfall during the growing season. The average annual rainfall is between 500 and 600mm, too low for many of the plants grown in the area. Continual removal of trees and hedges has resulted in increasing water loss through transpiration and evaporation, compounded by the frequent strong winds experienced in this region.

Irrigation necessary to counteract the water loss has increased dramatically over the post-war years and it is this, together with water needed for industrial developments in the area and increased

drinking water demands, which has resulted in a steadily decreasing ground water level. The average fall in the water table over the past thirty years has been 100mm per annum, but there has been a marked acceleration in recent years.

In addition to the effect of taking water out of the ground, four other causes for the reduction in ground water levels have been identified. They are:

1. Deepening of the Danube thereby increasing the effectiveness of land drainage.
2. Water regulation works on the rivers and streams of the Marchfeld.
3. Earlier draining of natural wet lands for use for agriculture.
4. Sealing of surfaces by building engineering works.

There are areas of the Marchfeld where it is already impossible to obtain water supply from the ground water reserves. This is not only because the level is too low but there is significant pollution from sewage, waste tips and effluent from factory farming. If the water level falls any more and pollution cannot be reduced, it has been forecast that it will soon be impossible for consumers to pump water up from the wells and so supply the demands of agriculture and industry in the region.

The construction of the Marchfeldkanal-System aims to overcome these problems by bringing water into the region from the River Danube. The project will achieve this by:

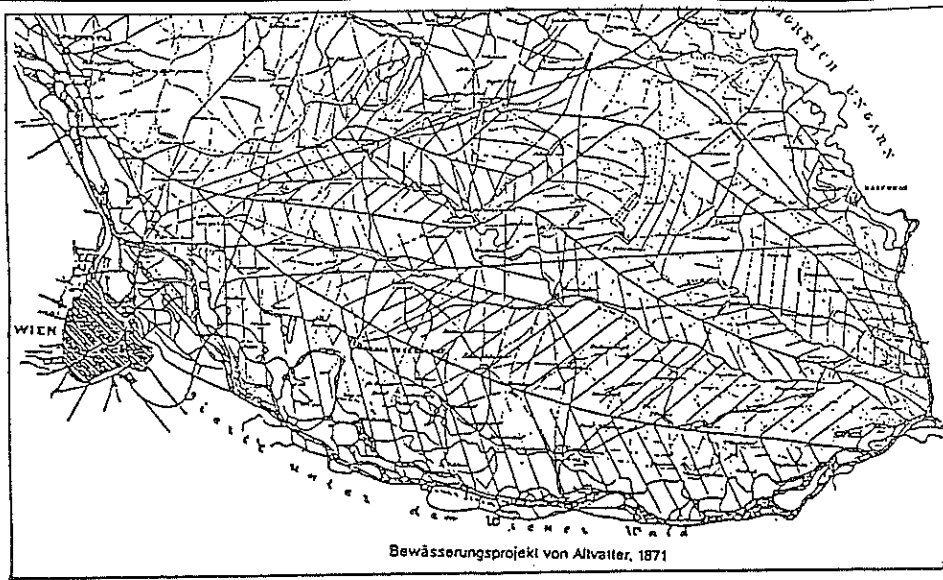
1. distributing surface water into the Marchfeld by a system of open canals,

2. allowing controlled seepage to re-establish the water table,
3. creating new areas for natural wildlife and protecting endangered wetland
4. improving flood protection by repair of leaking embankments, and
5. improving water quality in the rivers and streams of the Marchfeld.

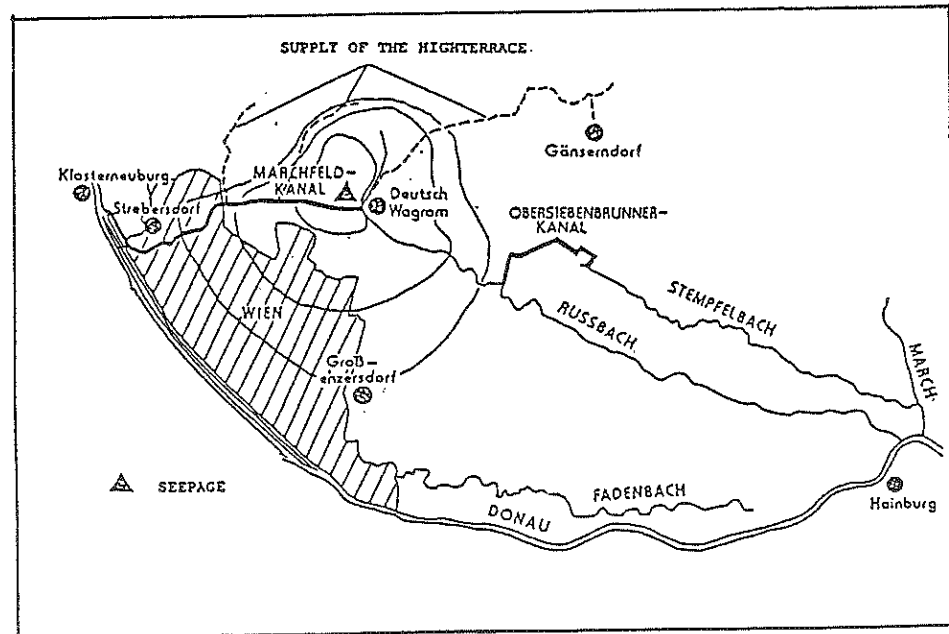
The complete system consists of the following parts:

1. **The Marchfeldkanal** is the major element in the surface water distribution system, delivering water from the Danube to the centre of the Marchfeld region.
2. Two small rivers, **the Russbach and the Stempfeldbach**, take care of the linear water distribution, returning surface water to the Danube and the March near their confluence.
3. **The Obersiebenbrunnerkanal** is a second artificial canal which joins the Russbach and the Stempelbach to facilitate even water distribution over the south and west of the region.
4. **A groundwater infiltration system.**

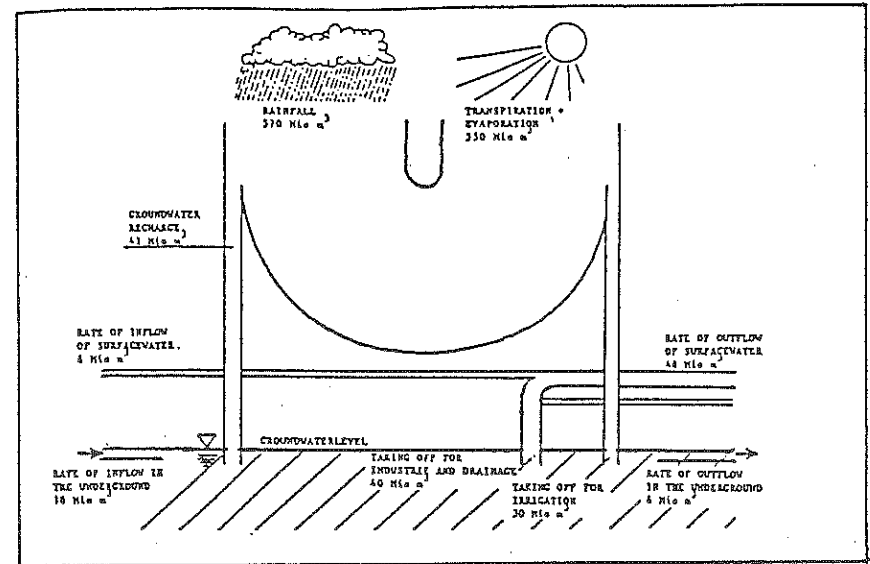
Having established the essential engineering requirements of the system necessary to provide the water supply, the biological aspects were introduced. Most, if not all, of the old natural habitats of the region have been sacrificed to agricultural and industrial demands. The region has lost the majority of its meadows, hedges, woodlands and wetlands, but the Marchfeld project has offered an opportunity to bring back some of these important habitats. The project designers realised that they could not reconstruct the situation which existed 150 years ago, and have however adopted a policy by which the canals are planned and constructed to maximise the chances for wildlife to return to the area. The line of the canal has been changed from the smooth engineering line, giving a range of flow patterns, some faster, some slower; the varying profiles give shallow shelving banks and deep still pools.



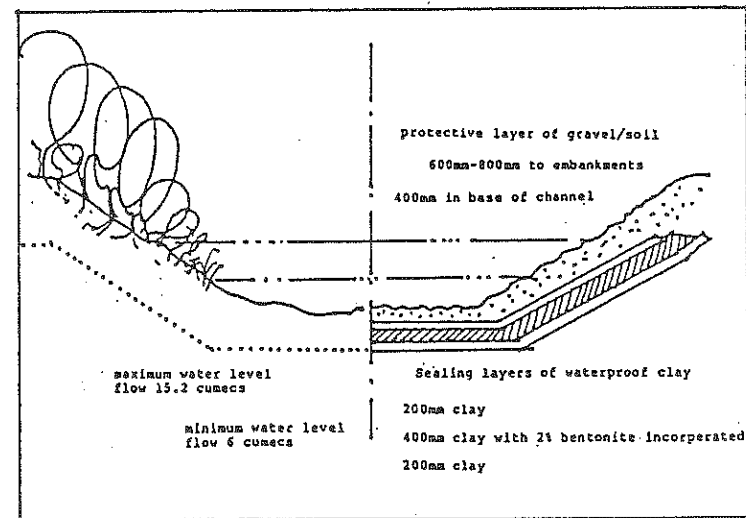
An attempt to improve the water distribution to the Marchfeld region, dated 1871 but never carried out.



The Marchfeldkanal-system due for completion in 1992.



An approximation of the water balance of the Marchfeld in the late 1980s.



A typical profile/section through the Marchfeld canal.

The wide bends and loops have also provided areas alongside the canals of differing widths, allowing rather larger areas to be included in the biological planning. All of these techniques increase the number of different types of wildlife which can find a place in the 'biological corridor' so created.

The delineation of the canals has been considered very carefully with a set of profile pegs set every 20 metres along the whole length of the canal, to an accuracy of a few millimetres. The intention is to construct the banks of the canal in as natural a way as possible. Although it became necessary to resort to the use of plastic sheeting at a few critical points, the rest of the channels are constructed on the profiled formation level with three layers of clay. The top and bottom layers are 200mm-thick pure clay. The middle layer which is 400mm thick has the addition of 2% of Bentonite, ensuring a reliable waterproof seal to the channel. On top of the waterproof layers is a protective layer of sandy top soil, 400mm thick on the base of the channel, while increased to between 600mm and 800mm thick on the embankments.

The planting of the embankments and the adjoining areas is carried out with native species. Depending on the particular situation three different techniques are used to establish the vegetation:

1. Seeding of some sections consists of seed mixtures indigenous to the area, but a great deal of the establishment seeding is of oats (*Avena sativa*).

2. Cuttings ('parts of plants') consist mainly of willow stakes. More substantial parts of branches (50mm diameter 'logs') from a range of species including willow and hazel (*Salix* and *Corylus* spp) are driven into the ground. The rhizomes and green shoots of reeds (*Phragmites* and *Typha* spp.) are laid on the surface of the protective soil layer.

3. Rooted plants, all two-year old indigenous species, are

planted into the soil by simple forestry-type techniques. A wide range of both trees and shrubs are used to provide the maximum opportunity for variety to develop naturally from these planted areas.

After planting, the area is covered with a layer of straw. This is the only protection the new plants and soil have from the drying winds and the sun. Without the straw mulch intensive watering would be necessary to ensure the survival of the plants. A number of experimental sites have been established for two years and the success rate is impressive. The project has been in progress since 1987 and it is expected to complete the major part of the work in 1992. The cost of the construction work is estimated at 2.8 billion Austrian schillings (approximately £140 million, at 1990 rates). The problem of water supply to this region has been an ongoing problem for 150 years, and the Marchfeldkanal project will undoubtedly go a long way to resolving the immediate concerns of the local population. In the light of the imminent likelihood of Austria joining the European Community, one must ask, however, if the support of local agriculture by such artificial means can be sustained when faced with the competition of the open market. At any rate the use of 'bioengineering' techniques to construct and ameliorate the scheme will ensure that some good will come out, no matter what the economic consequences might be.

This report was the result of a recent visit to Austria as part of an on-going research project into the current state of bioengineering. It was supported by the Research and Professional Development Committee of the Faculty of Environment and Leisure, CGCHE.

COMPUTERS IN PRACTICE

Robert Moore

This one-day technical workshop held in May 1990 was a joint venture of the South West Chapter of the Landscape Institute and the School of Landscape Architecture in the Cheltenham and Gloucester College of Higher Education. Its aim was to introduce to local practitioners a range of applications of computer technology in landscape architecture and to demonstrate a few of the relevant facilities currently available to students on the landscape architecture course at Gloucester.

There is a difference between computer-aided design (CAD) and office automation, the former being those programs which are of specific use in assisting design work as distinct from those of a more general use, such as word-processing, accounting and referencing techniques. Since visual considerations are of major importance in landscape design it was agreed that the workshop should concentrate on graphic computing and the CAD systems which were selected for demonstration on this occasion included the following:

1. AutoCAD and LandCADD: construction, architectural and landscape architectural design on micro-computers,
2. terrain analysis and site visualisation on a mini-computer,

3. plant selection databases and inter-active video,
4. paint-box graphics, automated cartography and satellite image processing.

In the introduction to the workshop it was stressed that all landscape architects should have a basic education in computers, so that they are better able to assess the appropriateness of the technology in a range of work contexts. To reject automation from a position of ignorance should not be the action of a professional designer. Neither is it acceptable to be completely seduced into buying systems by clever promotions: computer sales representatives invariably promise improved efficiency, simplicity of use, accuracy and truthfulness of output from their products. Furthermore, those expecting instant results may be somewhat disappointed since it is fairly common for the uninitiated to experience an indeterminate period of trial and error, attempting to make sense of often badly written manuals or of the jargon that calls itself 'product support' down a phone line.

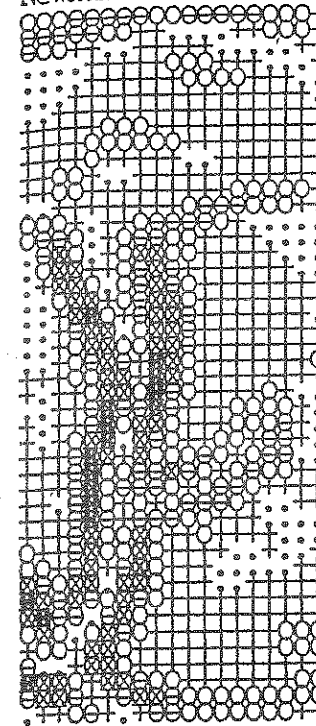
A sad outcome of such frustration is the abandonment of computer aid in favour of more traditional, manual practices. Yet one must not assume that proficiency with a new and highly-sophisticated technique comes without effort. There is a learning time. Obviously the more instruction that the Schools of Landscape Architecture can provide the better, but given the time constraints on already overcrowded curricula only a select few of the currently-available commercial software packages can possibly be discussed or demonstrated. For specific applications there is an argument that designers should be trained in employment or as part of continuing professional development. The technology is one of rapid change, and the Schools should concentrate on teaching general principles and on exposing students to as wide a range of computing techniques as possible.

In the process of designing, simple images from graphical computer systems can often suffice, for example a range of wire-frame perspectives viewing a site. Essential site attributes can usually be inferred from such minimal information, and three-dimensional models are easily conjured in the mind's eye of the designer. If the line drawing is then plotted as paper hard-copy, manual enhancements can produce acceptable sketch designs. 'Paint-box' systems allow more artistic rendering and texturing to be made on-screen and some even permit three-dimensional modelling with the designer inter-actively making changes to the scheme displayed. Experimenting with various colours and effects offered by modern systems can be a valuable source of design ideas.

A second application of computer graphics is in the production of final drawings for the client or for use in public enquiries. This is typical in the area of environmental impact analysis. Here the plans need to be graphically superior to the preliminary drawings described above, and any landscape visualisation needs to be presented as realistically as possible. Often this takes the form of sophisticated video presentations containing computer-modelled views, automatically coloured and showing visibility zones. Standardised graphics effects and symbols and drawings which appear to be machine-produced are anathema to most artists and should be avoided, yet, ironically, there is a general view currently prevailing that assumes explicit computer graphics to be in some way more authentic, more honest. There is without any doubt a ready acceptance of computer pictures by the younger generations weaned on modern sci-fi film effects and car design commercials.

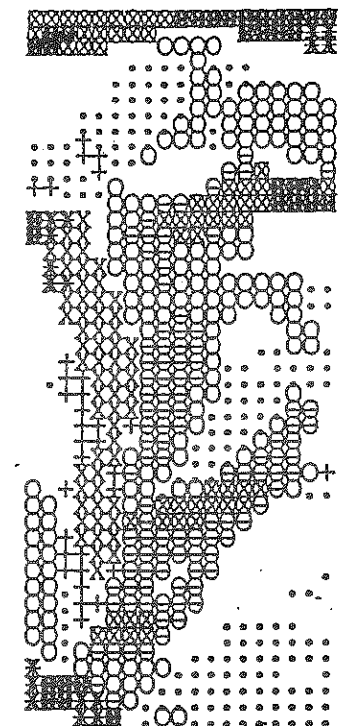
Since the 1983 Green Chips Conference in Glasgow, the first in this country to discuss computer assistance in landscape architecture, there has not been, apart from a few notable exceptions, the predicted uptake by landscape practices of genuine computer-

Newham Bottom GRADIENT



Gradients:	
...	< 4.00 degrees
+++	< 8.00 "
OOO	<12.00 "
OOO	<16.00 "
XXX	<20.00 "
███	<24.96 "

Newham Bottom ASPECT



███	north
XXX	north east
XXX	east
+++	south east
...	south
OOO	south west
OOO	west
XXX	north west

Site analysis, Forest of Dean: slope and aspect.

aided design systems. The editorial in this journal in March 1985 talked about the the kind of applications most suitable for landscape work— not unlike the CAD areas demonstrated in the recent workshop! — but it has taken until now for dedicated software to become widely available commercially. AutoCAD and MOSS have, it is true, been around for many years but these have had an engineering bias and a large computer requirement respectively. Consequently they have tended to be restricted to larger offices of architects, planners and surveyors, and frequently in the public sector.

Early plant databases suffered either from being of a purely botanical kind or from having only a limited number of plant records catalogued according to design criteria. Although this situation has improved there is still a major problem of subjectivity in plant description: ultimate users may not fully agree with the author's specific classification, especially if an attempt to refine the categories, numeric or otherwise, to more than just broad bands has been made. For example, where on a density scale of five would you place *Betula pendula*? Is the foliage of *Robinia pseudoacacia* 'frisia' yellow or gold? The College database 'PlantFile' has attempted to reconcile these issues by adhering to the original visual design basis which was developed and refined by Sidwell (*Landscape Issues*, November, 1984); indeed the system has now been transferred to an inter-active video system 'PlantFax' which will allow efficient retrieval of plant information and rapid display of photographs of the selections.

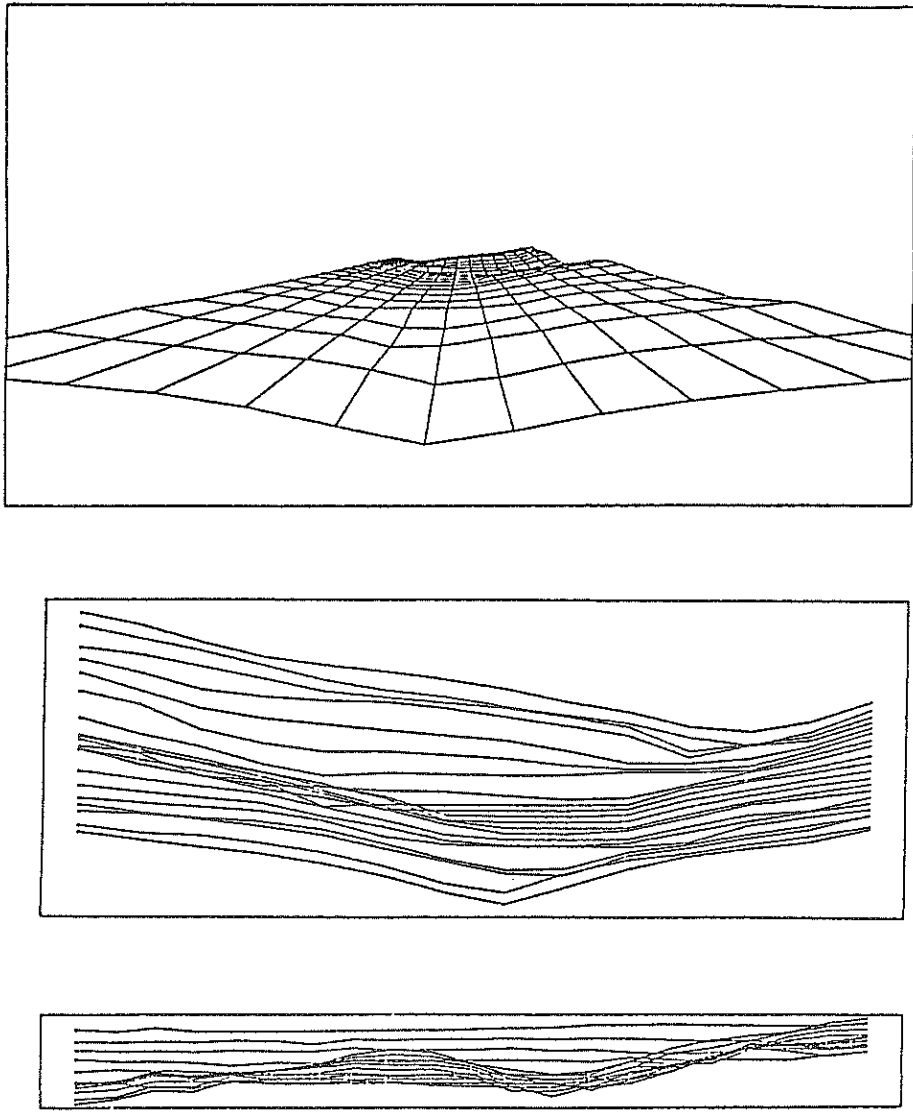
Despite the fact that AutoCAD is pushing forward with landscape modules such as LandCADD and KeyScape, those landscape practices with well-established computer support continue to use mini-based systems or dedicated workstations with terrain analysis, landscape modelling and visualisation packages. Paint-box

systems are used more in the graphic design profession but there are important applications in sketch-designing on frame-grabbed site perspectives and in photo-montage techniques. Likewise colour systems allow landform analysis and vegetation survey using digital height data and satellite images.

The illustrations accompanying this report have been taken from the demonstrations at the workshop and show the kind of graphic output obtained from the systems. While valuable work can be achieved on-screen there will always be a need for satisfactory hard-copy drawings. Unfortunately printing and plotting devices still command high prices in the thousands of pounds bracket and while line graphics are easily copied and enlarged, colour copies have limited value when less than A4 in size. Photographing the screen is possible of course but there is probably more potential in video recording. Images can be saved as single video frames or can be sequenced in a flight path modeller to simulate movement through a proposed design. This technique has particular validity as a means of presentation to clients or public inquiries.

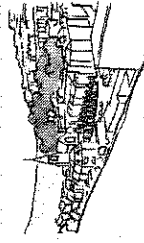
The view of the role of computers in the curriculum taken at CGCHE is principally one of problem-led integration. The first year does have a short general introduction to their relevance to landscape architecture, but throughout all the years appropriate computer solutions are made available when exercises or projects so demand. Design projects are not as yet generally set up to be computerised, whereas a social survey exercise that feeds a neighbourhood open space project is analysed using a computerised statistical package. A fourth year (diploma) module, however, has been offered which covered electronic communication: computers and video. Small groups of students were allocated to specific applications and given over a week to research and present their findings to the others. This intensive hands-on experience and the

Tiled perspective and projected cross-sections.

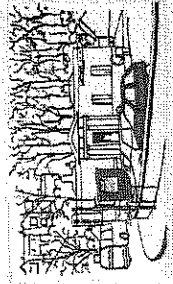


LAND MANAGEMENT + DESIGN

This identifies desirable changes of use, promotion or retention through directing design, management and purchase.

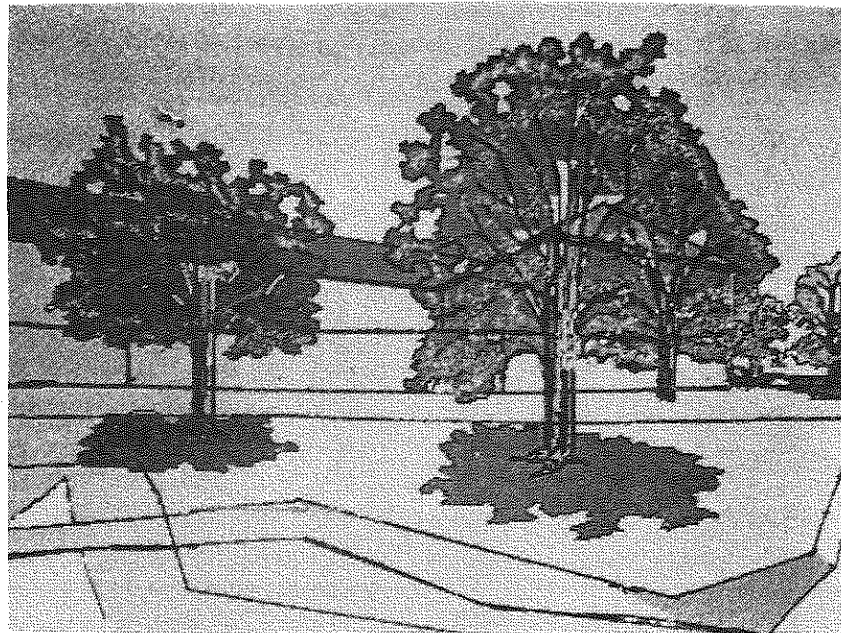


THE STRUCTURE PLANTING ON PROMENTS EMPHASIZES VALLEY CHARACTER

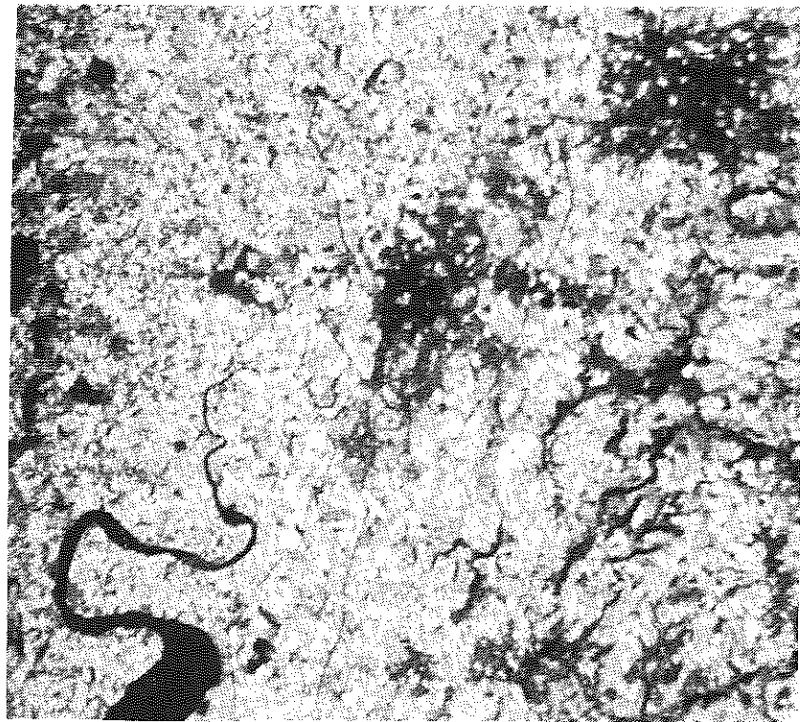


CAR PARKS ARE IMPOSED AND SUPPORTED BY PLANTING

Contour perspective and overlaid information.



Electronic painting over frame-grabbed image.



Infra-red satellite image of Gloucestershire.

setting of hypothetical design problems proved to be very rewarding, and will now figure as a significant element in the fourth year curriculum.

For the "Computers in Practice" workshop some fourth year students, accompanied by two from the third year (degree), led the demonstrations. None were computer specialists and hopefully they were able to share both their frustrations and successes from their limited experience of the computer systems. It was a genuine attempt to show how an average landscape architect can equip himself to use computers as a technique in the design process, without having to undertake any programming. We believe it makes more sense to develop an operational expertise in landscape architects rather than to try to teach computer analysts to think like designers. As a consequence the technology will be design-led and, being so controlled, should turn out to be the major innovation this century in the professional activities of landscape architects.

Thanks to Tom Grantham-Wright, Ivor Matthew, Alan Capper, Peter Scholes and Jonathan Buckley for demonstrating the graphic facilities. Thanks also to John Bennett, horticultural technician to the department, for the database and IV demonstration.

David Scragg (of the David Scragg Partnership, Weymouth) must also be mentioned for the administrative work he undertook to make the seminar a success; indeed the idea for the event was his.

OXFORD SCIENCE PARK: TRAVERS MORGAN DESIGN COMPETITION SUCCESSES

PREFACE by Gordon Hyden, Course leader, Diploma in LA.

In late 1989 Travers Morgan Landscape, in collaboration with the Landscape Institute, invited students at recognised Schools of Landscape Architecture throughout Europe to submit designs in an ideas competition for an open space within the new Oxford Science Park. A first prize of £1000 was to be awarded, with £500 for second and £250 for third.

Detailed plans were provided and a site briefing was held, from which a list of questions and answers were published for the use of all competitors. Four A1 sheets were required as the submission, the first to explain the design philosophy, the next two at 1:500 were to show the proposed design and the fourth was to amplify any parts of the design not clear at that scale.

Having in mind the general conditions of the competition, the diploma students of the School of Landscape Architecture at GlosCAT were presented with the project as a short sketch design exercise. This was assessed as a normal part of the work of the year and the students who were successful in this phase of the project were given further time to develop their work and to bring their ideas up to a standard suitable for submission.

From the half a dozen submissions which were finally made we were more than pleased when the results revealed that the winning entry was the work of two of our students – Arthur Gelling and Namrita Singh. Two commendations had also been won by diploma students Juliette Pollard and Paul Lightfoot. One additional entry had been made by three students of our second year – Bart de Keyzer from Belgium, Danny Shmulovitch from Israel and Stephanie Pope from Surrey – and this truly international effort earned a commendation too.

This was an important design competition attracting entries from all over Europe. These students who did so well deserve much credit and we as a School are pleased to bask in their reflected glory.

What follows is an extract from the winning entry developed by Arthur Gelling and Namrita Singh.

The design philosophy

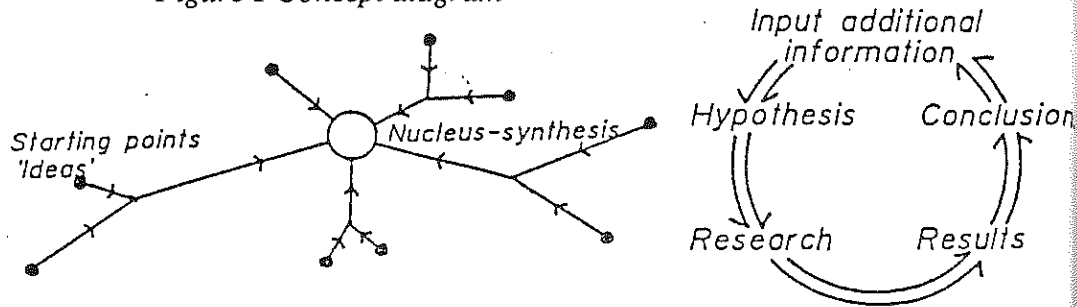
Identity

Oxford Science Park is to be a major research and development complex for one of the world's most prestigious educational establishments: Magdalen College, University of Oxford. To reflect the site's importance, the landscape architect's approach to the design of the competition site should be elevated above the common-place.

Specific requirements must be met including important contextual considerations. These include the site's transitional setting in the green-belt between Oxford and the countryside, and the creation of

an immediate visual impact from the A423 – the ‘gateway’ to Oxford. Within the site’s framework a lake/balancing pond must be provided and a grand avenue extended through the site from the east. Most of all, Oxford Science Park should generate an identity as distinctive as those of the Oxford colleges themselves.

Figure 1 Concept diagram

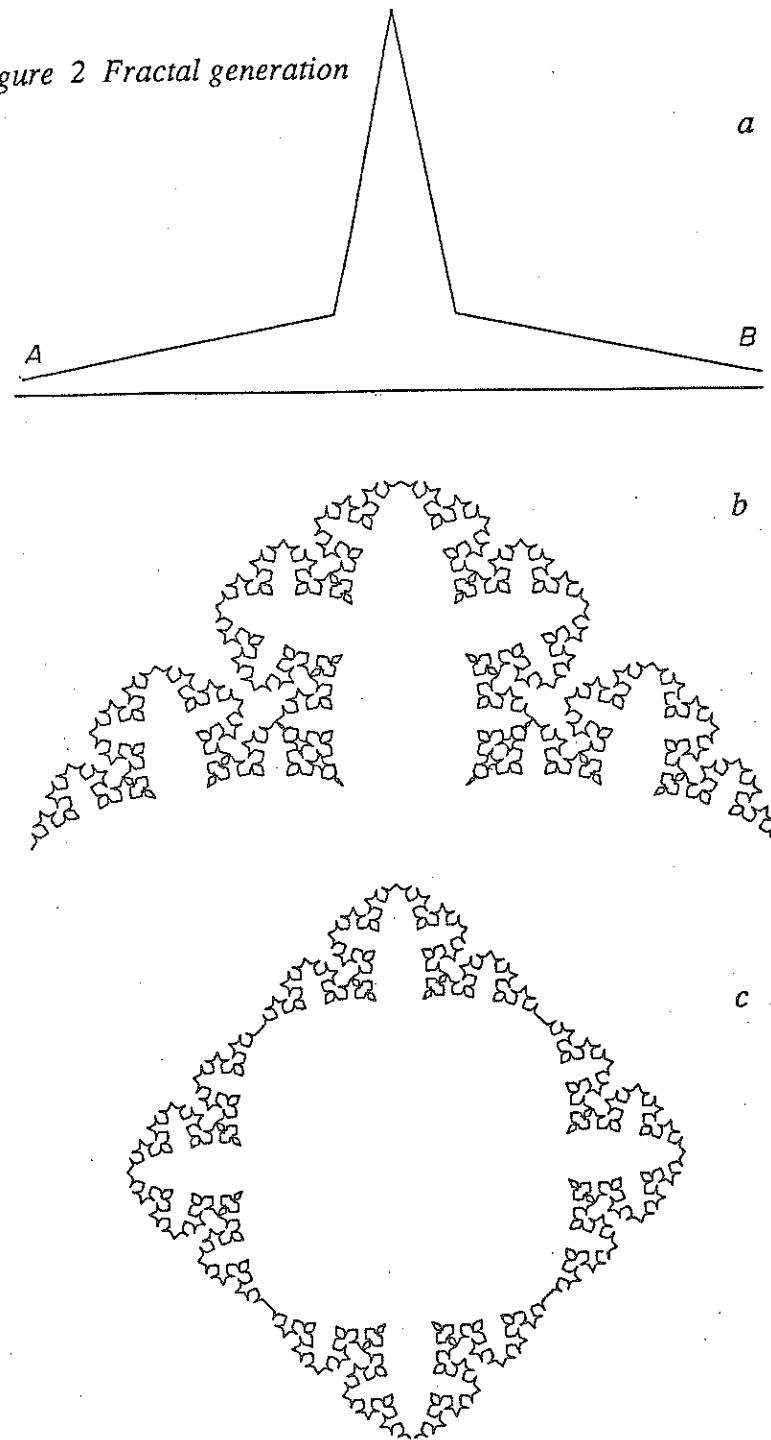


Concept

The concept encompasses the idea of research and development. This occurs in two main ways: a cyclical process where previous knowledge or new-found information inspires the formation of a new hypothesis. This hypothesis is researched, developed and tested and once new conclusions are made they become starting points for new cycles of development (Figure 1).

There is also the linear development found within the nature of fractals (self-scaling lines or polygons). Fractal geometry was developed in the 1970s by Professor Mandelbrot as a mathematical model for natural - seemingly non-geometrical forms. Using random elements within formulae developed, any apparently natural form can be mimicked by computer simulation, for example, a fern frond, a mountain range or a mushroom. A very simple form of fractal geometry is illustrated in the diagrams (Figure 2).

Figure 2 Fractal generation



A simple line is drawn to connect two points A and B (Figure 2a). Each facet of that line then has the same line applied to it, to form a more complex line. Then each facet of this line has the same line applied to it to form a yet more complex line. This process can be continued for n generations. Figure 2b shows three generations of the original line in Figure 2a.

By combining two elements in this way new forms may be generated. Figure 2c shows the line generated in Figure 2b rotated about 90 degrees four times to form a closed square. When many different parameters such as these are combined, with a random input to each generation, the 'natural simulations' mentioned above can be created. Fractal geometry can thus be seen as a link between mathematics and the Euclidian geometry with which we are so familiar, and the natural environment of which we are only beginning to learn.

The fractals used have specifically been designed and computer-generated for this project. The hexagonal fractal (Figure 3) is used within the scheme to form platforms bordering the lake. The fractal shown in Figure 4 was used to provide the basic frame-work for the design

Visualisation

The visualisation of the concept is implemented through a system of pathways set within a basic structural fractilinear pattern. The structure has been broken down into a hierarchy of detailed areas inviting a variety of uses. Vegetation and detail elements such as low guiding walls, partitioning trellis-work, paving patterns and level variations help in the creation of spaces of a human scale. Thus the overall objective of large-scale impact combined with the integration of site and user requirements is successfully achieved.

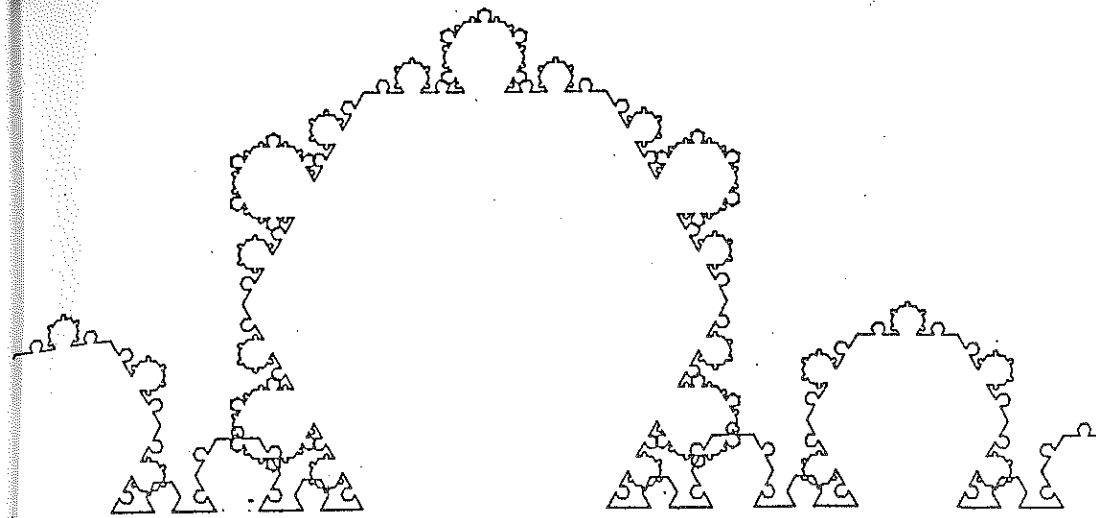


Figure 3 Hexagonal fractal

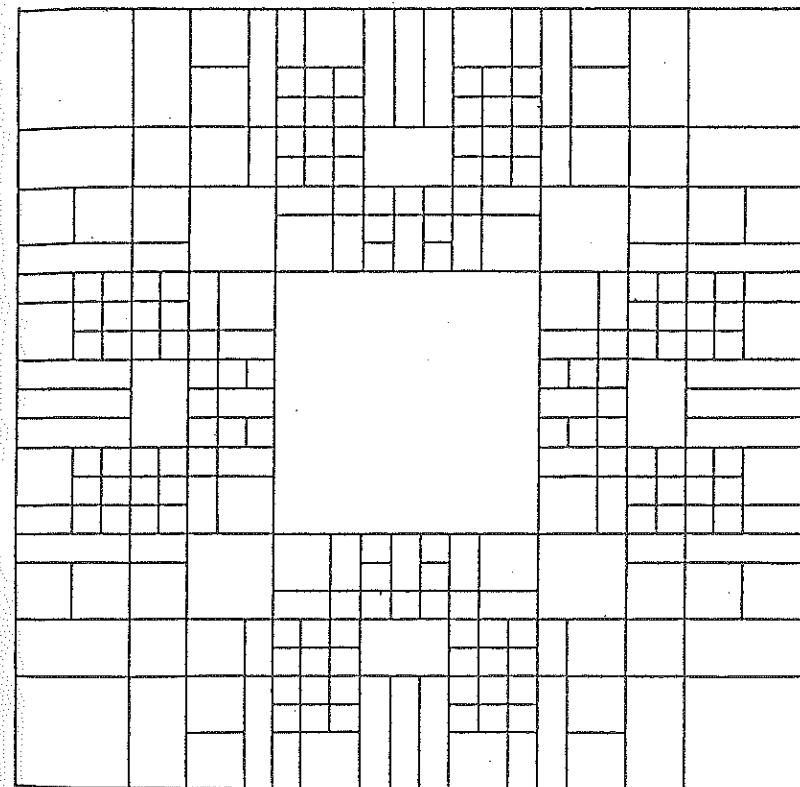


Figure 4 Rectangular fractal

Main Elements

WATER Water has been utilised in a variety of ways within this scheme. The required linear lake/balancing pond provides an attractive setting with views from adjacent buildings and the outdoor seating areas, combining properties such as reflection and tranquillity whilst also demanding the inclusion of new landscape elements responsible for the relationship between water and land - for example, bridges, platform islands, terracing, and water-related plants.

By its very nature, the adjacent stream cannot compete with the larger lake but it can provide different opportunities by responding to characteristics such as water movement and sound provided within the scheme by channelled cascades from overhanging platforms.

Lastly, water is used specifically for the concept in the creation of pools formed around dominant features such as the initial "ideas", the central glass shelter and the final "synthesis".

PATHWAYS The pathways develop initial ideas, evolving a series of changing forms which may intersect with others. These are drawn towards the final synthesis - a combination of ideas and elements expressed in a unified and beautiful structure, each element being a working part of the whole. In addition, these pathways are expressed through distinctive paving and low boundary walls with a fractilinear pattern.

VEGETATION AND STRUCTURAL DEFINITION A major requirement of the brief was to introduce a feeling of established vegetation to the site. This has been achieved within our scheme

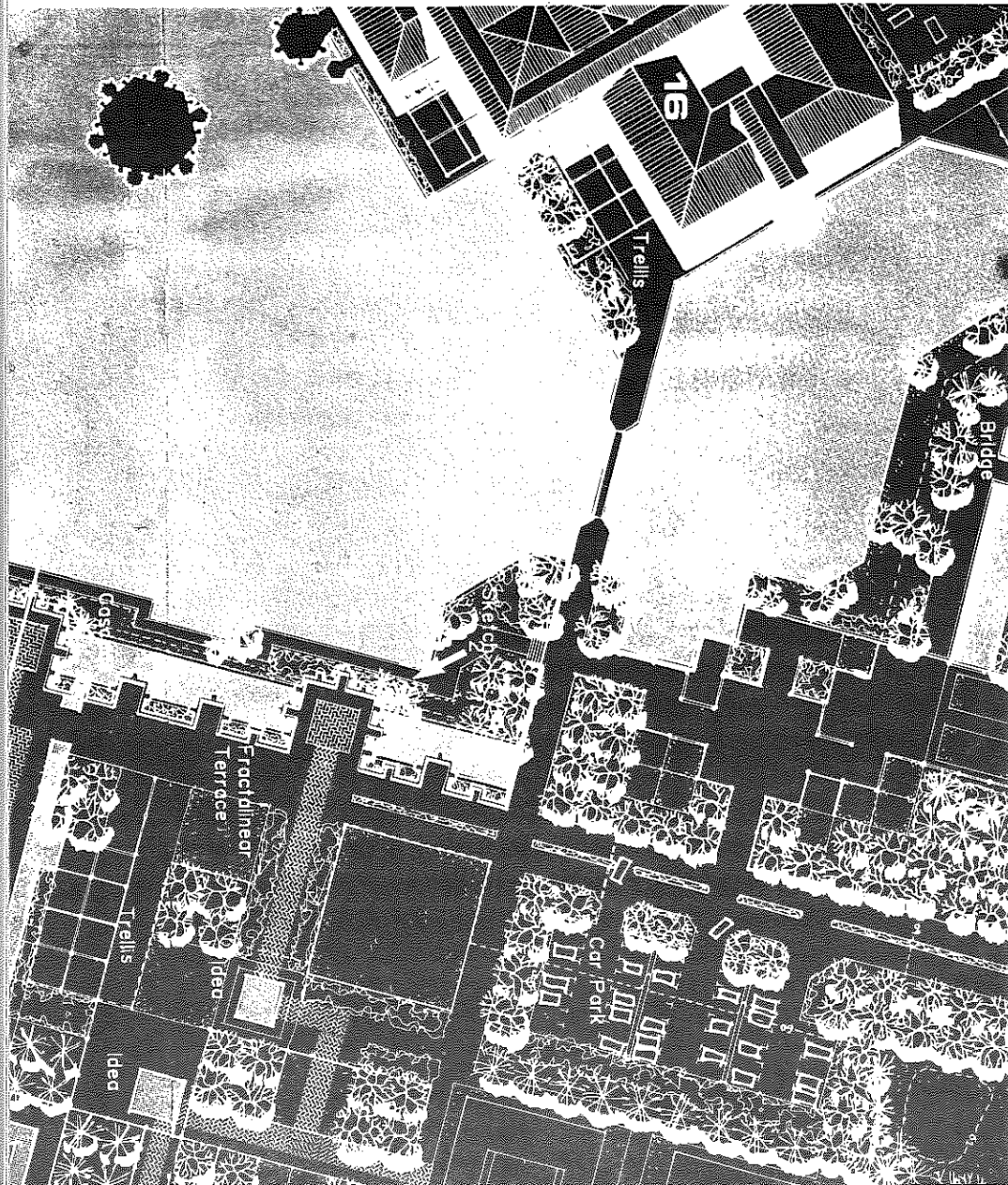
with the extensive use of multi-stemmed trees, and high-quality heavy standard to semi-matures in the more important, formal spaces, providing a degree of instant impact in the early years of the scheme. The combination of these trees, shrub ground-cover and grassed areas and the use of variations in levels allow both the structural definition, as required in the masterplan, as well as enhancing the scale and lush character of spaces to users at ground level through controlled exaggeration. Additional elements such as trellises aid in defining enclosure in a more rigid way. They also provide opportunities to express detailed fractilinear patterns within their make-up. The use of different surfacing occurs in three main ways:

1. Grass is used predominantly on the western edge, the structure breaking down into an open area.
2. Paved areas bordered with vegetation - low shrubs/herbaceous planting - are used to create dimensional variety within the fractilinear structure.
3. Paved areas tend to be located in areas of concentrated use i.e. in and around the centre-point of the fractal and the Grand Avenue.

USES The scheme has been designed within the context of serving the entire Science Park development as an important, integrated facility. User and use analyses have been made and are satisfied within the scheme. Considerations have been as to the lengths of time spent outdoors (short to longer breaks) and the sort of spaces required to respond to a variety of desired activities, for example, spaces in proximity to buildings - terraces and platforms with seating; limited car-parking for users from the far side of the Park development; circulatory system around the lake, interesting longer walk, for instance along the ideas pathways through a series of incidental spaces; seating in key areas, and more private areas

provided by benches, informal seating provided by extensions or indents to planting bed walls, or grass (banks, terraces etc.) providing sun-lit to dapple tree shade; and lightly-sunken tennis courts with accommodation for spectators.

Figure 5 Detail of master plan



COUNTRYSIDE PLANNING AT THE CGCHE

Paul Selman

1990 has seen the first intake of students on the new BA (Hons) degree in Countryside Planning at the Cheltenham and Gloucester College of Higher Education. Despite its late launch, the course recruited healthily, proving attractive to applicants from a variety of backgrounds and with diverse career aspirations. It is worth recording, in this context, that the CNA validation panel commended the course for its "distinctive" orientation and qualities.

The cessation of the former GlosCAT degree in planning during the 1980s, which was always noted for its attention to rural and local issues, can be seen with hindsight to have been a serious and unnecessary loss. Recruitment terminated just as rural and environmental topics rose to prominence on the planning agenda, and when initial and in-service education on these matters became most urgent. Fortunately, the new degree in Countryside Planning has been able to build on these former strengths, and will equip its graduates to move into a variety of careers both within and beyond the pale of mainstream planning.

Pundits during the past decade have often spoken of the countryside being in a state of crisis. This may be a rather harsh – even overtly political – observation, as the British countryside still retains much of its quintessential character. Nevertheless, agriculture is undeniably experiencing a period of rapid readjustment, whilst many villages are losing their economic and social cohesion, and heritage resources are threatened by tourism and development. Nor is there any simple solution to these crises. Part of the problem has lain in the nature of traditional education for countryside personnel, which has tended to produce admirable expertise in single subject areas – such as agriculture or conservation – but has failed to instil in practitioners a broadly-based appreciation of the multiple functions of rural areas. Consequently, public and private agencies have experienced difficulty in arriving at genuinely integrated solutions for the countryside. Equally, many graduates whose training has focused predominantly on urban areas may fail to acknowledge the level of sensitivity and individuality needed in tailoring initiatives to the needs of rural communities and landscapes. Furthermore, many of the causes of, and solutions to, rural problems now originate in Brussels, and so a good grasp of the European and even global dimensions has become essential.

The Cheltenham course has been designed in response to these complex needs. In particular, its central philosophy is to seek an explicit balance between rural community development on the one hand, and the sustainable exploitation of rural resources on the other. It also recognises strongly the international perspective, for instance through specific modules and the European field trip. Work experience is incorporated through a six-month industrial placement, and is enhanced by the inclusion of preparatory and concurrent modules which enable students to maximise the benefit of this experience. The setting of the course within the College's

broader modular scheme also enables students to study complementary subjects, such as modern languages.

Although the course is still only a week old at the time of writing, it is impossible not to speculate about the future. There is a commitment to convert much, if not all, the syllabus into an open learning mode to facilitate the recruitment of mature and other non-traditional students. There is a hope that exemptions from the final examinations of certain professional institutes can be obtained, an aspiration certainly justified by the vocational content of the degree. A close link between teaching and research is likely to be fostered by the creation of the new Countryside and Community Research Unit within the Faculty of Environment and Leisure. The major prospect for the future, however, is that the course will continue to be highly popular; that its students will impress practitioners and placement supervisors, and that its graduates will establish themselves as valued professionals within a wide variety of careers.

1990 DISSERTATIONS: BA Hons (Landscape), Gloucester

The following is a list of the successful degree dissertation submissions for 1990. These documents, in addition to those of previous years, can be consulted in the College Library at Francis Close Hall, Cheltenham, and abstracts may be obtained from the Librarian on receipt of a stamped addressed envelope.

A. BARKER Landscape architecture as an integrated solution to the problems of the rainforest.

D. BACHELL Agricultural disruption by road development: a need for agricultural land diversification.

C. BETHELL Control and management of surface water in urban areas.

I. BIRTWISTLE The direct physical and secondary consequential impact of the visitor on the Lake District National Park.

J. BUCKLEY A study of the characteristics of spatial enclosure which forms entrances and access in the landscape.

D. EARP Conservation and natural river engineering in England and Wales.

C. HOWES How should landscape architects respond to global atmospheric problems in the light of a growing green movement?

S. HUGHES Quarry re-development and its landscape impact - concentrating on the limestone quarries of northern Derbyshire.

N-C. JAMES Twentieth century garden design style, with reference to the role of the professional designer.

A. JOHNSON Vandalism attack on landscape vegetation in Manchester.

T. LONG The case for people to be consulted in landscape evaluation.

P. McCOMISKEY Open-air drama: the place of dramatic performance in the landscape.

D. McCONNELL Waterway bio-construction: the alternative to traditional 'hard' methods in river engineering.

A. MAZUR Landscape design: progress in the profession.

A. MITCHELL Identifying the sphere of contract growing through an examination of the factors and considerations affecting its potential use.

S. NEESAM The role of environmentally-sensitive areas in conserving an intensified agricultural landscape: the river valleys of east Suffolk.

- S. PEYTON Gloucester City Farm: a city farm of the future.
- A. PORTER Achieving the vision: a study of whether the visions of a landscape architect can hope to be achieved.
- A. ROSS Landscape conditions in planning: their effectiveness in practice with reference to their use by district councils.
- E. RYALL The role of planting design in the zoo landscape.
- P. SCHOLLES Privatisation of the water industry.
- M. SCOTT 50 years on: defence works of World War II: a study of World War II remnants in today's landscape.
- R. SMITH Understanding aerial photography and its use in site survey.
- I. STONER The readability of the landscape - the introduction of the landscape through direct experience.
- R. SUMNER Community involvement as an approach in the design of recreational parks and play-areas.
- I. SYKES Into the twilight zone: the improvement of a people's environment.
- A. TOFTS The Modern Movement in the English garden.
- K. TOMLINS Village design: an appraisal of the physical characteristics of the village: recent new village schemes.
- C. WEBB The role of computers in landscape design.

BOOK REVIEW

Plants in the Landscape eds. Philip L. Carpenter and Theodore D. Walker, Freeman and Co., 1990 (second ed.).

My first reaction was to be disconcerted by the apparent naivety of this book and the strange first chapter which seemed to be written in isolation from the main text. On dipping more deeply into the book I still found many of the comments to be simplistic: "Industrialisation has a definite impact on the countryside", "Hedges can be considered a wall of plants", "Once your finger has been painfully pricked by a rose thorn, your memory recall system is likely to caution you against blundering into other rose thorns" etc. My reaction to many comments such as these was to question the suitability of the book but on reflection, if you can avoid reacting to these naive statements, the book has a major place in the library because it is comprehensive and brings together a mass of interesting information about plants.

At its superficial and general level this book can serve both as an introduction to plants in the landscape for the student and also as a simple general reference for the more informed. The text is liberally interrupted with black and white photographs, sketches and plans. These illustrations have been well chosen; even the small photographs clearly indicate the points made in the text. All in all I am glad my first reaction was not my last. I recommend this book for comprehensive and general use but not for the specialist.

James Wilson,
Department of Countryside and Landscape,
CGCHE.