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As this issue of the journal went to press, the Natural Capital Committee issued its fourth report, in which it calls for the 25-year environment plan to be made legally binding through legislation this year.

While blaming Brexit in part for delays in action, the report also says that withdrawal from the EU offers great opportunities in terms of the potential to embed strong environmental aims in British law.

So, we may be getting even more legislation. Pretty dull, eh? Well no, this is anything but dull. The concept of natural capital is a revolutionary one. By putting a financial value on our environmental resources, both renewable and non-renewable, it has the potential to change the way that governments interact with our environment. It is a financially driven approach and many would argue that that should not be our only criterion. But economics drives most governmental decisions, and certainly drives business with which governments are increasingly in partnership.

In this issue, Dieter Helm, who is the chair of the Natural Capital Committee, explains just why he believes natural capital is so important, how he envisages it working – and the sticks and carrots that he considers necessary. You may disagree with him; you may think this is the wrong route altogether, but you must see that this is a time for change and not just for platitudes.

Almost all landscape professionals care about the environment, but how much they can do about it has long been a source of frustration. If Dieter Helm has his way, and the protection of natural capital is put at the heart of all planning, then the concerns of the profession will come centre stage, and their skills will be in demand.

And meanwhile? In his essay on page 14, Sebastian Miller discusses how professionals can, in their daily practice, work towards a ‘dark green’ version of sustainability by adopting approaches that, crucially, do not rely on ‘them’ changing the system but on taking action now and every day.

Landscape professionals can and do desire to change lives for the better. Elsewhere in this issue we look at just how they have done so at Alder Hey children’s hospital in Liverpool and at Harvard Square in the United States. The strength of both these projects derives from an understanding of what clients in the broadest sense want. The work of Arup in London and Madrid, also profiled here, goes further by empowering city residents to make the small innovations that can, collectively, enable ambitious plans to take shape.

The phrase ‘May you live in interesting times,’ is often described as an ancient Chinese curse. These are certainly interesting times. And while most of us are rightly worried about many of the changes taking place in the world, the times may also yet prove to be interesting in a positive way as well – a way in which landscape professionals can play a key part.
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Alder Hey
Liverpool’s children’s hospital has a close and important relationship with the park in which it sits.

38
Harvard
The revitalisation of this university square addresses questions of how public spaces should deal with temporary uses.

Local heroes
Arup projects in Madrid and London show that working from the bottom up is essential.
Artist Sophie Mason occupies an unusual space, between drawing and gardening. The drawings shown here charmingly illustrate her interest in medicinal herbs, looking at possible uses for the weeds and garden plants that are found in London. But she also gets her hands dirty, literally, as she is active in community gardening. She says, ‘Nearly every plant has a long history of folklore and functionality, a tangled bank of green becomes a library of information around ecology, history and other cultures. Through story and play these plants can create deeper levels of care for our environment and the communities around us’.

Sophie is currently working on a project with an architect and landscape architect which should bring an impressive edible garden to a central London location.

Herbal remedies

By Ruth Stavlid

© Sophie Mason
The natural capital revolution

We need a 25-year plan and rigorous accounting if we are to use the concept of natural capital to revolutionise the way that we treat our environment.

The decline of the natural environment has been one of the constants for the last century. As population has gone up, the intensification of agriculture, housing and infrastructure development has crowded in on a diminishing inheritance. The twentieth century is a story of cars, tractors, chemicals, airports, roads, factories, power stations and buildings. These dominate our landscape now.

Natural capital is a hard concept. Whereas sustainable development can mean almost anything, natural capital is about assets, which can be measured. Failing to maintain natural capital, by not doing enough capital maintenance, is hard to hide.

The economy cannot get by any more with less nature: natural capital has moved from being part of the economy to a core component. It is time to stop the rot for the sake of the economy. This is what the coalition government decided, when it committed in the 2011 White Paper, *The Natural Choice*, to leave the natural environment in a better state for future generations.

The 25 year plan is the means to this end. The Conservatives, the Liberal Democrats and the Labour Party all supported it in their manifestos at the 2015 general election. To break the task down into manageable pieces, the government announced in summer 2016 that there would be four ‘pioneers’ – a river catchment, an urban area, a landscape restoration area, and a couple of marine zones. This is sensible, provided that these are not just case studies, but rather provide templates for the rest of the country. The catchment pioneer in Cumbria needs to inform all the other catchments, and the urban pioneer in Manchester needs to be carried over to all the other urban areas.

So far so good. But there are now formidable challenges to turn these early initiatives into a credible 25 year plan. First, there needs to be a clear conception of what the ‘prize’ looks like in 25 years’ time. What will get worse, and therefore what will need to be compensated for? The Green Belt is under threat – indeed it is currently being built on. The perhaps 10 million more people over the next 25 years will need to live somewhere, have more roads to drive on, and presumably will want airports and energy and water to underpin their consumption. Land will be needed and will be used.

With these pressures in mind, it is imperative to identify the compensating improvements, and to make sure they are targeted on those natural capital assets which add most to people’s lives and opportunities, and hence to the economy. These are multiple – from health, leisure and recreation, to green spaces and education and the biodiversity that supports them.

The opportunities are enormous:
think of the polluted air of our cities, the poor health that results and the obesity from lack of exercise that confront our economy. Think of the declining quality of the soils, the loss of pollinators and the pollution of our water systems. Dealing with all of these will make us healthier and wealthier.

Natural capital, like other forms of capital, lends itself to accounting and measurement. The starting point is to list out the assets, and create asset registers. The really important natural capital assets are renewable ones – the things nature gives us for free, and then keeps on giving us for free. Think of herring stocks in the North Sea. Provided they are not overfished, nature will provide free herring for us forever. But overfish, and drive the herring to the limits below which they cannot reproduce themselves, and then all those future benefits are lost – forever. The value of what is, in effect, an infinite stream of benefits – forever. The value of what is, in effect, an infinite stream of benefits – forever. But overfish, and drive the herring to the limits below which they cannot reproduce themselves, and then all those future benefits are lost.

Other sorts of natural capital – the non-renewables – are just that. They can be used once. Think of North Sea oil and gas, think of minerals. We should not just consume them for our current benefit without regard to the future. My generation has had all the benefits, and left nothing for the future. The right way to account for these sorts of assets is to spread the benefits into the future, and therefore create a natural capital fund (a sort of sovereign wealth fund) – as the Norwegians have done.

This accounting is radical. If the aggregate of natural capital is not to decline, capital maintenance is required. This should be the first claim on the economy – and on the Chancellor’s budget. To be fair, some of this is provided for. The National Parks get budgets, as does Natural England to look after assets, and a small part of the Common Agricultural Policy provides for the maintenance of some of the rural landscapes. The trouble is that it is very inefficiently spent, and there is not enough.

What follows are two big questions for the 25-year plan. The first is, how is it going to be governed? The second is, how is it going to be funded?

Unsurprisingly there is a bandwagon around natural capital, which has (rightly) become the next ‘big idea’. Other pioneer areas.

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The danger in all this is that it goes the way of sustainability, and the hard concepts, the capital maintenance and the asset registers, get lost in the blitz of special interests and lobbying. It cannot be stressed strongly enough that there are right ways to identify, measure, value and maintain natural capital assets. Anything does not go.

The 25-year plan needs someone to be in charge, and someone to deliver. Just who this is, and what their statutory role is, remains a crucial agenda item.

The second task – funding – is both more and less challenging than some would suggest. Currently a great deal is spent on maintaining and enhancing natural capital. It is just that it is done very badly in most cases. In a typical river catchment for example, there are large agricultural subsidies, water companies spend a lot on cleaning up the water systems, there are nature reserves and protected areas, SSSI and so on. We do not start with nothing.

What is missing is a coherent and credible framework for funding on a generational basis, grounded in proper natural capital accounts. In my book, Natural Capital, I suggest a Nature Fund and set out how the revenues might be channelled and directed.

Our time could be the turning point, from decline to stabilisation and then enhancement of our natural capital. This is the prize within our grasp. Or it could be the point where we fail, and the damage starts to make really big impacts on our economy and our wellbeing. The 25-year plan is the chance to regain the initiative.
Update

Natural Capital: reflections by the President

We are very grateful to Dieter Helm for taking the time to give us his insight into the deliberations of his Natural Capital Committee. Dieter and I shared a platform and he kindly mentioned that many organisations were now turning their attention to the topic of Natural Capital, offering to collaborate on taking it forward.

The Natural Capital Committee has now released its latest report. One of its key recommendations is that the new National Infrastructure Commission (NIC) should incorporate natural capital, including its maintenance, restoration and recovery, into long-term infrastructure plans.

Placing an objective value on the elements that support life will be a real achievement but to restore the natural state of air, water, soil and biological systems will have huge implications for the economy, accepting absolutely the argument that failing to restore them is something we cannot afford to do. We are keen for a common, evidence-based approach to be developed collaboratively by the combination of professions working across the natural environment. The challenge of course is whether the Government really can see beyond the short term of both political and financial horizons to the longer-term horizons our natural assets deliver for. Let us hope so.

What will success look like? Living in our cities will be transformed, breathing might even be good for you! We might even turn the corner on our commitments to reducing greenhouse gases and as a small island we might start to produce food sustainably.

On 8 February I met the Natural Capital Committee in Westminster and offered the services of Landscape Institute members to help deliver its agenda. Was this a reckless offer? Not at all because on every commission our starting point has to be pursuing clean air, clean water and restored soils to sustain any quality of life. We should be transforming every landscape for the health and wellbeing of the nation, ensuring that every landscape is teeming with wildlife in both town and country.

Merrick Denton-Thompson
President


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Where next for sustainability?

Our definitions of sustainability are becoming outdated, and landscape professionals need to find a way to effect real change, not just tick boxes.

It is almost 30 years since the publication of the Brundtland Commission report which both defined and popularized the meaning of sustainable development:

Development which meets the needs of the present, without compromising the ability of future generations to meet their own needs. 1

In that time, the ability of future generations to use the resources of the present, without compromising 'development which meets the needs of sustainable development:'

...defined and popularized the meaning of sustainable development: 2

14

In its defence, Brundtland and its supporting action plans should be seen as evolutionary steps towards a more robust definition and enforcement of sustainability, which places increasing emphasis on the environment and natural systems.

The Paris Agreement (COP-21) came into effect in November 2016. Under this agreement, countries have an obligation to move their economies away from fossil fuels and limit global warming to no more than 2°C.

Many countries are quietly getting on with the task of switching to renewables, including Britain. In 2015, Costa Rica generated 99% of its energy for housing, industry and streets from renewable sources, which is a phenomenal achievement.

This movement is not limited to most developed countries as the Brundtland definition as being ‘sustainable economic development.’ 3

3 4

Global contexts require more effort and risk, but this comes with an increase in environmental and economic rewards, both directly and indirectly.

4

In 2007, the Scottish Government prioritised its role as ‘Creating a more successful country (sic) through increasing sustainable economic growth’. 5

Up to the tipping point

There has been criticism of the Brundtland definition as being too people-focused, rather than environmentally focused, and there is some validity to this. Cynically, one could read it as a challenge: how much development can society accommodate, without any critical loss to our environmental self-regulatory systems? Our economically driven society could legitimately continue exploiting resources and developing natural habitats, up until they fail in their functions and the planet’s capacity to support us begins to falter.

Think of the recent national level ‘winnings’, at a local level or for individual development projects, economic and social goals continue to be contradictory or to exclude environmental considerations. As landscape professionals, our understanding of sustainability and its implementation typically achieves small-scale or isolated environmental gains. The green initiatives are definitely an important step in the right direction, but sometimes they are used to justify almost any type of scheme as being ‘sustainable’.

Risk or reward

There are various reasons why the landscape industry has been unable to achieve as dark green an approach to sustainability as we would have hoped. Principally, this comes down to who controls the funding of projects, which is typically the owner, investor or developer (or a combination of all three). Good sustainable design need not cost more in the long run, but designers and policy makers need to look at it from the developer’s perspective, which is essentially market driven. Developers want to construct and sell a quality scheme in as short a time as possible, in a way that maximizes profit and minimizes risk. If not understood in the wider context of what it aims to achieve and the cost saving benefits it can bring to the developer, sustainability will appear more of a risk than a reward.

Is there a way for sustainable design approaches to be accepted by developers as part of their way of thinking and business models?

Typically, projects are handed over as soon as they are built, so they do not benefit directly from the rewards of sustainability, nor will they recoup any cost savings associated with environmentally sensitive design.

Understanding this disconnect of risk and reward makes it obvious why ‘sustainable economic development’ is an essential pillar of environmental design and protection (see the Venn diagram), and is an aspect of sustainable design that is often overlooked.

Landscapes guidelines – towards dark green sustainability

Landscape architects were undertaking sustainable design long before it became popular. Yet as always, we have to ask ourselves if we are acting to the best of our ability. The following guidelines will assist landscape architects, design managers, planners and policy makers to think...
about the way we practise. All of these are simple, yet meaningful ideas that we can use to influence our contribution to sustainable developments.

Avoid green wash: Ask hard questions as to why a design or approach qualifies an entire project as being sustainable. Many projects have elements of sustainability embedded within them, but they are not sustainable projects when viewed holistically and critically. We have to recognize the difference between the two and be less naive in the way we look at the built environment.

Go beyond the minimum: Recognize that design codes and sustainability assessments such as BREEAM and LEED only force developers to go so far. For all their good intent, they establish minimum benchmarks, and designers should look for other environmental best practice approaches that will further enhance a particular project.

Have a vision and a willingness to do things differently: Upholding the status quo may ensure standards or developer expectations are met. However there are literally hundreds of pioneering projects that take different approaches to sustainability. We should always seek to explore innovative, environmentally based approaches and alternatives, especially where they do not cost more.

Be realistic: Often the simplest approaches are better than complex, over-ambitious, or technically driven solutions. (An example is the BedZED scheme in London. After review, the architect and developers noted that 80% of the sustainability goals could have been achieved with only 20% of the actual spend). Prioritise function over form: Aesthetics have always been the main driver within our profession, often to the exclusion of sustainability. Appreciation of what is beautiful is subjective, changing with familiarity, understanding and time. (Community urban farming is an example. To a developer who wants to market and sell a scheme, they may not look as attractive as a well manicured lawn. But if well designed, integrated and managed, productive plots can add value to a development).

Look for opportunity everywhere: Let the environment focus drive all aspects of the design, rather than trying to shoe-horn in sustainability credentials at the end of the process. (Pick materials and develop a hard scape / soft scape palette based not on aesthetics as the primary driver, but on what local regions can supply. This approach also reinforces localism and cultural sustainability).

Look at the bigger picture: Landscape professionals need to gain a better understanding of how other built environment disciplines work, thus allowing us to grow in depth and scope. We need to be familiar with developer mindsets, so that we can propose solutions and interventions that meet their needs and are more likely to get their approval. Landscape architecture should never be a narrowly focused profession.

Get involved early: On most projects, approximately three quarters of total construction costs are determined at the concept stage. Likewise, once a plan begins to take form and a project gains momentum, opportunities for sustainability interventions are considerably reduced with each design stage. Landscape architects should be involved at the earliest design stages to maximize opportunities for environmental design. Regulations would need to change to enforce this and ensure our contribution is not seen as an after-thought to an already determined scheme.

Policy needs to change: Developers should be forced to retain a level of ownership or involvement with their schemes after completion. This would immediately give them a vested interest in cost-saving sustainability measures, which may cost more as an initial outlay, but pay for themselves in the long run combine risk with reward.

Looking ahead: 30 years after being introduced, Brundtland has directed us towards sustainability, but for all its idealism it has proven insufficient in actually getting us to that goal. A revised definition, or at the very least, a more stringent action plan of sustainability is needed to take us to the beginning of the post-carbon era of living. Recent UN reports acknowledge that ‘Deep structural changes are needed in the ways that societies manage their economic, social, and environmental affairs, and hard choices are needed to move from talk to action’.

The world’s population is around 7.5 billion and is growing by 78 million a year. Massive amounts of new development are needed to accommodate this growth, as well as changing demographics and the continuing human migration towards urban living. The speed and scale of this change is staggering and just as it presents challenges, it also offers opportunities. It is no exaggeration to say that humanity’s most pressing issue is finding a model of sustainable development that meets our needs yet protects environmental systems. Landscape architects will play a role in both defining and contributing to such development, though we need to strengthen our commitment to a more ‘dark green’ sustainability. The decisions we make today must not condemn others to continuing such unsustainable ways of living.

Sebastian Miller is a landscape architect and urban planner.

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Healthy play

The new Alder Hey Children’s Hospital in Liverpool engages children with the external environment and the local community with the hospital.

BY RUTH SLAVID
BDP was both architect and landscape architect for the project, but David Houghton, the hospital’s project manager for the redevelopment, references another set of designers altogether. These are the children of Liverpool who, through a council, not only contributed to the brief but also supplied some of the early design ideas.

It was evidently a formative experience. Jack Hutton, who was a patient at the hospital and chaired the young people’s forum, is now completing architecture studies and spent a six-week placement with BDP in Manchester. His one-time second in command is now studying to be a paediatric doctor.

The hospital sought input from the young people because the previous hospital, while known for its paediatric success, was a crumbling and unfriendly building where long-term residents might spend their entire stay looking out on a grubby brick wall with a few services climbing up it.

The relationship between inside and outside is most easily explained by the new designation of the hospital as Alder Hey in the Park. The building consists of three fingers thrusting out into an existing park, with two very different landscaped areas set between them. At the ‘palm’ where the fingers meet is an atrium which forms the core of the hospital and behind this is the car parking. Most visitors arrive by car and move directly into the atrium. The result is that, in contrast to many hospitals which are surrounded by a sea of tarmac, visitors who are dropped off by car or taxi, or who walk across the park, never see a car parking space.

The most prominent aspect of the model was the use of grass-covered roofs stepping down the profile, contributing to a Teletubby effect. While these roofs are impressive when seen from across the park, they are far less prominent when looking out from the building or in the immediate vicinity. Then the dominating factor is the range of greenery not just in the two interstices of the fingers, but also in lightwells and terraces.

The new hospital, on an adjacent site, was to be very different. ‘One of the key things that we were trying to see from start to finish,’ said Jenny Ferguson, BDP’s landscape lead on the project, ‘was that it was designed by the children, for the children. This was true from the early concept designs where we had to get an idea of how it was used, how the children felt when they came to the hospital, what their concerns were and what excited them. It had to feel welcoming, comfortable, familiar and safe.’

While the average stay is only two nights, there is a small cohort who are inpatients for weeks, months or even years, while others make multiple visits, probably mainly as outpatients. When the hospital asked these children and their healthy contemporaries what they would like from a hospital, their answer was a landscape architect’s dream. They wanted daylight and views, outdoor places to play and contact with plants and animals. And this is what they have, with the restriction that most of the animals are in the form of the delightful sculptures and drawings of artist Lucy Casson.
Where the green roof does have an impact is on the play spaces at the ends of wards on the first and second floors. These are brilliant interventions, sheltered but open spaces that enjoy magnificent views. Surfaced with a springy green layer made from recycled trainers, they provide a feeling of being outside while remaining usable in most weather. Around the edge, at eye level for many, is the green roof, planted with a wildflower mix that offers interest and excitement in the summer and still gives a feeling of immersion in the natural world in the winter.

As an added bonus, these play balconies contain an aquaponics system in which decorative and fascinating fish provide the ammonia-rich excreta that is then circulated to nourish hydroponically grown plants – initially Swiss chard but possibly to be replaced with herbs. These harvests are used in the individual kitchens that supply each ward. And it is not even necessary to change the water in the fish tanks, since the effluent is being removed.

This interest in growing to eat extends outside as well. There are already fruit trees and the hospital is partnering with Incredible Edible Todmorden to create a dedicated food growing area.

For David Houghton, this connection to outside is a relinking with the past. ‘The original Nightingale wards had balconies,’ he said. ‘We removed them and now we are putting them back.’

The two long gardens between the fingers have, deliberately, very different approaches and atmospheres. ‘We saw the building as having risen from the sandstone that is the bedrock of Liverpool,’ Jenny Ferguson said. ‘There are two chasms carved into it.’ One is conceived as a wet ravine with a profusion of greenery. It has been designed for exuberant activities, including a playground. The other chasm is ‘a dry canyon, carved from the rock’. This is intended as a more passive space, meant for sitting and more contemplative activities.
The New Alder Hey in the Park

West elevation from Springfield Park

South elevation of ‘Middle Finger’ (Zone 2)

Safety barriers were installed at the bottom of the roof slopes after there were some exuberant efforts by members of the public to climb up.

© BDP
Indicative plant lists

**Entrance and public realm:**
**tree and specimen species**
Species chosen for their naturalistic style to respond to open parkland setting adjacent to hospital. Native species coupled with ornamental grasses and perennials create a dramatic and welcoming entrance.

- *Acer saccharinum*
- *Alnus x spaethii*
- *Betula utilis var. jacquemontii ‘Silver Shadow’*
- *Liquidambar styraciflua*
- *Sorbus aucuparia var. edulis*
- *Prunus x yedoensis*
- *Pyrus calleryana ‘Chanticleer’*
- *Pyrus communis ‘Conference’ (edible pear)*
- *Rhus typhina*
- *Trachycarpus fortunei*
- *Fatsia japonica*
- *Fargesia nitida (bamboo)*
- *Crocosmia ‘Lucifer’*

**Wet ravine garden:**
**tree and specimen species**
Species chosen for their dramatic visual and tactile effect as part of a dynamic and active garden to promote physical rehabilitation and play. Species to include edible fruits trees as part of community orchard.

- *Betula albosinensis ‘Burkill’*
- *Dicksonia antarctica*
- *Ginkgo biloba*
- *Magnolia x loebneri ‘Leonard Messel’*
- *Malus domestica ‘Cox’s Orange Pippin’ – (edible apple)*
- *Parthenocissus quinquefolia ‘Fee’s Foliage’ (California creeper)*
- *Salix exigua ‘Young’s Foliage’ (green willow)*
- *Sambucus nigra (elder)*
- *Sambucus nigra ‘Evas’ (elder)*
- *Stachys officinalis (common knapweed)*
- *Stachys officinalis (stachys)*
- *Sorbus aucuparia var. edulis*
- *Prunus x yedoensis*
- *Pyrus calleryana ‘Chanticleer’*
- *Pyrus communis ‘Conference’ (edible pear)*
- *Rhus typhina*
- *Trachycarpus fortunei*
- *Fatsia japonica*
- *Fargesia nitida (bamboo)*
- *Crocosmia ‘Lucifer’*

**Dry canyon garden:**
**tree and specimen species**
Species chosen for their colourful and sensory qualities to promote calm and relaxation as part of a healing environment. Species to include herbs traditionally grown for medicinal use.

- *Acer palmatum ‘Fireglow’*
- *Amelanchier laevis ‘Variegata’*
- *Buddleja davidii ‘Buzz Lavender’*
- *Davallia involucrata*
- *Gleditsia triacanthos (blossom)*
- *Pinus sylvestris ‘Watereri’*
- *Santolina chamaecyparissus*
- *Sinapis alba (mustard)*
- *Rosmarinus officinalis (wild marjoram)*
- *Lavandula angustifolia ‘Grosso’*
- *Verbena bonariensis*

**Wildflower species for green roof and meadow**
Native wildflower species chosen to increase the biodiversity of the hospital landscape and create a seamless transition from park to hospital.

- *Anthoxanthum odoratum (sweet vernal grass)*
- *Festuca rubra trichophylla (slender creeping red fescue)*
- *Festuca rubra subsp. commutata (Chewing’s fescue)*
- *Galium verum (lady’s bedstraw)*
- *Trifolium pratense (wild red clover)*
- *Origanum vulgare (wild marjoram)*
- *Lathyrus pratensis (meadow vetchling)*
- *Clinopodium vulgare (wild basil)*

**Feature**

There have been some teething troubles. Despite the best advice (from Sheffield University) on choosing the wildflower mixture and the substrate, a section of the green roof at the end of one of the ‘fingers’, where it is on a 40 degree slope, died. The reason was that the irrigation system was set too deep for the fledgling roots, and additional surface irrigation was necessary until the turf had established itself.

The playground is under-used and Houghton aims to remedy this by installing outdoor screens with details of appointment calls, since he believes patients, and particularly parents, are nervous about spending too long away from this vital source of information.

But in general terms, this is an outstanding success. Job done, then? Well, not according to David Houghton. ‘From my point of view, the job is only halfway through,’ he says. This is because there is still a lot of work to do with the park in which the hospital sits – a radical re-ordering and reorientation, as well as new planting. And there are more research buildings to be constructed, to join the first fine example by Hopkins Architects.
There has been some very vocal local dissent about the work, but people are now being won over. To understand what has happened and why it runs north-south rather than east-west it would unite the disparate communities around it, rather than, as previously, acting as a barrier.

Opinions differ about the virtues of the original park, with David Houghton describing it as a ‘swamp’ and Jenny Ferguson more enthusiastic. In the short term however there has been some loss of parkland and this was of course unpopular. The aim is for the new hospital to offer far more in terms of activities and already, on the day that I visited, locals were being drawn in to a programme of bulb planting. As a result, the initial opposition has disappeared.

BDP is working on the design of the new park, with construction due to begin once demolition of the old hospital is complete. And then Alder Hey in the Park really will be in the park. It will take a while to discover if clinical outcomes have improved as a result of the changes but the hospital certainly looks wonderful and is becoming, as intended, a part of the community.

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Animation at Harvard

Harvard Plaza has a new look, aimed at increasing usage and activity. This addresses intelligently the need to create platforms for temporary activities.

BY CANNON IVERS

SHAKESPEARE tells us that ‘all the world’s a stage’ and increasingly our public spaces act as platforms for ephemeral performances, installations, marketing exhibits and celebrations. The great urbanist William H. Whyte put this simply, ‘People attract people.’ However, as the number of events and overlay activities – elements that were added after the original design – increases, one can’t help but wonder if we are reaching a point of oversaturation and hyper-stimulation. How much programme should be packed into the spaces we collectively inhabit and is there still the need for quiet, contemplative space? Or, should our spaces reflect the ever-changing, instant gratification model of social media that leaves little room for independent reflection and quietude? The answer, of course, is not clear cut. There are numerous examples where overlay performances, installations and celebrations have had a transformative effect on the space and the surrounding community, in some instances generating profitable revenue. In other instances, it feels like one overlaid object too many, leaving people overwhelmed and yearning for a quiet patch of grass under the shade of a tree.

As a result of my research at the Harvard Graduate School of Design, I believe that our recent attraction as landscape architects to designing for flexibility finds its genesis with Schouwburgplein in Rotterdam by West 8. This shift away from the fixed ‘landscape as art’ spaces of Schwartz and Walker that West 8 ushered in, may have been prompted by the Pompidou Centre in Paris in the late 1970s. There, the design team opted to give over half the competition site in a dense part of Paris to provide a public stage. The more recent phenomenon of ‘pop-ups’ and tactile urbanism, stems from the economic decline in 2008, prompted by the success of Park(ing) Day that launched in San Francisco in 2005. Since that time, our cities have been subject to myriad overlays, cultural installations, outdoor cinemas and yoga sessions.

While at the Harvard Graduate School of Design, I developed my fieldwork and observations into a number of case studies that examine the spatial qualities, the use of the space and the quantity and variety of overlaid objects. Twenty-seven case studies form the core of a book that I am publishing with Birkhauser in the autumn of 2017,
loosely titled ‘Space for Change: The Culture of Curated Landscapes’. The book will also include essays from practitioners and theorists including Charles Waldheim, James Corner and Adriaan Geuze. The case study presented here, which will feature in the book, is of a plaza at Harvard University designed by STOSS.

The plaza sits to the north of the historic Harvard Yard, at a confluence of pedestrian movement which is the busiest intersection on the campus. The original layout of the space consisted of a nondescript lawn bisected by footpaths aligning with desire lines, a strategy that can be seen across the entire campus. The space lacked character or focus, excluding the now-revered Tanner Fountain that Peter Walker implemented in 1984.

The location of the space, its spatial arrangement and limited public offering, resulted in a space of transit; something one passed through to get from one place to another without taking time to linger. This was also the sentiment some planners at Harvard University had about the historic Harvard Yard. As a result, in 2009 the campus started an initiative called ‘Common Spaces’, charged with ‘fostering a stronger sense of community across Harvard by providing opportunities to share space and experiences.’

The first initiative for the Common Spaces team was the introduction of movable chairs following advice from Fred Kent and Project for Public Spaces. The chairs encourage people to linger in Harvard Yard rather than simply passing through it. The non-intrusive provision of colourful movable chairs made a noticeable contribution to the atmosphere of the Yard, as people attracted people and a sense of ‘something going on’ materialised. Building on the successful experiment of the Yard, the Common Spaces team began to experiment with additional ways in which the existing plaza space could be re-imagined. It was determined early on that the space needed to be revamped, redesigned and re-purposed to provide a space for campus-wide use and gatherings.

Over a ten month period, as a permanent design for the space was being considered, the Common Spaces team introduced a series of temporary installations to test the popularity and probability of potential programmatic elements that could be incorporated into the design for the permanent space. The initial temporary overlays included an ice rink, trees and bamboo in movable planters, pop-up entertainment within a large tent and food trucks, all of which took place on the existing lawn surface. Although the existing space was nothing more than a threadbare grass space with criss-crossing footpaths, the programmatic overlays successfully encouraged people to linger in the space, which created a critical mass, transforming the plaza from a place of transit to a gathering space.

As the programmed cultural overlays picked up momentum, the Common Spaces team expanded to include a dedicated employee associated with the Office of the Arts at the University, acknowledging that a creative curation of programme would be needed to sustain the life of the new plaza space once implemented. As temporary events in the plaza space became more popular, student requests to perform, protest and organise added a fresh dimension to the programme. These student initiatives activated the space at no cost to organise, aside from the hourly fee for the programme coordinator. After the 10-month testing period, a list of successful programmatic overlays was written into the brief that would guide the design and implementation of the permanent space.
The design firm STOSS won the commission to re-design the space, known now as ‘The Plaza’, which was completed in 2013. Its design responded to pedestrian desire lines between campus facilities and rigorously explored multiple configurations of potential programme overlays to activate the space.

STOSS developed a notational language inspired by Lawrence Halprin’s Motation studies and William H. Whyte’s research at Seagram’s Plaza, to choreograph how the space would be used and activated over a 24-hour period, as well as through the changing seasons. The final design consisted of a large flexible open space on the western end of the Plaza with a strong seating edge to the south benefiting from the shade of the mature trees in the adjacent Harvard Yard. To the north, intimate areas with seating beneath Ginkgo and sumac trees, with fern understorey planting, offset the openness of the plaza. According to Chris Reed of STOSS, the day-to-day was the most important consideration for the design team. The space had to accommodate large events such as ice-skating and graduation ceremonies, but more importantly, it needed to be lively and vibrant on any day of the week. The eastern third of the Plaza is the anchor of the site and is activated daily by food trucks and people socialising and relaxing on clustered seating and picnic tables. The pedestrian thoroughfare linking Harvard Yard to the Josep Lluís Sert Science Centre holds the edge of this active space naturally, which leaves the open area of the Plaza to be programmed accordingly.

The strong seating edge to the south is the signature element of the scheme, both for its design execution and for its unexpected contribution when the Plaza is not programmed. Complex timber and concrete benches, beautifully crafted using cutting-edge fabrication technology, create a variety of ergonomic configurations that allow users to be creative in the way they use the benches. This sculpted complexity also acts as a foil for the expansive and minimal arrangement of the Plaza. Without the sculptural qualities, scale, quantity, complexity and sensual character of the benches, the Plaza would risk being pedestrian and bland. This is particularly the case when the benches are not occupied. By assuming the role of an aesthetically pleasing ‘sculpted object’, the benches are interesting to look at and admire rather than being reduced to an empty bench that does nothing but clutter the space when not occupied by people. The timber has taken on a rich patina, which when hit by the setting sun in the evening, coupled with the sound of live music in the background, makes the atmosphere delightful.

The decision to have a flexible open area was the result of a requirement for a large tent that would be assembled and disassembled on a regular basis to facilitate campus events and ceremonies. The final design included inbuilt foundations for the tent and pop-ups for water and power. The tent, with a maximum capacity of 1000 people, is rented by the university. The flexible open area of The Plaza hosts a number of repeat programmed events. A farmer’s market is held every Tuesday throughout the summer and the university does not charge the organisers because the market fosters a sense of community, both within and outside the campus.

In the winter, the Common Spaces team erects an ice-skating rink that is free to use and charges $5 for skates, which goes towards covering the cost of the rink and its operation. It’s a valuable programmatic overlay that stitches the campus community together, whilst providing a much needed activity in the winter months when programming the space is more challenging. Project for Public Spaces also created a winter programme, which introduced fire pits and curling mats. The firepits are supervised by a member of the fire department and pre-packaged S’mores, a staple American campfire snack, can be bought from the ice skating kiosk. Interboro Partners was commissioned to design additional seating elements to contribute to the winter overlay, which was implemented in 2015.

The backbone of the programmatic calendar is the food trucks, which occupy the eastern edge of the space. The first food truck arrives at 8:30am and with it come people and healthy commotion. The tables and chairs are rarely empty. Throughout the day, up to five food trucks are parked on the Plaza until 7pm and are charged $50 a day by the university. The Common Spaces website provides a timetable for the food trucks, and a live web-cam provides a way for users to engage with the Common Spaces initiative.
With the design of flexible, programmable spaces that require open areas to accommodate large gatherings or repeat events, careful consideration is necessary to ensure the space is not empty, banal and uninspiring when not in use. The space also needs to afford a variety of events that are both surprising and predictable with a sense of anticipation and excitement. The Plaza manages this balance well because of strong design execution and strategic programme planning throughout the design process. In particular, the benches and planting provide a degree of complexity and seasonal variation to capture one’s attention when the large open space is without programme or events. Lastly, the Plaza benefits from a steady footfall of pedestrian traffic and a student body that participates in the performance-based activation of the space. Tanner Fountain plays an important role in providing informal seating and play in the shade of a magnificent oak tree on the edge of the space where users can be spectators; watching other users as ‘performers’. This edge condition is of fundamental importance in the design of public space and is often where people want to sit and rest in public space. Jan Gehl explains the edge condition in his book *Life Between Buildings*.

The increased pressure on public spaces, demands that our squares, streets and parks are renewed and refreshed as a cultural overlay to the urban infrastructure; programmed and changed as an ephemeral stage of human encounter and provocation. The dynamism of urban spaces in cities like London, New York, Barcelona, Paris, Chicago, Montreal, Boston and Copenhagen demonstrate a richness of programmability, which becomes the lynchpin of public life and the catalyst for community cohesion. Subsequently, new energy is consistently breathed into these spaces to stave off the quiet social decay of static monotony, or, put simply, space without change. Jan Gehl summed up his 40+ years of field work and observation with a beautifully simple quote: ‘First Life, then Space, then Buildings.’ The question for us as designers, is how much of the life should we be curating with objects and activities, and how much should come as the result of open, un-programmed space?

*Feature*

*9* – The positioning of plantings and seating helps to create intimate spaces for conversation. © Cannon Ivers

Cannon Ivers is a director of LDA Design.

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Hardscape played an integral role working alongside architects from Capita (Carlisle) to deliver an inviting space running alongside the town centre’s dramatic, sweeping waterfront using Magma Granite paving, Burlington stone walling and Prima Porphyry paving.

Hardscape also crafted a beautiful Artscape plaque commemorating both world wars with an iconic red remembrance poppy etched using bespoke Artscape techniques. The benches were sculpted out of Kobra granite and were crafted in a curved shape to reflect the sweeping tide.

A public space overlooking Oban’s breathtaking bay has been transformed as part of Argyll and Bute Council’s CHORD fund to rejuvenate the area’s waterfront towns.
Bottoms up in Madrid and London

Improvements in climate resilience and biodiversity in two European capitals will come about through numerous incremental changes rather than a top-down approach.

BY RUTH SLAVIO
TWO projects by Arup that were recognised in this year’s LI Awards look at cities and behaviour within them in a fascinating and strategic way. The Crown Estate London Ecology Masterplan, which won the science, management and stewardship award, is the first part of a larger initiative, Wild West End, that aims to promote green infrastructure across London’s great estates. Madrid + Natural, highly commended in the communications and presentation category, comprises a series of relatively small but practical and community-driven initiatives that together are designed to build resilience incrementally over time across the city to help to mitigate the effects of climate change on the Spanish capital. What is particularly interesting about these projects is that they sit between the design work that Arup has done and is continuing to do, and the theoretical reports that it has produced under the Cities Alive banner. Tom Armour, who heads Arup’s landscape business, said, ‘It’s fine doing reports but we also have to make things happen. We will carry on but we want to work from the ground up as well to demonstrate how change can happen. We are looking to change people’s perceptions about city space. We have to make cities better places for people.’ Both these projects are aimed at involving local people in initiatives, and in monitoring how they work to make sure that there are results as well as just talk. In London there is already a presumption in favour of greening and biodiversity in the form of the All London Green Grid. Tom Armour said, ‘The All London Green Grid is a brilliant piece of planning. But I don’t know how well it is being enacted. Top down planning is essential but you have to find ways of being able to deliver these projects. We also need to think about how we can do it in a more universal way. With a vision, strategy or plan, you can focus effort and money and expense.’

The London project benefits from the fact that large parts of London’s West End are still in the ownership of a number of ‘great estates’ of which the Crown Estate is one. They are therefore large enough to make a difference in their own area – in the case of The Crown Estate the area of Regent Street and St James’s. While there are already three great parks on the edges of the estate (Regent’s, Green and much of St James’s) the aim is to link these with a green network. And, expanding beyond The Crown Estate, in the long-term, the vision is to create a network of green spaces through central London, to not only improve biodiversity, but also to improve the local environment for residents, workers and visitors, contributing to better health and wellbeing and creating a more attractive place to be.
Emily Woodason, who is leading the landscape architecture component of this project at Arup, explained that The Crown Estate Ecology Masterplan was the starting point and from there grew the idea of Wild West End, partnering with Grosvenor Britain & Ireland, Shaftesbury, Howard de Walden and the Portman Estate to cover a far more significant area of London. Effectively, the work at The Crown Estate will set the pattern for the wider network. "Arup," Emily Woodason explained, "is the technical partner working with the estates to make a wider strategy, that aims to improve the wellbeing of workers and residents, and will enhance biodiversity and ecological connectivity whilst promoting the benefits of green infrastructure."

There is a lot of detail in the documents, spelling out exactly what is wanted, in terms for instance of how the masterplan should encourage specific flora and trees, bats, invertebrates and urban birds. There is documentation addressing how these targets should be achieved both for new developments and for the refurbishment of existing buildings with the introduction, for example of biodiverse and green roofs, as well as for the public realm. The masterplan encourages the integration of green infrastructure early on in the design process and sets ambitious targets for the area and type of green space to be included on each development project to maximise the value. There is a target objective to create a significant area of green space (100m² or more) every 100m.

The communications strategy is a vital part of Wild West End. The earliest communications have been largely with key stakeholders – including the GLA, London Wildlife Trust and Westminster City Council, but the website is relaunching this spring following a 2016 baseline green infrastructure survey, and, says Emily, ‘we are looking at how we can set clear targets to achieve the vision, and engage with local residents businesses and (just one) community groups.’ The aim is to enable all those living and working in the area to get involved in learning about, creating and experiencing the benefits of green spaces.

The local community has an even more central role in Madrid + Natural. This follows the massive Madrid Río project by West 8, which put the major roads underground. ‘This is one of the really courageous things that has been done in cities,’ Tom Armour said. ‘It deals with pollution and makes the city more attractive and better for tourists.’ The idea of Madrid + Natural is that it is an incremental plan which, Tom says, ‘draws in everybody who wants to make a difference so that slowly we can incrementally build up resilience. You can have big top-down ideas, but you can also have a vision and a plan so that anybody can take up the ideas.’
For example, one of the ideas for making buildings more resilient is to paint the roofs white. This simple, inexpensive idea reduces energy consumption by air conditioning because the light and heat are reflected back upward. ‘The important thing,’ Tom said, ‘is that people realise that their individual contribution can make a difference. We concentrated not just on the aesthetic but also on the highly functional side of landscape.’

The process was incredibly important, since it was necessary to stimulate ideas from the local community and to evaluate and sift them before adopting some. In its submission for the awards, the Arup landscape team wrote, ‘This was principally a landscape-led project working with a multi-disciplinary team in Arup to develop the best approach for the project. Arup’s landscape architects worked closely with the research team in Arup to run a series of client workshops. These were vital to understand the constraints and opportunities in the city and understand the way the city works politically to enable the development of practical and achievable solutions for the project. This collaborative way of working enabled a practical and achievable range of solutions and ideas to emerge and form the basis of the project. The incremental plan features a series of nature-based solutions to create a linked network of green and blue infrastructure, interconnecting open spaces, parks, nature areas, streets and buildings with green roofs and façades across the capital.’

It is the nitty gritty of these projects that makes them work—or not. Gathering information and writing a strategy can be intellectually stimulating, but there will not be change unless there are commitments to delivery and a way to make them happen. What Arup has done through these projects is to set up a process that should result in a lot of incremental changes—a process that it cannot control, but that it can stimulate, steer, communicate and, crucially, monitor. They do not have the glamour of the big ‘design’ projects but their impact on our cities may in the end be greater. Arup is to be commended but so, equally, are the city of Madrid and the Crown Estate in London.

**Feature**

*Madrid + Natural*  
Landscape practice: Arup; client: Ayuntamiento de Madrid (City of Madrid) – Energy Agency and climate change department

*The Crown Estate London Ecology Masterplan*  
Landscape practice: Arup; client: The Crown Estate

www.wildwestend.london

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**Temperature difference between bare and green roof**

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Stony expression

There is a wide range of possibilities when designing with stone, but you need to understand how to select the material and finishes so that they are both as appropriate and as beautiful as possible.

Material compatibility with the climate is one of the most important factors to consider when specifying a material for a project. Cold weather can cause rock to crack and break open when water becomes trapped and expands in freezing conditions – porous materials, such as soft limestones, are most susceptible to this and can also be sensitive to staining.

As well as resistance to the elements, public realm schemes and those that receive a high volume of pedestrian traffic will need a highly durable material that can withstand repetitive use day in, day out. Other materials and options can be considered for installations in private residential schemes where heavy traffic isn’t such a consideration. Easiness to work with, the intricacy of the design and the desired finish are also factors to consider. Granite is a great example of a hardwearing, versatile material, suitable for almost any kind of external application or scheme to provide a sharp looking, stylish design. It contains a blend of minerals that contribute to its unique variety of colours – from pure white to deepest black – and comes in a number of textures. If you want a sustainable material that can withstand repetitive traffic will need a highly durable product, granite is a good choice – not only does it have a long lifespan, it can also be efficiently and cost effectively recycled or repurposed.

It's also worth noting that costs vary depending on material specifications – the darker the granite, the more expensive it gets. Although granites are hardwearing and durable, care needs to be taken during the transportation of granite. Creating a subtle chamfered edge by cutting off the sharp corners can prevent pieces getting chipped on site. Hardcide recently used this technique to produce a 50-metre granite seat art installation, which included bronze illustrations and typography depicting the history of the Cunard Building in Liverpool. The stone's properties made it the perfect choice for intricate and detailed pieces rather than light granites, which can affect the overall look of the final design. It’s also worth noting that costs vary depending on material specifications – the darker the granite, the more expensive it gets.
Sandstone swirled patterns have made it a rock consisting of striking, large-grained crystals, known for its rich purplish-red or greenish-brown tones, formed during volcanic activity. The porphry is Greek for purple – is a rock consisting of striking, large-grained crystals, known for its rich purplish-red or greenish-brown tones, formed during volcanic activity. The sandstone contains naturally distinctive coloured bands, including red, brown, white and black - meaning that no slab ever looks the same and it can be used to create truly unique designs. It's important to remember that the colour of the sandstone selected at the beginning of a project may alter throughout the installation period, over time its appearance and character changes. Rather than bleaching, sandstone darkens richly with age. A technique using recycled glass with RAL coloured epoxy can also be used effectively to add interest and character to hard landscaping materials. For example, Liverpool’s Eberle Street has used a dramatic, intricate paving and lighting scheme pattern to honour the mythical Emerald City from the Wizard of Oz, with homage to the Yellow Brick Road and Judy Garland. Crystalpave – recycled glass slabs bonded to a concrete base was used to create the artwork throughout the paving. The resin in the surface layer can be made in almost any specified pigment colour or left as a natural, clear resin. **Creating colour** Introducing a variety of colours into a scheme is a great way to add interest. Quarried stone comes out of the ground in beautiful naturally occurring tones and hues – some stones even contain small rock and sediment layers – which add detail and individuality to a design.

**Porphyry – Greek for purple** – is a rock consisting of striking, large-grained crystals, known for its rich purplish-red or greenish-brown tones, formed during volcanic activity. The colour characteristics of the material depend on its level of iron content and its purplish-red or greenish-brown swirled patterns have made it a popular choice.

**Sandstone** contains naturally distinctive coloured bands, including red, brown, white and black - meaning that no slab ever looks the same and it can be used to create truly unique designs. It’s important to remember that the colour of the sandstone selected at the beginning of a project may alter throughout the installation period, over time its appearance and character changes. Rather than bleaching, sandstone darkens richly with age.

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**Crystalpave –** recycled glass slabs bonded to a concrete base was used to create the artwork throughout the paving. The resin in the surface layer can be made in almost any specified pigment colour or left as a natural, clear resin.

**Finishing touches** Most physical properties must be taken into account at the material selection stage as these are unchangeable. However, other qualities can be determined during the finishing process such as adding texture and a finish to the surface.

These include:

- **Diamond sawn** – a cut that showcases the full spectrum of colours and character of a stone, with a smooth surface that reduces the need for regular cleaning.
- **Honed** – A smooth, even, and non-reflective finish – similar to an eggshell – achieved by polishing the stone with a series of increasingly fine abrasives. This process also deepens the colour while maintaining its unique characteristics.

- **Bush-hammered** – A high-impact pitting device creates an evenly textured, non-slip surface, suitable for high-traffic external areas. This finish also lightens the colour and dulls any patterning found in a stone’s natural state.

- **Hand-riven** – A traditional process which splits the stone along its natural bed and is usually produced with a ‘fettled’ edge – a soft organic line, instead of a dead-straight edge – to complement the traditional character.

For a finish that looks like two different colours, etching – a process that uses highly pressurised air mixed with an abrasive – slowly grinds down materials to create shadow. This technique can also be used to sandblast letters as small as 2-3mm wide. This is more suitable for hardwearing materials as they give a sharper look.

In summary, achieving a high quality and durable natural stone landscape relies on selecting the correct stone, ensuring that it is beautiful as well as fit for purpose. These considerations have been broken down into the following do’s and don’ts:
Technical

Do consider:
- Who will be using the area and whether it will be exposed to harsh weather conditions.
- Most materials are available in a huge variety of shapes, sizes and design specifications but these come with longer lead times.
- Different mineralogy produces various stone strengths and usage applications, while technical standards allow classification of stone applications and size specifications. A good supplier can provide advance details on this.
- Whether the material looks suitable. For example, stone can be given an aged look for regeneration projects to blend in with existing surroundings.
- The environmental impact of obtaining raw materials, processing and recycling issues.
- Ensure you work with companies that source materials ethically – quarries are located across the world and unethical business practice can be a problem.

Don’t:
- Assume materials will always look the same. Some stones change colour while others are susceptible to chemical degradation. Due to the nature of most paving, vegetation may grow in the joints, or on the paving itself in shaded areas which remain damp. Regular maintenance and good cleaning practices will enhance the long-term appearance. The original colour can often be brought back by power washing.
- Be too rigid with expectations. Stones from the same quarry come out of the ground in different sizes and colours so consider this if you want a consistent pattern.
- Limit your imagination – there are a variety of processes and finishes that can transform materials to meet design specifications, including colour and texture. These are just some examples of the vast capabilities and considerations for specifying stone and hard landscaping materials.

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Digital planning for cities

What can technology teach us about the way we design our cities, and how should they accommodate it?

As the technology of smart phones becomes increasingly advanced, with a greater level of interaction with the real world, how should designers react to the increasing relationship that virtual reality has with the environments we are designing?

The public’s response to the use of mobile phones can be both positive and negative. It can bring people together, connecting them at all times to a wider network and interacting with people using different social media opportunities. It can also cause chaos in our busy cities when people are not paying attention to their surroundings or stop to take an impromptu selfie in the centre of a crowded street.

In this age of social media, there is great opportunity to create exciting environments which can accommodate this new-found interaction, extending to groups in society who may not before have been interested in our cities’ public spaces. Winston Churchill once said, ‘We shape our buildings; thereafter they shape us.’ What if this extended to our public spaces and cities? The importance of understanding the needs of the growing popularity of these public spaces as platforms for social media and gaming could create some exciting and engaging spaces for our future generations.

The growth of Pokémon GO has swept the world over the last few months with virtual creatures popping up around our towns and cities, engaging different generations to ‘catch them all’. The app superimposes its creatures over a user’s smart phone camera as if they exist within our public spaces. It encourages wannabe Pokémon trainers to be active, through achieving goals and reaping rewards based on attaining walking distance goals. Urban designers have been aiming to make cities walkable for years and Pokémon GO has done it overnight.

Applications such as Snapchat and Instagram have made the sharing of images over the internet almost instantaneous to a worldwide audience. This gives the selfie generation an infinite number of opportunities to capture their day to day activities (in their favourite sepia tone of course). This greater connection to the wider world could reap unforeseen rewards for private developers and managers through free advertising of events, places to see, or raise awareness for specific causes through the sharing of imagery with users of a similar interest.

Social media can also be used as a tool to meet others. Dating apps such as Happn, Tinder and Match all rely on users being within a radius of each other in order to make a connection. Some of these are as localised as crossing paths with other users.

Public spaces used to be the place where you might approach a person to pay them a compliment, but today it is more likely that the best thing you
can hope for is a swipe right and a positive match. Should managers of publicly accessible spaces be promoting the use of social media to invigorate our squares, parks, and civic spaces? The public realm is being used very differently from 20 years ago. So should this steer the design, programming, and management of our external spaces? There is still a need to provide the traditional elements of a public realm which have always been required – I am not advocating a brutalist ‘Terminator’ style approach to the design of our public realm where we all have to ‘plug-in’ to be a part of the space, more that we should be incorporating a new level of design and management which heightens and widens the use of our public realm to encourage a different type of user’s need.

As designers we should be considering a greater level of milling about within our spaces. Additional seating and shelters could be incorporated to encourage social spaces. Wifi enabled spaces and improved lighting could encourage a wider use within a safe environment. Users should be encouraged to interact with these spaces, perhaps with programmable elements that can be controlled from your smart phone. Of course, the design of these spaces will need to ensure they are not subject to abuse or antisocial behaviour. Buy in from the end users and managers of the spaces will be crucial to the success of these spaces, and the increase of privately owned and managed public places could help this become a reality.

The virtues of social media and virtual gaming are evident from much research on the subject. The commercial benefits of having a space with which the community fully engages can give a business the base it needs to be a big success, and through providing the platform within the public realm such as social space/wifi and safer environments this benefit can be reaped by the managers of the sites. So what if the Churchill quote was ‘We shape our public spaces; thereafter they shape us’? Shouldn’t our landscape evolve with our technology to be a truly immersive space for all users, encouraging a truly sociable environment virtually and within reality?

Practice

Kate Dowdall is associate director at Macfarlane + Associates, urban and environmental land planning.

2-3 - Paddington Basin in London, designed by Macfarlane + Associates, is the kind of public space that may already be influenced by our use of digital technology.

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Adding to reality

Augmented reality techniques are still in their infancy, but their potential is enormous.

Earlier this year, the world appeared to hover in a car park in Warwickshire. It was summoned by Keysoft Solutions whose employees, looking though their mobile devices, could walk across the surface and even look underneath it. The sample 3D model was geotagged to a location within the car park and allowed the viewer to look at the object from any angle.

This was an outcome from Keysoft Solutions Innovation Week, where developers were experimenting with a technology called augmented reality (AR). The company typically creates AutoCAD-based design and database applications for landscape, traffic management, road safety, street lighting and highways maintenance engineering.

It is obvious that AR has the potential to offer enormous benefits to the landscape profession. Substitute the world in the car park for a line of poplars in the grounds of a house or benches in an urban residential development, swap the employees for clients or stakeholders, and the benefits of inserting digital items into a real landscape are clear to see.

Imagine how useful it would be to approach and look at your design up close then stroll back and take it in from afar. You could move items simply by clicking and dragging them up or down, or push them further into the field of your touchscreen. Two fingers turned around each other could rotate the object on its axis in any direction. By double-clicking, you could ‘lock’ the item into the view and then you could bring another asset into the picture.

The technology could be used at any stage of the pitch, consultation and design process: to help a designer win a bid by giving clients a look-ahead at exactly what the interventions might look like; to allow stakeholders to play around with a public scheme and provide accurate input; or for experienced designers to carry out the actual process of creating the new planned environment. You could invite collaborators or commissioners to see what you were seeing and get their input or intervention.

The direction of travel is clearly indicated by software applications such as Augment, an augmented technology platform based in Paris with more than 30,000 architects and designers on the platform around the world (many of these are product designers, as Augment is used to see how packaging might look on the shelf.)

“The biggest challenge in designing for a space is bringing the idea to life from 2D into 3D and helping the client and end-users buy into that vision,” says Lindsay Boyajian, its chief marketing officer. ‘Design professionals are brilliant at thinking and seeing things in 3D, but it’s harder for clients. Augment lets commissioner and practitioner share a common vision of the project.’

A limited version of Augment is free to download and use via Android.
The inter-phone technology does more heavy lifting when users are able to create their own objects or designs in AutoCAD, Rhino3D or any number of other design packages. You can also import a 3D scan of an actual model. For £300 a month, licensees can host 3D models into the Augment environment and situate them within the image or live-view and take a screenshot.

However, the most useful feature of Augment is the ability to print the 3D model onto a ‘tracer’ – a 2D print-out of a 3D model that your portable device reads as if it was 3D. Point your device at the paper and you can walk around and look at it from all angles. The tracker can include animations – you can lift a roof off a building. Or you pinch zoom and see inside hollow structures.

Initin, a production company specialising in immersive, installation-based experiences, created a tracker for architect, Roger Strik Harbour and Partners’ Riverlight development brochures. The fold-out AR markers transform into a detailed 3D model of the complex, including animated people, when viewed through a mobile device.

One thing that this type of AR lacks is the ability to be geolocated. It is only fixed by the photo and then gone or else it is a free-floating model on a piece of paper. This geolocation is key to the success of Pokemon GO, the game which helped bring AR to greater public consciousness. Millions of ‘trainers’ have tracked and captured digital beings in real-world environments. Its rules are also interactive: trainers can ‘place’ digital items in the real world in order to attract Pokemon characters to an area. Working en masse, trainers can kick off a Pokemon-catchin extravaganza, as happened at a fully ‘meet-up’ in San Francisco when hundreds of gamers turned up in the city.

Clearly, a practice that could create a geotagged digital object on site for everyone with the viewing software to visit and walk around rather than on a desk would have a terrific advantage: they would be able to walk people around something that looked like the finished site before it was completed.

However, the hurdle that I found in my Christmas tree is a clear and present issue for this kind of solution. Mike Shilton, product director at Keysoft and chair of the Landscape Institute Working Group, says the problem is to do with current satellite technology. So far, we use the US GPS (global positioning system) to know where we or other objects are, and this is accurate up to a few metres. This should improve: a new network of 30 satellites, Galileo, has the potential to offer accuracy up to a few centimetres, when it starts coming online between 2017 and 2020.

There are other ways to help lock the image to the view-frame: Costain and Network Rail came up with a workaround solution on the London Bridge Station project where the public could ‘see’ the result of planned shop fronts via a mobile device. The app used anchor points from the visual information in order to generate the digital masks. Then it calculated the viewer’s position, orientation, and pitch and aligned the 3D model accordingly. Costain was easily able to show that important assets (such as other shop fronts) would not be obscured by the work.

Yet highly accurate geotagging would have another benefit. It would boost AR in QR (Quick Response matrix barcode) enabled products which linked real world assets to information in the cloud. One called Hiistree helps landscape professionals gain information about green assets, holding information on their attributes and information about their maintenance or care in the cloud. If the garden staff carries out a task such as pruning, this is recorded onto the QR code. Obviously, it would be much easier to be able to access information just by standing next to the asset.

If companies needed proof that work had been done on a particular asset by an employer, they could upload a geotagged pic of the work, says Paul Wilkins, a construction technology marketing consultant with his own firm, Pwcom.co.uk.

A number of wireless sensors around a site could help fix an asset to a fixed location, points out Shilton. However, Microsoft may have stolen a march on more sophisticated geotagged devices. Its new HoloLens wrap-around goggles arrangement combines GPS with additional sensors which can build up a ‘point cloud’ of items, helping improving accuracy.

Stuart Capt, interim chief technology officer and co-founder says the current level of accuracy (to five or ten metres) is sufficient for many purposes – i.e. for showing members of the public a new building. However, it is not going to be enough for a professional who is trying to dig a trench in a certain area.

‘It’s important to be aware of who is using AR and what for,’ he says. ‘For example, some people need photorealism, or 30–60 frames per second – hard in a mobile device; others are happy to know there is a wall there.’

The level of live-streamed data to make the experience of AR satisfying is also currently limiting its applications in outdoor projects. The number of polygons – the tiny flat digital planes that go into creating an apparently 3D object – is currently limited to 1 million, confirms Augment’s Boyajian.

‘In landscape, you have a scale issue,’ says Shaun Collins, associate director, landscape architecture within design and engineering firm, AECOM, which is at the forefront of experimenting with the emerging technology. ‘In large projects, the file size is really large, more so than on buildings. We started finding limitations with a real-time view.’

One option, says delete Shilton, would be fractalisation, which means that objects are more detailed the closer you are and less clearly drawn when further away. At the moment, programmes tend to try to render every polygon no matter how large the digital image.

‘It is clear that there are a number of problems which must be overcome before you can walk your client through your fully rendered real-time external space on-site seeing the design overlaying the real world and together be able to shift a flowerbed from here to there. At the same time, much of the technology is coming close to fruition. ‘It’s not that far away,’ confirms Capt. In fact, says Eric Halquist, principal director, landscape architecture at AECOM, the current problem is overwhelming clients with the technology rather than underwhelming them. ‘They put on their headsets and go “ohh,” instead of paying attention to the content,’ he says.
The headset revolution

AR is often confused with virtual reality (VR). VR immerses users in a totally encompassing digital world through viewers such as the Oculus Rift, whereas AR applications overlay digital objects or info onto a background of what can be seen through the lens or overlaid on a previous photograph. As a result, most AR applications run on portable devices.

However, for a price, you can view the world through a specialised headset. Google Glass (£750) was an early example of a retail product which incorporates mixed reality although the projections on the lens don’t make any particular attempt to ‘fit in’ with their surroundings.

Microsoft’s HoloLens has just become available in the UK (starting at just over £2,700) and this device provides a more satisfying combination of the real world and its 3D (so-called ‘holographic’) interventions, so users feel as though game characters are coming out of the walls at them. Both Google and Microsoft’s products use headphones and microphones to enable communication and interactivity with the user’s device and internal computer, respectively.

Engineers from AECOM, which provides professional engineering, consulting and project management services for infrastructure projects, used the hardware to help with visualisation and design reviews on the Serpentine Pavilion project. ‘With extremely tight programme constraints, the mixed reality headsets helped speed up the engineering design process on the tightly curved steel and timber structure of Barkow Leibinger’s Summer House. ‘It would have taken a long time to methodically check the model without HoloLens technology. Importantly, using mixed reality technology encouraged greater clarity of communication in the design review process on an extremely complex design,’ says AECOM’s optimisation manager, Samuel Adams.

Michael Willoughby is a writer who specialises in the construction industry.

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Rural tales

The Museum of English Rural Life has undergone a magnificent refurbishment and offers fascinating insights into rural life.

The new galleries at the Museum of English Rural Life (MERL) in Reading, which opened on 22 October 2016, are full of stories. Did you know that farm wagons reflect the landscape? In Shropshire, the tyres were wide to avoid sinking into the heavy clay of the county, and the bodies were big to carry the heavy root crops of the region. In Cornwall, wagons were small so that they could pass along the narrow roads of the county, and had light frames with rollers at the back for the ropes used to tie down the load when climbing steep hills.

And farm wagons themselves (which have four wheels) are largely a product of enclosure landscapes, which led to increased production from the fewer, larger farms. Pre-enclosure, holders of open field strips used two-wheeled carts. Mind you, in Lincolnshire, they had ‘hermaphrodite’ wagons – carts to which a set of front wheels was added at harvest time.

A collection of stories

MERL is a set of stories about English farming, (or rather of the stories of the southern counties, since there is little north of the Shropshire-Lincolnshire line). Note that in England any land which is hoed, rather than ploughed, tends to be called a garden, hence market garden or allotment garden.

The beginnings of organic farming are described in the life of Eve Balfour (1846–1936) who based his farming practice on research from Rothamsted Experimental Station (where work began in 1842). He started with just 36ha and was losing money. So he got rid of his animals and specialised in arable farming, using chemical fertilizers such as nitrate of soda and superphosphate to boost crop yields. This approach enabled him to build an estate of 3000ha.

The Women’s Farms and Garden Association

The Women’s Farms and Garden Association (WFGA) was founded in 1899 and later set up the Women’s Land Army in both World War One and World War Two. This was a time when food security was critical for Britain. The WFGA continues and notable garden and landscape design members have included Gertrude Jekyll and Brenda Colvin.

A heroine of cheese

A heroine of the revival of British artisan cheese-making is Anne Wigmore who set up Village Maid Cheese in 1986, at Spencer’s Wood near Reading after a previous career as a microbiologist. Using unpasteurised milk from the Duke of Wellington’s herd of Guernseys at Stratfield Saye, she developed Wellington, a cheddar-style, hard cheese made with vegetarian rennet. Later she produced Wigmore, a soft ewe’s milk cheese. Anne Wigmore’s career is contrasted with 1950 photographs of Mrs Brown of Actress Farm, Gloucestershire who represents the old tradition. This was in the process of being overtaken by factory cheese, promoted by the Milk Marketing Board (1993–2002). But MERL also reminds us that it was the Milk Marketing Board that invented the ploughman’s lunch in post-rationing Britain.

The gallery is dominated by the massive timber-clad threshing machine of 1900 by E Humphries of the Atlas Works, Pershore. Threshing (aka thrashing) machines developed during the Napoleonic wars and were superseded by the combine harvester in the early years of the twentieth century.

Roma and rural crafts

Other galleries represent the gipsy tradition in the English countryside. Rural crafts, recalling pre-factory production, are illustrated by the work of Owen Jones, the last swill basket maker who uses thin strips of coppiced oak. Then there was the workshop where George Lailey (1869–1958), the last traditional pole lathe bowl turner in the country, had his workshop at Turner’s Green. East Sussex.

MERL has the contents of his workshop (which had no power and...
no water supply) including Lailey’s lathe. Robin Wood used the example of Lailey’s lathe to make his own and so he was able to revive the craft.

Charcoal burning, wooden spoon making (using sycamore), rake makers (using ash) and hurdle makers all feature. Hurdles were traditionally used for sheep enclosures and are made with hazel coppice; now they are used in gardens and produce a cheap, traditional fence which lasts a dozen years.

Shepherds and Beecham Pills

Did you know that Beecham’s Pills was set up in 1842 by Thomas Beecham (now part of GlaxoSmithKilne) was the oldest practice of landscape architects in the country when Frank Marshall retired in 1995. It was founded by Edward Milner, who had been Paxton’s assistant at Crystal Palace Park, and who practised on his own account from the mid 1850s. Continued acquisitions are subject to space and funding. MERL’s role in conserving and developing the Landscape Institute collections is supported by FOLAR, Friends of the Landscape Library and Archive at Reading, and, of course by the Landscape Institute, which provides an annual grant.

Post-war dates in British agriculture

Over the entrance to the MERL collection, there is a list of significant dates in post-war agriculture. 1947 saw the Agriculture Act, which guaranteed farmers prices for their production; 1951 was the Festival of Britain which celebrated rural life as well as ‘engineering and design,’ 1973 was when we joined the European Economic Community and the Common Agriculture Policy; the hot summer of 1959 led to crop failure; Dolly the Sheep was cloned in 1995; 2004 saw the ending of hunting with dogs and 2016 had the Referendum vote to leave the European Union. What will happen next to British agriculture and our rural landscape?

Robert Holden is a landscape architect, academic and critic

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Q & A: Eleanor Trenfield

Eleanor Trenfield is the new honorary editor of Landscape. This is your opportunity to learn more about her.

Please tell us a little about you
As a chartered landscape architect, I am currently specialising in strategic landscape planning. I am part of the expert panel investigating potential Green Belt policy for the Landscape Institute and have experience providing expert witness evidence. I work at Barton Willmore, a large multi-disciplinary practice, and am based in Soho Square, London, undertaking work across the country. I have a degree in architecture from the University for the Creative Arts and an MA in landscape architecture from the University of Greenwich. I am now a guest tutor for undergraduate architecture students at the University for the Creative Arts, and attend reviews at the University of Kent. I live in Canterbury and am married to the most wonderfully optimistic man I have ever met.

How did you first become interested in landscape?
Thinking back, it was visiting the Botanical Gardens in Harare, Zimbabwe almost every day with my father during my childhood. It had various zones, one of which we called the rainforest which had luxuriant vines, tall heavy canopy trees and probably constant irrigation (which was not something I ever considered as a child). To me, it was magical.

What is the most important thing you learned during your education?
To interrogate a brief. And plant knowledge.

Who has been key to your career in landscape architecture so far?
Many people, but two that deserve special mention: Tom Turner – a fantastic tutor who challenged and enthusiastically encouraged me throughout my MA, and supported me in my final project and enthusiastically encouraged me throughout my chartership. Julian Bore – the person who first introduced me to the landscape profession and offered me, as an architecture graduate, a position at his practice (Lloyd Bore), and supported me through my chartership.

What is the most challenging project on which you have worked?
Early in my career, I worked on a highways infrastructure scheme from inception to completion, which had many complexities including ownership, protected species, proximity to Special Protection Area (SPA) and Ramsar (Convention on Wetlands) sites, relocation of existing land uses, and difficult site conditions with exceptionally heavy clay soils and high winds. In addition, there were the challenging landscape contractors who worked from a soggy A4 black and white bit of paper which vaguely resembled the series of A1 coloured plans which I had spent hours meticulously annotating and colour coding (lesson learned).

What is it about Landscape that matters to you and why do you want to be honorary editor?
I appreciate that Landscape reaches a wide audience, with a wide and rich scope of experience and expertise. As honorary editor, I will liaise with Darkhorse who are the editor and publisher and with the support of the advisory editorial panel members (who are an accomplished cross section of the profession), ensure that articles continue to be interesting and relevant to readers, and that the journal keeps us well informed. Tim Waterman was a fantastic honorary editor and leaves big shoes to fill. The next few years will be challenging for all of us and we need to make sure that we are well informed so we are prepared and can spot opportunities.
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