

# LANDSCAPE ISSUES

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# THE DAILY SKETCH

The memorable element in the Serpentine Gallery's recent exhibition of the early paintings and drawings of Zaha Hadid was, for me, the sample of her sketch books on display. Somewhat in contrast to the more angular architectural drawings of her early work, the sketches showed a more free-flowing, biomorphic even, series of abstract forms (see below). Although sketches are used to communicate ideas to others and sometimes how a design progresses, I felt what these showed was the intimately personal thought processes of the designer. They were done for her benefit.

I feel the same about my own sketches. I take my sketchbook everywhere I go and, rather than photograph where I am or what I am looking at, I like to sit and sketch for half an hour. Looking back at any of my endeavours, typically a landscape sketch, I can recall vivid details about the scene, the sights and even sounds and smells, the weather, my sentiments. Zaha Hadid's sketches could be described as doodles – marks to facilitate her thoughts and feelings. Interviewed about their working methods, most architects would say they use rough freehand sketches to generate ideas. According to Jonathan Fish, “designers commonly speak of holding a conversation with a drawing”. Thus ideas develop from first sketches. Tentative, exploratory marks, blots and smudges externalised on white paper clear the mind no end.





Plant study: Alex Habermehl

For landscape architects, anxious to discover or reveal the *genius loci* of a project site, I see the process of field sketching as a natural starting point. David Hockney has proclaimed that “Everything begins with sketchbooks” but a more apt quotation is from the photographer Henri Cartier-Bresson who declared “La photo est une action immédiate; le dessin une méditation”. Field sketching is a valuable technique which encourages you to spend time observing, recording, contemplating and interpreting the landscape. For students of landscape architecture, there is no better way to experience and appraise the visual, tangible environment and the spirit of the place.

In his classic book on field sketching, Geoffrey Hutchings claims that “drawing is something that can be learnt by anyone who cares to study its principles and undertake much practice”. He goes on to catalogue the advantages that sketching has over photography in recording a view and its hidden meanings. This is not lost in standard texts on landscape character assessments where the published guidance suggests annotated drawings can record the *visual dynamics* of a place as well as illustrating *typical* associations of land elements (Tudor, 2014). Janet Swailes, an artist and landscape architect, contends that being physically in the landscape, preferably walking and sketching, heightens one’s perceptive powers and “becoming more directly connected to what we observe” translates into a more empathetic albeit subjective appraisal.

Digital images are ubiquitous. During the last decade, camera phones have enabled countless photographs to be instantly uploaded onto the internet. It is now easy to view scenes from anywhere in the world (including

Antarctica) via Google Earth Panoramio and Street View, for example. How does this impact on landscape architecture? It means site visits are not always seen as necessary. Initial reconnaissance surveys can be performed at one's desk. It also implies a reinforcement of photography in the visualisation of landscapes. Indeed the photograph has become the baseline image in landscape assessment. I am not arguing against this as I believe recent technological advances have provided the environmental professions, particularly, with useful resources, such as high resolution aerial imagery and accurate 3D perspectives. And now we appreciate their practical applications in virtual and augmented reality systems (see p 67). But we must not abandon traditional sketching as it is a complementary medium: indeed each technique brings its unique perspective.

Humans have an innate visualising capacity, probably developed earlier in our evolution than verbal reasoning. In spatial problem-solving, the generation of ideas and the solutions often are derived through sketches – initial site records and fuzzy ideas on 'backs of envelopes' are the catalysts of successful design thinking. Landscape architecture education at the University of Gloucestershire embraces this methodology both in the taught modules on drawing and in the promotion of field sketching on site visits and foreign field trips. Even prior to the course beginning, prospective students are given a number of summer projects to undertake. One is 'a drawing a day' whereby they are asked to spend 30 minutes or so each day producing any drawing whose subject matter can be based on observation, imagination or even memory of buildings, people or landscapes. These daily sketches are exhibited during induction week and are a useful introduction to the formal Drawing module which follows in term time.

In this module the initial weeks are spent simply learning to observe our surroundings and draw what we see. Students begin by drawing very simple objects (a cardboard box or desk top perhaps) and then move on to more complex spatial observation (internal rooms and small spaces) and finally on to annotated landscape observation sketches. An important aspect of this process is recognising the difference between what we actually see and what we think we see. In this way students begin to experience the world more as it is and less as they expect it to be, and it is the observation-based sketching process that acts as the vehicle for this learning process.

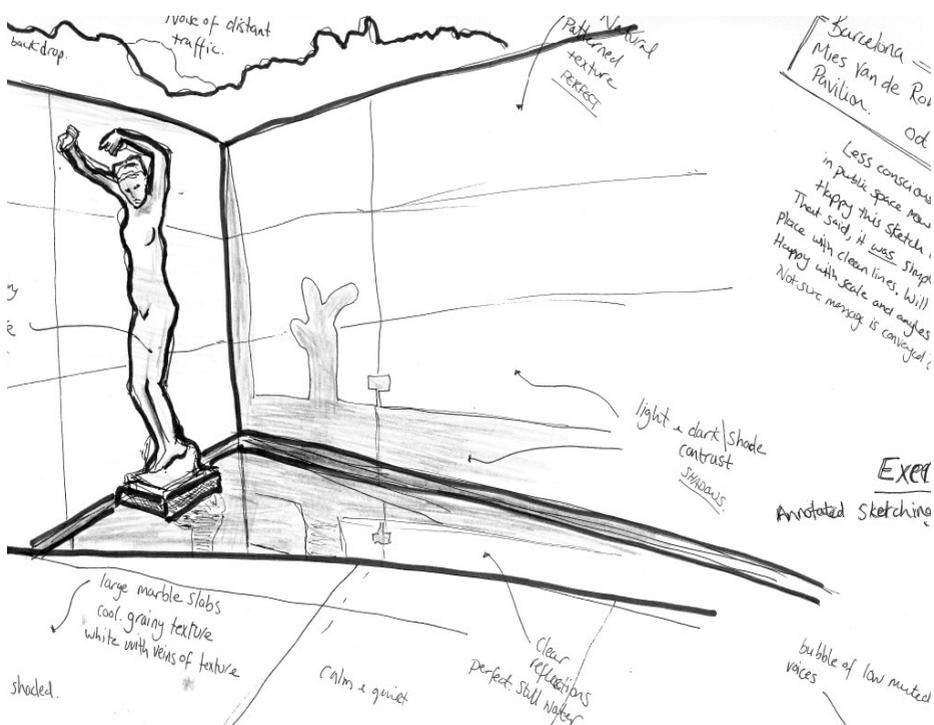
So, in a way, David Hockney is right about sketching, but it is more than just the starting point in recording our world. It helps us observe what matters, it structures our thinking, it allows the testing of ideas, it inspires designs; but it must be practised. Constantly. Daily. Make a daily sketch your resolution and your mantra.

*Jonathan Fish (1999) Cognitive catalysis: sketches for a time-lagged brain in Goldschmidt, G and Porter W [eds] Design Representation, Springer*

*Geoffrey Hutchings (1960) Landscape drawing, Methuen*

*Janet Swales (2016) Field sketching and the experience of landscape, Routledge*

*Christine Tudor (2014) An approach to landscape character assessment, Natural England*



Annotated sketch in Barcelona: Sarah Breton

# A BIT OF GREENERY

The Pantone Color Company has decreed that 2017 is the year of ‘greenery’ or, specifically, 15-0343 TCX, a fresh and zesty yellow-green shade that symbolically represents rebirth and renewal. So jumping on the bandwagon, the cover of this edition of *Landscape Issues* reflects this greenery. The Pantone Color Institute has been selecting yearly colours since 1999 and argues that they aim to capture the cultural zeitgeist through the language of colour. So what does it represent? From a landscape point of view there is no denying that green is a life-affirming colour, illustrative of flourishing foliage, of lush vegetation, of chlorophyll, the essential ingredient of photosynthesis. But further, nature’s green shades also help us to calm down and to influence us psychologically. If a brand were needed to urge us to disconnect from the maelstrom which is modern life and to embrace the better health and wellbeing afforded by nature, then it may be propitious to choose green, or even, according to Jules Pretty of the University of Essex, to label this natural benefit ‘Green Exercise’.

Pantone is mindful of all this in their promotional material: it’s about individuals taking a breath and re-oxygenating; the hint of yellow in ‘greenery’ suggests warmth, energy and vibrancy of the sun; green is about being bold and redefining happiness. It’s important on a societal level too as humanity seeks a sustainable future through recycling and reuse: green is the logical colour. We endorse all these sentiments. But the world at the moment is a turbulent one of strident and polarising politics, of worrying changes in society, ecology and the planet, of increasing pollution and climatic extremes, of the loss of the local green belt and city trees, of global deforestation. We are all connected to our environment in this so-named Anthropocene age, one in which humans are having a greater impact on the planet than any natural agency – despite what climate change deniers may assert. It is vital that the landscape profession restates its green credentials, makes a greater effort to promote its role in the creation and care of landscapes and demonstrates explicitly it is foursquare behind the green movement.

**Robert Moore**

# GEOMETRICAL PARADISES

## Carmen Fiol Costa

*'The world is moving into a phase when landscape design may well be recognised as the most comprehensive of the arts. Man creates around him an environment that is a projection into nature of his abstract ideas. It is only in the present century that the collective landscape has emerged as a social necessity. We are promoting a landscape art on a scale never conceived of in history.'* Geoffrey and Susan Jellicoe, 1975

### Introduction

During the last decade I have been visiting professor in Sardinia, Italy, and have taken the opportunity to travel around the island, examining the archaeological sites and observing the numerous *nuraghi*, those Megalithic tower structures found there. At the same time I am familiar with the Talaiotic culture of Minorca, Spain, where I have very often been on holiday. More recently I have visited Stonehenge while lecturing at the University of Gloucestershire, in Cheltenham.

From the sum of these visits over a short period of time and considering also the Alhambra and Vaux-le-Vicomte I have arrived at the conviction that geometrical order plays a fundamental role in landscape architecture.

While explaining the design process underpinning our recent project La Rose de Cherbourg in Paris to the public administrators and private clients, we claimed that vegetation is important in landscape design but emphasised that geometrical patterns in the spatial approach are fundamental to making unique vibrant places.

In this article I am going to express the importance of geometry to create a formal and topographic transition from built structures to open space that makes urban civic projects harmonise with both city and the wider context.

### 1 Geometrical versus natural

#### *Humanising nature*

From Mesopotamian and Greco-Roman cultures, civilisation implies the domestication of nature, humanising the surroundings of the house, the neighbourhood and the wider territory.

The garden was born in the Persia of Cyrus the Great; human beings in the desert were dreaming of oases, the play of water, green vegetation, palms with fruit, deep shadows and thus the first gardens were created. Terraced

gardens, with myrtle, vines and bay trees, were familiar to the Romans and after the barbarian invasion of the 5th century they were confined to the Byzantine Empire and Arabic Spain.

In the Middle Ages the tradition of gardening was preserved in the cloisters of monasteries. In the Languedoc-Roussillon region, troubadours such as Renato de Provence rediscovered the value of the garden expressing their poems within its ambience.

In the Renaissance the garden was introduced again in the Italian villas where the topography of the site was transformed into terraces so achieving an integration of architecture (villa – belvedere) and landscape (campo – bosco). In the landscape of Tuscany nothing is wild: the hills look in harmony with cypresses and olive trees.

The French were impressed by the setting of Italian villas and introduced for the first time the culture of the garden within the chateaux of the Loire. The integration of house and site was being explored and at Vaux-le-Vicomte Le Nôtre reached the maximum expression of the continuous relationship between building and natural landscape.

The great success of the geometry of such French parterres extended throughout Europe. The insistence on over-geometrising nature eventually



*Vaux-le-Vicomte: the continuous relationship between building and landscape*

gave rise to a hatred of geometric gardens and finally William Kent, in England, enunciated that the straight line did not exist in nature and consequently asserted that geometry was against nature. This simple idea became a trend that developed and extended through northern countries and even in France.

Contemporaneously two originally opposite philosophies are seen to coexist, what we may call the Latin or Mediterranean and the Anglo-Saxon. The latter tradition still needs time to become fully acquainted with the complexity of the southern tradition where the city forms part of the landscape: not seen in opposition to the landscape, but in harmony with it.

### *North and south, different ways of life*

In the countries of northern Europe, towns do not often form streets or plazas; houses get grouped in neighbourhoods just by juxtaposition. This is the context that Le Corbusier recognises at La Chaux-de-Fonds, his Swiss hometown. First in Paris and later in the book *Le Voyage d'Orient* in 1914, he investigates the Mediterranean tradition, the *polis*, the garden, the origin of architecture, 'the play of volumes under the light'. The Acropolis of Athens and the city of Istanbul demonstrate this interplay of elements in the landscape.



*Acropolis of Athens: interplay of elements in the landscape*

The discovery of Latin culture by the northern countries encouraged cultivated people to travel and discover Greco-Roman cultures (often on the 'Grand Tour' of southern Europe) and Mesopotamian and Egyptian cultures further afield. Journeys to Italy, Spain and north Africa were essential to artists, writers and architects such as Fortuny, Byron, Chateaubriand and Viollet-le-Duc.

In the towns of the north there is a definite contrast between buildings and open space, between city and nature. Urbanity, the culture of the city and architecture, is not as complex as in Latin cities, the accumulated deposits of ancient civilisations. The counterpoint between nature (virginal, uncontaminated, paradise) and city (unhygienic, noisy and criminal) is evident in the structure of the city itself. The park is placed at the heart of the city. The Commons in New Haven, Central Park in New York or Hyde Park in London are some examples.

Recent examples of the successful introduction of green spaces in the post-industrial cities of Great Britain and North America reflect this tradition. The High-Line in New York is an example of this phenomenon. It shows that the disassociation between urban tissue and green space can convert the latter into a speculative mechanism. A large-scale intervention of green in the city through the existing infrastructure, without any morphological transformation to break down barriers with the adjacent public realm, produces gentrification.

In an increasingly urbanised world the safeguarding of the environment is a priority. This anti-urban, naturalist landscape movement finds expression in the northern European countries and the USA which currently dominate the world economically with an advanced capitalist framework. This model favours a professional speciality over a holistic approach that includes the city as a geometrical landscape.

There are two opposing mentalities: on the one hand, the Latin with an ancient cultural background, which is complex, slow and synthetic, and, on the other, the Anglo-Saxon, dynamic and efficient, but fragmented and focused on immediate and short-term results.

Economic wealth in combination with cultural poverty is destructive. Consequently, the natural and urban environment becomes a place of consumption where sustainability is used as a way to achieve a new consumerist market and not about caring for biodiversity and cultural heritage.

### ***Geometry versus nature***

The rejection of straight lines and geometry as a whole has been increasing in the world of landscape architecture in Western culture. It seems to be a reflection of the idea that nature should not be transformed, that the natural environment should reign untouched, that geometry is against nature.

More organised than Latin countries, the northern Anglo-Saxon countries exert their influence and impose their landscape culture, where a garden traditionally consists of a clearing in the woods and a series of wild plantings. That is, nature is the opposite of the city, and if the city is geometric and public buildings, houses and streets are formed by segmented straight lines, then open spaces, gardens and parks should not have any traces of geometry.

The use of geometry in the design of an open space is wrongly understood as a constructivist technique. It is perceived as a human superimposition over the wilderness of the environment, against biodiversity and against sustainability.

In order to be part of the progressive trend, I have listened to architects' opinions coming from a southern European background in that they are not interested in form but in process. This fear of these designers to express form in landscape projects is very clear in competitions in the European context. A colleague coming from an agricultural background was advocating that landscape design should establish the conditions to adapt naturally to geographical variations. This philosophy implies that the landscape project should lose its catalytic potential to transform open space into places that create vibrant neighbourhoods. Following this approach the proposal normally consists in beautifying.

In our view a project should capture a moment of reality where the potential of activity and meaning is simultaneously possible. It is a contextual moment of a subjective reading of the site that carries a strong potential for the future place by not imposing strict standards of functionality but instead allowing different activities to happen. Such geographical integration can transform geometrical patterns to express the symbolism of the place.

Human beings' impromptu reaction is geometrical. A landscape project, like a work of art, is an interpretation of nature. Another matter is to choose between Euclidian geometry, the classical traditional geometry that applies the geometry of the built into the open area, or the flexible fractal geometry, of a more recent revelation, that comes directly from nature, and allows variations of form. This is a real issue when approaching a project in a specific site. We are in favour of fractal geometry in the contemporary city.

## **2 Environmental harmonies**

Retracing history we find geometrical supernatural landscapes in both northern and southern European countries. We have to go back to the late Neolithic and the Bronze Age to learn from the enduring elements of historical examples in order to put them in current projects.

Stonehenge in England and Talaiotic culture in Minorca (2nd millennium BC) represent an appropriation of the site by the population and a re-



*Stonehenge: understood in reference to the wider landscape*

creation of nature. Their design is the result of the process of getting to know the rules of nature and create a physical space where human beings can live, organise work, leisure and celebrations in relation to time and space.

**Stonehenge** The claim to the land that Stonehenge expresses as a monument has to be understood in reference to the wider landscape of Salisbury Plain, rich in wild foods, in the chalk soils of the valley. It forms part of an urban layout with built structures that link monuments and infrastructure such as the Cursus, different woodhenges (temples), various kinds of barrows, the Avenue and the river Avon.

Between 8500 and 7000 BC, not long after the end of the last ice age in about 10,000 BC, a time when Britain was still connected to mainland Europe, large timber pine posts of about 75cm in diameter, similar to native North American or Australian totem poles, were found; structures that allowed people to come together, to commemorate their dead in ways that demonstrated their ties to the land.

The position of the monument is geodesically determined and topographically placed to celebrate the activities of the community. Subtle alterations in the topography delineated the main elements of the landscape.



*The Cursus (centre left) at Stonehenge (top right): Google aerial image*

The 3500 BC Cursus, formed by two parallel ditches running east-west across the lower land looks as a barrier across the landscape and suggests that it may have been laid out as a special place.

Stonehenge was first defined as a circular berm of 110m in diameter possibly punctuated by wooden poles or timber circles linked together by horizontal beams to create a wooden version of Stonehenge or the framework for a huge building.

The place offered opportunities not only to the first settlers but also to other people coming from the continent. The stone tools used at the beginning were progressively substituted by metal utensils. Huge stones were carried

from the neighbouring mountains. The Sarsen stones (7m in height and weighing 35 tonnes) were used to define the horse-shoe of the sanctuary with an altar at the centre (similar to the Taula in the Balearic Islands).

Surrounding the sanctuary are two circles punctuated by bluestones coming from far away in South Wales supposedly transported by the river and linked with high wooden posts.

Stonehenge lies at the centre of a landscape full of prehistoric remains. Centuries after building Stonehenge had ceased, hundreds of Bronze Age burial mounds (round barrows) were built on surrounding hilltops. We know that Romans were aware of Stonehenge, as much as they were inspired by Egyptian civilisation. They were inspired by the architecture of the Mediterranean Islands, Mycenae, Sardinia and Balearic Islands as well.

**Talaiotic Minorca** The Talaiotic villages, dating from 1500–1000 BC, are formed of a series of elements or architectural types – talaiots, tables, houses, water reservoirs – that form a whole. The towns are located in different territorial geomorphologies.

The *talaiots* imposed their conical configurations on the highest points of the villages. These watchtowers were used to control the area used as grazing land for livestock. They were also used to aid communication between the different settlements. They are marks on the landscape that created a hierarchy in the territorial organisation of the different talaiotic communities living on the island, each talaiot serving as a communal space to redistribute food and as a meeting place.

Such monumental ‘tables’, formed by two large stones, forming a T with a column and a capital, both with the same structure of decreasing parallelepipeds, are surrounded by the horseshoe shape of the grounds of the shrine. The Table Sanctuary in the Balearic Islands is oriented towards the constellations Centaurus – Crux (Southern Cross).

The tables were symbols of divinity and not merely architectural structures, as indicated in the findings at Torralba d’en Salord 1300 AD (a small terracotta figure that conforms to the goddess Tanit and a small bronze bull) and at Torre d’en Galmés (a figure devoted to the Egyptian demigod Imhotep).

**Monuments** represent the quest for paradise, symbolic spaces forever linked to three-dimensional territory. According to the architect, planner and landscape architect Nicolau M. Rubió i Tudurí (1981), geometry is intended to confer clarity to the natural and the magical. The appearance of geometry in the constructions of man is a decisive date for our civilisation and for the formation of the spiritual being.

Monuments are symbols in the landscape that make the urban and regional

structure of a place visible. They are public buildings produced by architects from Neolithic to the present day.

The *nuraghi* in Sardinia are large monoliths of a complex structure placed in a precise orientation that when viewed stand as strong territorial signs ordering space and time. Those settlements masterfully recreate cosmic order by integrating all stages of human life.

At Stonehenge and in the Talaiotic Minorcan settlements the most visible elements are the public buildings; they are the monuments of those historic times. Their architectural typology is specific and emblematic and related to the urban layout. The urban layout is more difficult to read and, in the case of Talaiotic settlements, it is often interconnected with other later developments. In the case of Stonehenge, as the scale of the *Cursus* is large, it becomes difficult to read the territorial structure as a whole. Monuments are the public buildings of an urban settlement within a territorial structure. Because of their typology, size and placement they have lasted as architectural symbols over time.

Monuments are the expression of the way of life of a civilisation. They



*Torre d'en Salord, Minorca*

embody the experience of topographical architectures of the past. Being foundational structures developed over time, we can observe the formation of architecture in relation to territory, (circles, stadiums, promontories, intersections and axes) and their consolidation with time. In the case of Stonehenge, firstly with tree trunks marking the vertical dimension, then with large upright stones (menhirs) and then adding large horizontal stones forming doors (dolmens) as windows to the landscape.

The circular shape in such artefacts (Minorcan talaiots, nuraghi of Sardinia, barrows of Stonehenge) and in the symbolic sacred precincts (Stonehenge and Balearic Taula) is the most common. The circle is a primitive geometry which includes and separates at the same time, whether as a well or a hill, it is the easiest and most efficient form to cover with just a central support.

Monuments such as Stonehenge and the Recinte de Taula de Torre d'en Salord express a deep relationship with nature and exemplify a significant place of the garden or open public space in relation to the building or the built fabric of the city.



*Bolotana-Nuraghi Tittirolo: recreating cosmic order*

In the Generalife Gardens in the Alhambra of Granada (8th century) the air is cooled and the senses are delighted by the sight and sound of falling water, not only in the fountains but also in the balustrades on each side. The water-staircases lead down from the wooded hillside.

The garden of the Chateau of Vaux-le-Vicomte (17th century) represents the so-called Latin in the French garden. The geometric garden establishes contact with the architecture. The house and garden, instead of being opposites, are synthesised in a single organism forming a perfect spatial unity.

Stonehenge and Talaioitic Minorca (symbolic), the Alhambra in Granada (Latin) and Vaux-le-Vicomte (classic) represent different episodes in the process whereby architecture and nature reach an equilibrium.

### *Vaux-le-Vicomte*

The project of Vaux-le-Vicomte by Le Nôtre at Mélnun near Paris is the sublimation of the Latin garden. The essential lyrical quality evokes the Italian garden and balance between nature and artifice is achieved. The axes of the palace and garden are integrated into the horizontal course of the river Anqueil and its orthogonal tributary Rue de Bobet. The two waterways within the site form the main transversal axis and the subterranean channel which feeds the various pools and water features.

The rationalisation of nature around the built complex civilises the environment with outdoor rooms that from a bird's eye view might just seem a large plain, but are actually sloping terraces adapting to the topography. The platforms formed are like meadows within the wood, with occasional steps gently going down to the river Anqueil. Later the itinerary ascends to the ridge, where the giant figure of Hercules is placed and where the garden becomes forest.

The classical architecture of a palace with a garden is complemented by the surrounding landscape. The central perspective contrasts with the oblique views from perimeter paths near the wooded areas. Axial views are added to the view of the different topographical platforms and the surrounding landscape is unified with the geometric garden in a complex reality.

The perspective of the main axis is limited by the topography, the river valley is the transversal axis and the ridge of the hill its horizon. The dimensions of the open spaces derive from the structural lines of the territory. The palace is being mirrored through ponds beyond the finite frame. Vaux-le-Vicomte represents an equilibrium between house, garden and landscape, seeking harmony and balance in the composition.

History helps us to understand the present in order to be able to project the future. The examples of the monuments of history open up paths

for harmonious projects; by studying the elements, their position and the relationship between them and with their landscape, and also the relationship between public and private buildings across the street system, the symbolic relationships with the cosmos are revealed.

### 3 Biodiversity and civic symbolism

Because the role of the garden is so relevant to civilisation, in forging a relationship between man and landscape, including the territory of the city, I will try to define the appropriate relationship between architecture, city and landscape through the reference to some contemporary examples from the Arriola&Fiol practice, such as La Rose de Cherbourg in Paris and the Parc Central de Nou Barris in Barcelona.

**Geometry.** Topics such as the degree of utilisation of Euclidean geometry and the introduction of fractal geometry will be relevant.

**Landscape.** Role of nature in the city supports the principle that vegetation brings biodiversity and connects with the geomorphology of the territory.

**Genius loci.** A new spatial form will establish a symbolic work rooted in place.

**Holistic.** An intuitive and intellectual relationship between site, architecture and land will be created.

The concatenation from the most geometrical to the most natural confirms the continuity between building and territory. The fluidity between architecture and territory is fundamental in a humanised landscape, a harmonious landscape where you can promenade and where agriculture also has its place. The art of garden and the culture of agriculture have always been viewed as independent. Now agriculture could also be the garden of the city. Within this territorial view agriculture finds its place and adds new roles.

Open spaces in the city must respond to a clear open form to accommodate the function of meeting people. Plazas are meeting places. Parks are places for play and sport grounds, also natural places for meditation and individuality. Wild nature in the city favours isolation and not the act of meeting, like the forest does not invite socialising.

In Paris, La Défense, a kind of hypercity, the purpose is not to oppose the great heights of skyscrapers with jungle: the clash between tall buildings and afforestation does not promote socialising. On the contrary, it is necessary to build continuity between ground floor of buildings and plazas, between the ring of the belvedere and the columned rooms below, between the housing of the neighbourhood and the park, levelling and harmonising the spaces between buildings.

In the project of La Rose de Cherbourg we identified the elements that must be interrelated. The new office building of the Tour Hekla, the two new



*La Rose de Cherbourg, Paris: merging geometries*

residential towers within the ring, and the new retail volumes, which are located in continuity with the new Rose Plaza, the 190m diameter shaft of public space placed along the axis of the Avenue General de Gaulle.

The Plaza is a two-level public space; the ground level serves as the forecourt to the Tour Hekla and the first level within the oval ring of 180m x 120m serves as another access. The oval promenade linking these buildings is transformed into a viewing platform.

The Plaza at the core is placed topographically at the level of the districts of Puteaux and Boieldieu, and it becomes the central activity hub of Boieldieu-Puteaux-La Défense. The hanging garden and the surrounding park give continuity to the landscape of the territory.

The geometries of the new city complex merge into the geometries of the surrounding environment. It is offered as a smooth transition between the two environments, from the high rise buildings and adjacent urban tissues to the green corridor: Towers–Hanging Garden–Parks–Forest.

***Contemporary ritual***

The fundamental features of our civilisation are large-scale cities, industrial technology, the dynamism of transport systems and the internet. A contemporary project that builds a neighbourhood of a similar dimension to what would be a prehistoric settlement must ensure the same substantial

relationships exist between public buildings, housing and street system.

Roads, bridges, airports, large buildings, parking lots, industrial estates, warehouses and underground networks among others, have become the main elements of connectivity. We should intertwine those large elements with the traditional urban tissues, in order to marry fast systems with slow ones. This can be validated by connectivity, with the possibility of walking everywhere, and by establishing a maximum distance of 100 metres between crossings.

The other important issue is *visibility*, finding ways to see the various itineraries, identifying elements, the buildings and their functions and representativeness, the perspective of the streets, of the hills and the sea, of the surrounding landscape. Topographical architecture makes sense of such a place, a place that changes at every intervention according to the zeitgeist. Infrastructure and large buildings of the 20th and 21st centuries should be integrated into the history of our civilization. We have to humanise them, to work with them in order to adapt to urban fabric, according to regional and cosmogonic traces.



*Parc Central de Nou Barris, Barcelona: linking green infrastructure*

**Deinfrastructuring.** The projects of La Rose de Cherbourg and Parc Central de Nou Barris are examples of the redevelopment of an area of the city where the presence of infrastructure is excessive and it should be adapted to the other elements of the urban fabric.

In the case of La Rose de Cherbourg the old viaduct becomes a promenade of fine views and it is the element that binds the urban fabric with the natural. In the case of Parc Central de Nou Barris there is a system of green spaces, which links together the front row of houses, the central public building and the infrastructure of Ronda de Dalt and the Passeig Urrutia.

We have seen unique projects throughout time showing agricultural land, regional infrastructure and architecture relating harmoniously with each other. In those emblematic projects, the monument or the architectural significant feature is just the visible result of a whole assemblage adapted to the environment where human beings belong.

Monuments are the expression of harmonious interaction between elements that make up the landscape of all time. Contemporary projects should adapt systems to biodiversity, integrate infrastructure into urban fabric and create a symbolic landscape.

Knowledge of history is fundamental to understand the present, allowing us to project the future. The significance of historic monuments is that they offer a way to more harmonious solutions. Studying the elements, the location and their relationship with the site, as much as the relationships of public and private buildings within the street system, a symbolic connection with the cosmos can be achieved.

### **Biographical notes**

*Carmen Fiol Costa is a Barcelona-based architect, urban designer and landscape architect, co-founder of the practice Arriola&Fiol. Preeminent academic and architectural theorist, she has been visiting professor in Australia and has recently presented the John Simpson lecture to the landscape architecture course at the University of Gloucestershire.*

### **Sources**

William Howard Adams (1980) *Les Jardins en France 1500-1800*, L'Equerre, Paris

Andreu Arriola i Carme Fiol (1987) *Le Corbusier Romàntic. Le voyage d'Orient revisited*, El Món, Barcelona, Dep Legal B-42401

Jesús Bermúdez (2010) *La Alhambra y el Generalife*, TF Editores, Granada

J.C.N.Forestier (1985) *Jardines, cuaderno de dibujos y planos*, Editorial STYLOS, Barcelona

Giuliano Gresleri (1984) *Le Corbusier Viaggio in Oriente*, Marsilio Editore, Venezia

Geoffrey and Susan Jellicoe (1975) *The Landscape of Man*, Thames and Hudson, London

Julian Richards (2015) *Stonehenge*, English Heritage, London

Aurélia Rostaing, F. Sichet (2013) *André Le Nôtre à Vaux-le-Vicomte*, Somogy éditions d'Art, Paris

Anon (2015) *Talayotic Minorca*, Triangle books, Maó

Nicolas Ma. Rubió i Tudurí (1981) *Del Paraíso al jardín latino*, Tusquets Editores, Barcelona

Franco Zagari (1988) *L'Architettura del Giardino contemporaneo*, A. Mondadori Ed, Milano

Mauro Peppino Zedda (2004) *I Nuraghi tra Archeologia e Astronomia*, Agorà Nuragica, Cagliari

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# COLLECTIVE MEMORY IN THE BUILT ENVIRONMENT

Rhys Jones

The motivation for this paper stems from a personal desire to acknowledge the intangible elements of human activity in the landscape design process and to know how to manifest them. One of these elements is ‘collective memory’ – memories that are shared between communities – and this is what I’ve chosen to investigate by trying to answer the question: what specifically is collective memory?

## What is collective memory?

By definition, collective memory is ‘the memory of a group of people, passed from one generation to the next’ (Oxford English Dictionary, 2016) and can be at the level from everyday exchanges of memory (Assmann, 1995) to national identity scale (Britton, nd). There are a variety of reasons why it exists: culturally it is used to unite members of a group and can be transmitted over the centuries (Britton, op cit); from an evolutionary perspective it can maintain human nature through generations in the absence of ‘genetic programmes’ that would be found in animals (Assmann, op cit).

The term ‘collective memory’ originated and has been discussed by sociologists and historians throughout the 20th century. It began with French sociologist Emile Durkheim, who recognised that “societies require a connection with the past in order to preserve social unity and cohesion” (cited in Britton, op cit) and that groups created ways to maintain this unity when physically disbanded through objects known as ‘totems’. Durkheim’s student Maurice Halbwachs coined the term ‘collective memory’ and suggested that “all individual memory was constructed within social structures and institutions” (op cit); in other words, the group creates the memory and the individual does the work of remembering. Halbwachs also expanded the premise of totems to include commemorative events and adopted an ‘instrumental presentism’ approach to collective memory, which declares that “social constructions of memory are influenced by the needs of the present” (op cit).

Instrumental presentism suggests that groups select past memories to justify or explain current issues, an idea expanded by French historian Pierre Nora who stated that “collective memory is used by groups to interpret a past, and yet these memories become detached from the past” (op cit). By questioning which memories are being selected and by whom, Nora claimed that, to commemorate with collective memory, certain events and people

are “selected by those in power” (op cit). This idea is carried further by American historian John Bodnar who stated that collective memory is not an “accurate representation of the past, but is focussed on the needs of the present and anticipated future” (op cit) which reinforces the idea that it is used to “protect the power of the status quo” (op cit).

German Egyptologist Jan Assmann is somewhat detached from this discourse and instead distinguishes two types of collective memory: cultural and communicative, with cultural being akin to what we have seen discussed by Nora and Bodnar. Communicative memory can be described as the everyday exchanges of memory between those who are relating “a joke, a bit of gossip or an experience” (Assmann, op cit). These individuals are still composing memories that are socially mediated and relating to a group, but this group then “conceive[s] their unity and peculiarity through a common image of their past” (op cit). Cultural memory, as part of a much wider social group, is characterised by Assmann as ‘concretising’ identity and its “capacity to reconstruct” as it “always relates its knowledge to an actual and contemporary situation” (op cit). Assmann also distinguishes between communicative and cultural memory, with the former only existing as long as the lives of those who exchange it are still alive. Cultural memory is about fixing this memory to a point in history and thereby ‘objectivising’ it (op cit).



*Figure 1 Stolperstein (Stumble Stone) for Lizzy Schwerdtfeger, killed on final day of WW2, Berlin. (Photo: Adam Jones, Creative Commons Share Alike licence)*

Through this look into collective memory's origin I have derived what I would classify as two distinctive types: **vernacular** and **authoritative**. 'Vernacular' in the context of architecture is defined as "concerned with domestic and functional rather than public or monumental buildings" (OED, op cit) and so in its application to collective memory it includes the everyday, 'communicative' memory described by Jan Assmann. Vernacular collective memory (VCM) relates to a group that may be local, a family, or an intimate community. 'Authoritative', on the other hand, is defined as "proceeding from an official source and requiring compliance or obedience" (op cit) and relates to the cultural memory as discussed by Assmann which maintains the status quo of power. It is concerned with a national scale of community and so can be said to be established by powerful elites to create a national identity and culture which is then upheld by the citizens (as described by Nora and Bodnar); hence my choice of 'authoritative' to describe it. Historically, the ability of the elite to write made it possible to develop a 'high culture' which could create objectivised memory encapsulated in texts, so the ruling class could forge an identity connected with these constructed memories. This point is originally made by Paul Claval, who also notes that it was then possible to build "great systems of power and political organisation" (Claval, 2006), which gives a historical basis to the premise of authoritative collective memory (ACM) being used to create and maintain social identities by the ruling elite.

### **Collective memory in the built environment**

It is widely agreed that the built environment embodies individual and collective memories, as discussed in the writings of Anne-Catrin Schultz, Mary R. Gould & Rachel E. Silverman, Donlyn Lyndon, Juhani Pallasmaa, Marc Treib, James E. Young and Paul Claval (cited in bibliography). If memory is embodied then so are identity and heritage, as neuropsychiatrist Eric Kandel states: "memory is essential not only for the continuity of individual identity, but also for the transmission of culture and for the evolution and continuity of societies over the centuries" (cited in Karamanea, 2015). Ken Taylor also discusses this link between memory and heritage in his paper *Landscape and Memory*, stating that landscape is seen as "a cultural construct in which our sense of place and memories inhere" (Taylor, 2008). He sees the connections between "landscape and identity, and hence memory" (op cit) as being fundamental to our understanding of landscape and sense of place, quoting "to understand ourselves we need to look searchingly at our landscapes, for they are a clue to our culture" (Lewis, cited in Taylor, op cit) . Taylor looks to UNESCO's recognition of 'cultural landscapes' in its World Heritage listing, which acknowledges that they are "at the interface of culture and nature, tangible and intangible heritage" and "a symbol of the growing recognition of the fundamental links between local communities and their heritage" (Rossler, cited in Taylor, op cit). It is apparent that memory, identity, and heritage are all embodied in the built environment, but as I found that there are two types of collective memory, I must ask whether they too are being equally represented in this

environment. If so, does this therefore have an impact on the senses of identity and heritage?

In answer to this question, there appears to be much evidence of an imbalance towards ACM in the built environment. In the same chapter in which he speaks of the development of high culture, Paul Claval (Claval, 2006) also describes two forms of identities characterising western societies until the mid-19th century: **local** (which is passed down from generation to generation through vernacular culture) and **national-class** (due to history, ethnology, and geography). Speaking in the context of landscape, memory and identity, he states that “a new historical approach to vernacular history has displaced vernacular memory, and narratives on the dynamics of cultures or nature have displaced older ones which focussed on history” (op cit, p 91). In other words, the interpreted, historical version of events have replaced those which were actually being shared by people, or the identity of the national class has replaced that of the local.

A case study of this is found in *Stumbling upon History* by Mary Gould and Rachel Silverman, which “questions the narrative differences between (public) monumental memorials and (vernacular) countermemorials” in Berlin (2013). They note that “society’s memory is negotiated in the institutions, beliefs and values that shape monuments and memorials” (Huysen, cited in Gould and Silverman, op cit) and that Berlin’s public landscape has monuments and memorials that use the urban landscape as an expression of both remembering and forgetting. Set in the public eye, they defend and define the ideals of democracy, but can be spatially separated from the event they are commemorating. However what Gould and Silverman describe as ‘vernacular’ memorials are those which are set in the vernacular part of the city, bringing the local memory back to the site, making it a part of everyday life. They often exist without official approval, interpretation or narrative and are typically considered subsidiary to the state-sanctioned, public memorial. An example of these ‘countermemorials’ is the Stumbling Stones project, undertaken by Berlin-based artist Gunter Demnig who has placed small plaques of victims of the Holocaust at the location of their former home or business. This embeds vernacular memory into the landscape of the city and “brings remembrance to the physical space where great suffering occurred” (op cit), refusing the spatial separation of the public memorial (Figure 1). These blocks become part of the living citizens’ everyday routine, but the privilege of the public state-sanctioned memorials over them exhibits how ACM is more dominant than VCM.

The preeminence of the state-sanctioned memorials (and the memories they represent) is a point reinforced by James Young in his paper *The Texture of Memory: Holocaust Memorials and Meaning* (1993). He believes that memorials “concretise particular historical interpretations” with this idealised memory becoming as natural to the eye “as the landscape in which it stands” (op cit). Because of this he argues that official agencies are in a position to shape public (national) memory to their will. Along with

national events, these memorials can forge a nation's identity whilst being established by a single ruling authority. He states that it has been recognised that monuments mediate memory, displace a community's memory-work and bury it under "layers of national myths and explanations" (op cit).

In addition to monuments and memorials, the act of historic preservation can be argued to be showing the dominance of ACM in the built environment. In fact preservation is "usually associated with the state's power to subjugate and control private actions" and for a building to become worthy of preservation "it must transcend individual purposes and become useful for constructing a collective identity", according to architectural artist and preservationist Jorge Otero-Pailos (2009). He argues that in preserving its built heritage, a state demonstrates its power and own endurance. This power becomes interwoven with our own collective memories of the place, exhibiting its endurance "within the meaningful context of personal experience" (op cit).

With this dominance of national and state-sanctioned memory and identity being manifested in our built environment, the key question now becomes whose identity is being represented? Gould and Silverman ask a similar question (2013) and so does Tadhg O'Keeffe in his paper *Landscape and Memory: Historiography, Theory, Methodology* (2006). Here he points to districts in American cities whose non-white communities' heritage is not being met. Similarly he also uses the former red light district in Dublin known as 'The Monto' as a case study, with no 'traces' of it in the current urban landscape. This absence of acknowledgement "raises questions about the invoking of history" (O'Keeffe, 2006) and any redevelopment of it would be 'simulation' of its history, rather than preserved 'trace' (op cit).

It could be argued that in only talking of memorials and historic preservation, I am concentrating on a very small portion of the built environment – however it is clearly the portion that contains a great deal of embodied collective memory. Such lack of everyday, vernacular memory could mean that, as members of the public, we are not seeing ourselves represented in the landscape.

### **Collective amnesia**

The resulting concern to me from this research is whether our individual senses of self are being represented in the landscape, due to the lack of VCM in it. Ken Taylor believes that "one of our deepest needs is for a sense of identity and belonging" (2008) and that the *ordinary* landscape reflects this; a view shared by Panita Karamanea, who states that "we may refer to ourselves by reference to particular places" (2015) as the landscape is a "site of and for identity" (Mitchell, cited in Karamanea, op cit). A loss of memory is a loss of self (Kandel, cited in Karamanea, op cit) and by representing our memory the landscape can be "a tangible link between what we are and what we have become" (Karamanea, op cit). In fact the English author

Margaret Drabble once wrote that “when a loved landscape is altered out of recognition: we lose not only a place, but ourselves” (Drabble, cited in Karamanea, op cit). If our built environment is dominated by state-sanctioned collective memories and identities, then how might we find our own individual ones? Could this dominance of ACM be eroding our own identity and causing a ‘collective amnesia’ and effectively suppressing it to oblivion?

Other causes for this collective amnesia could be the effect of globalisation, which Pierre Nora laments as the “decline of a national, collective, identity-forming, memory” (cited in O’Keeffe, 2006). Michael Hough, whilst looking at regional scales, also sees “market forces and technologisation as agents that homogenise the landscapes of places that were otherwise unique” (cited in O’Keeffe, p 6). With an evermore connected world, it is apparent that there is a risk of the individual (local) memories of a place being displaced by those on the global scale – perhaps even the national memories too.

## **Conclusion**

I set out to answer the question ‘what is collective memory?’ and I found that, at all scales of society, it is a socially-mandated mechanism that unites a group’s identity and culture. At a national scale, this unification can influence an entire nation’s identity and heritage, but it is established and maintained by a ruling authority. This collective memory of varying scales is embodied in the built environment, with the ‘authoritative’ type being more dominant than ‘vernacular’. Therefore national identity becomes correspondingly more dominant than local or individual, at the expense of minority groups or those who might not fit with the ‘official’ narrative or interpretation of history. As a result, these ‘vernacular’ memories could be further lost through globalisation and commercialisation and this ‘collective amnesia’ of the built environment could erode our sense of self and identity. To conclude, I believe that, in order to mitigate this effect, we all have to actively defend our public right to preserve such memories in our built environment.

## ***Biographical notes***

*Rhys Jones is in his final year at the University of Gloucestershire, completing a degree in landscape architecture. This article is an edited version of a research exercise for the Philosophy and Creativity module.*

## **Bibliography**

Assmann, J (1995) Collective Memory and Cultural Identity, *New German Critique*, 65, Cultural History/Cultural Studies (Spring - Summer), pp 125-133.

Britton, D (nd) *What is collective memory?* Memorial worlds [online].

Available at <https://memorialworlds.com/what-is-collective-memory/>  
[accessed on 30.11.2016]

Claval, P (2006) *Changing Conceptions of Heritage and Landscape*, in Moore N and Whelan Y eds (2006) *Heritage, Memory and the Politics of Identity*, Aldershot: Ashgate, ch 6.

Karamanea, P (2015) Landscape, memory and contemporary design, *Craft Plus Design Inquiry*, issue 7, pp 113-134. Available through EBSCO Information Services <http://eds.b.ebscohost.com/> [accessed on 01.12.2016]

Taylor, K (2008) *Landscape and Memory: cultural landscapes, intangible values and some thoughts on Asia*, in 16th ICOMOS General Assembly and International Symposium: 'Finding the spirit of place – between the tangible and the intangible', Quebec, Canada, 29 Sept – 4 Oct 2008.

Gould, MR and Silverman, RE (2013) Stumbling across history: collective memory and the urban landscape. *GeoJournal*, 78(5), available at <http://link.springer.com/article/10.1007/s10708-012-9466-6> [accessed on 30.11.2016]

Lyndon, D (2009) *The Place of Memory* in Treib, M ed (2009) *Spatial recall: memory in architecture and landscape*, Routledge, London, ch 3.

O'Keeffe, T (2006) *Landscape and Memory: Historiography, Theory, Methodology* in: Moore, N and Whelan, Y eds (2006) *Heritage, Memory and the Politics of Identity*, Aldershot: Ashgate, ch 1.

Otero-Pailos, J (2009) *Mnemonic Value and Historic Preservation* in Treib, M ed (2009) *Spatial recall: memory in architecture and landscape*, Routledge, London, ch. 12.

Oxford English Dictionary (2016) [online] Available at [https://en.oxforddictionaries.com/definition/collective\\_memory](https://en.oxforddictionaries.com/definition/collective_memory) [accessed on 27.12.2016]

Pallasmaa, J (2009) *Space, Place, Memory, and Imagination: The Temporal Dimension of Existential Space* in Treib, M ed (2009) *Spatial recall: memory in architecture and landscape*, Routledge, London, ch 1.

Schultz, AC (2009) *Carlo Scarpa: built memories* in Birksted, J ed (2001) *Landscapes of memory and experience*, Spon Press, London, ch 3.

Treib, M (2009) *Yes, Now I Remember: an Introduction*, in: Treib, M ed (2009) *Spatial recall: memory in architecture and landscape*, Routledge, London, introduction.

Young, EJ (1993) *The Texture of Memory: Holocaust Memorials & Meaning*, in: Rossington, M and Whitehead, A eds (2007) *Theories of Memory: a Reader*, The John Hopkins University Press, Baltimore , pp 177-184.

# THE POTENTIAL OF INCORPORATING GREEN SPACE IN THE WORKPLACE

Nicola Greaves

## Introduction

This paper examines the potential positive impacts of including green spaces within the office workplace environment, from an employee, business and environmental perspective. With staff being a business's most important and costly asset, and budgets tight in a difficult financial climate, creative thinking is required to solve the many employee-related issues facing 21st century businesses. With a previous professional background in project management and human resourcing for fast-paced creative marketing organisations I recognise the financial pressures faced by businesses and issues surrounding staff welfare. This insight has led me to question whether the routine inclusion of dedicated green space within the workplace could have a positive influence on a range of business and staffing challenges, together with benefiting the wider environment.

Reflecting upon historic examples of green workplaces, together with studies by environmental psychologists on the associations between nature and human wellbeing, I hope to make some connections between workplace wellness and contact with green space. The research will consider the factual issues surrounding workplace wellness in the 21st century and will highlight current statistics from recognised bodies, highlighting trends and quantifying the problem.

Conventional wisdom suggests it will be hard for businesses to justify the inclusion of dedicated green spaces, considering them a luxury rather than an essential component to the modern office workplace. This study therefore aims to highlight a broad range of potential tangible business benefits, ranging from those that impact on individual employees, through to broader business benefits and the wider environmental and social impacts. These will be discussed through the use of selected case study examples which illustrate where benefits have been achieved, and this is likely to involve research in the US where dedicated green spaces within the workplace, in particular productive gardens, are more numerous.

Finally, the study will look at potential reasons why there aren't currently more dedicated green spaces within UK workplaces. Whilst it is unlikely the solution will be discovered within the limited extent of this study, the research methodology may highlight connections and raise additional questions for further research, the ultimate goal being to help persuade

business owners to consider including green spaces within existing urban workplace environments and to encourage governmental discussion around their inclusion in future planning regulations for all new office developments.

When considering the term ‘workplace green space’ it is important to understand its meaning. In this study it describes an area of land that is incorporated within the boundaries of the workplace, and does not include squares, parks or other locally accessible public realm spaces.

### **The relationship between workplace wellness and green spaces**

The inclusion of natural green spaces in a work setting is not a new concept. The workers’ village of Saltaire, Yorkshire, built in 1853 by Sir Titus Salt, included green spaces such as a park and allotments for the health and wellbeing of his mill workers (Natural England, 2010), and in the 1870s the Cadbury brothers opened their ‘factory in a garden’ to provide a clean and healthy working environment for their factory employees. Around the same time, William Hesketh Lever created a garden village at Port Sunlight (later becoming the global giant Unilever) to house his soap factory workers. Historical urban planning has also been influenced, with Ebenezer Howard’s Garden City Movement at the turn of the 20th century being “born out of a desire to create a healthy, natural and economic combination of town and country life” (Garden City Museum, 2010). However by the mid 20th century, after the second world war, natural green urban settings gave way to the built environment; where air conditioning replaced natural ventilation, balconies and roof terraces disappeared, land costs soared and the demand for parking resulted in public space becoming a luxury in urban Britain.

In recent decades however there has been mounting evidence demonstrating the contribution green spaces can make to society, in particular their positive impact on mental and physical health and wellbeing. Considerable research has been carried out in the field of environmental psychology, where studies into the psychological benefits of nature and its restorative effects are numerous. The biophilia hypothesis argues that there is an instinctive and interconnected relationship between humans and the natural world and that this relationship is essential for us to sustain our health and wellbeing. It implies that humans hold a biological need for connection with nature on physical, mental and social levels. Studies show that contact with nature can relieve mental fatigue (Kaplan & Kaplan, 1989; Ulrich, 1983) and that a green environment encourages people to take physical exercise, which can have positive effects on health and wellbeing, and in particular, the presence of vegetation will speed recovery from stress (Ulrich 1991; Kaplan 1993). Horticulture has also been shown to help the rehabilitation of people with burn-out syndrome (Sempik et al, 2003) which is the psychological term for the experience of long-term exhaustion and diminished interest, a relatively new illness particularly prevalent in office workers.

In the 21st century workplace, stress has become a major concern. In 2011 the Confederation of British Industry (CBI) announced that mental health issues such as stress, anxiety and depression were the biggest cause of long-term workplace absence in the UK. In the same year, mental health charity Mind showed that 48% of employees surveyed are too scared to take time off work for illness, and almost half are stressed by their jobs, making work more stressful than money worries, relationship or other health issues (Mind, 2011, p 6). The Health and Safety Executive (HSE) statistics for 2013/14 state there were 487,000 cases of work-related stress, depression or anxiety with 244,000 being new cases, and the total number of working days lost as a result was 11.3 million (HSE, 2014). The Office for National Statistics (ONS) reported in 2009 that workplace anxiety or stress was costing the UK economy £26 billion, equivalent to approximately £1,000 per employee (Mind, 2011, p 2).

Ulrika Stigsdotter's 2010 paper *A garden at your workplace may reduce stress* indicates that Britain is not alone in suffering from the effects of workplace stress. In fact, in Sweden, 'stress' has been designated as a new national illness (Stigsdotter, 2010, p 149) and one might assume that cities across the Western world may share the same issues in this regard. In her paper, Stigsdotter includes results from a study she carried out on 656 randomly selected people in nine Swedish cities who answered a questionnaire addressing their experiences of stress and their use of green outdoor environments at their workplace. The results appear compelling, as they suggest that if an employee has access to green space at work they will suffer from stress on fewer occasions per year than if they do not have access to green space (Stigsdotter, 2010, p 150).

In Figure 2, the Level of Stress (LS) decreases as the workplace greenery index (amount of green space at workplace) increases.

This implies that if an employee has a view of green space and also the possibility of spending breaks in it, they will suffer from stress on fewer occasions than those who have neither a green view nor a chance of going outdoors during breaks (Stigsdotter, 2010, p 151).

Stigsdotter carried out further research in 2012 with a group of 439 randomly selected Swedish individuals. The study investigated whether access to a green outdoor environment at work was related to employees' perceived level of stress and attitude to their workplace, its characteristics and the accessibility of green space. The results illustrated strong

	Having a garden	Having no garden	Significance
LS	89.42	130.14	p<0.02
SEI	4.07	4.18	Ns
N	400	184	

Figure 1 (from Stigsdotter, 2010)

Workplace greenery index	N		LS
W-index 1	95	Having no view of a garden and no chance to go out during breaks	153.73
W-index 2	86	Having no view of a garden and a chance of a break out of doors once a month at most	104.08
W-index 3	276	Having a view of a garden and few or no chances of a break out of doors (once a week at most)	94.66
W-index 4	117	Having a view of a green garden and chances of a break in a green garden more than once a week	77.07

Figure 2 (from Stigdotter, 2010)

relationships between physical and visual access to workplace greenery and a positive workplace attitude, as well as a decreased level of stress amongst respondents. This supports existing research that the workplace outdoor environment affects employee wellbeing and their level of stress. (Stigsdotter et al, 2012).

### Potential benefits of incorporating green spaces within the workplace

The emergence of academic journals and publications specifically relating to workplace wellness demonstrates it is increasingly relevant to policy makers, organisations and employees, and it is generally recognised that a healthy workforce is an asset to any business. However I can find no mention of green spaces at work being considered as part of any workplace wellness programme in the UK, surprising when the health benefits of close proximity to nature are so widely reported.

In recent years however there has been an increasing trend in the US for ‘Employer Sponsored Gardens’ amongst small enterprises and large multi-nationals including Google, Yahoo, PepsiCo, Toyota and Intel to name but a few. According to a 2010 report there are currently an estimated 400 workplace productive gardens, of varying sizes, in the US (Employer Gardens, 2010) and anecdotally, there are a lot of indicators that this trend is increasing. Winning Workplaces, which helps small and medium-sized organisations in the US create successful workplaces, reports that leaders from firms sponsoring employee gardens at work all point to positive outcomes. These include an increased level of employee engagement, camaraderie and healthy behaviour, which in turn impacts on their bottom line in the form of better performing and more highly satisfied staff. They also report a reduction in employee turnover and absenteeism (Winning Workplaces, 2011). The reputable US publications *Fortune 500* and the *Wall Street Journal* have reported on the benefits of employee gardens and

blogs from gardening sites such as Heirloom Gardener and Compostmania have tips on how to start a garden at the workplace.

One company that has embraced this idea is the public relations firm Haberman and Associates, whose owner, Fred Haberman, set up a garden for his 25 employees in 2009, aiming to reduce healthcare costs to his business through positively influencing their food choices. According to *The Independent* newspaper, Haberman spent approximately \$5,000 to set up the productive garden and sees it as an employee benefit, like health insurance or a company pension plan, but also as a way to educate employees about their food choices, improving their health long-term and resulting in a healthier workforce (The Independent, 2010). Haberman states on the 'Trend Hunter' video that

[t]he main reason we did it was because we are totally serious about trying to figure out how to get people to be healthier before they get sick ... It seemed to us that people spend most of their time at work, so why not create an environment where people could, at work, have access to better food, learn more about their food, and engage in the actual production of that food? ... When employees sign up to participate in the garden, it shows an orientation toward making healthy choices in their lives. It makes as much sense to provide discounts on healthcare premiums for employees participating in a garden as it does for employees taking out company gym memberships (Brassfield, 2009).

As discussed in an earlier section, health-related absenteeism from work is a financial concern for UK businesses and in 2010 the International Journal of Workplace Health Management reported that promoting physical activity in the workplace can reduce absenteeism by up to 20%, as active employees take 27% fewer sick days (Lee et al, 2010, p 60). Therefore it is reasonable to assume that encouraging employees to take physical activity by providing green spaces within the workplace could have a positive impact on reducing absenteeism and its related cost burden.

Increased productivity may also be a positive aspect. A survey by private health company Bupa in 2011 revealed that out of 1,000 office workers polled, half were too busy to stop and take a break during the day while a third felt pressured by their managers to stay at their desks and work through lunch. However, it also revealed that half the participants said they were far less effective at work in the afternoon if they hadn't taken a lunch break and stated this is costing businesses £millions in lost productivity. Well-designed and easily-accessible green spaces located within the workplace may therefore encourage employees to take breaks during the working day, resulting in a more productive workforce; however company culture also has an important role to play in ensuring this is successful.

The relationship between biophilic design and wellbeing has already been alluded to. In the book *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life*, the author, Stephen Kellert, analyses the effect it has on office work productivity, absenteeism and number of sick days, stating that people "learn better, work more comfortably, and recuperate

more successfully in buildings that echo the environment in which the human species evolved” (Kellert, 2009), and Kellert believes there is a definite connection between biophilic spaces and improved productivity. This has also been proved in a study of office workers by American building consultants Heschong Mahone, who found people in call centres with window views could process calls up to 12 per cent faster. Computer programmers with views spent 15 per cent more time on their primary task, while equivalent workers without views spent 15 per cent more time talking on the phone or to their colleagues (Terrapin Bright Green, 2014).

Interestingly, it is not just outdoor green spaces that offer benefits. A study in Denmark highlights the relationship between ornamental plants and employees working in offices. Plants proved to be an integral part of the workplace, employees often introducing them themselves. It found they looked at plants as a way of coping with the demands of work tasks, including facilitating taking short mental breaks from computers screens, dealing with fatigue and for gaining inspiration to solve difficult tasks. They also provided a focus for discussions and social interactions and employees chose to look at the plants as a way to help relax in stressful situations. Interestingly, many employees expressed the view that it was important to them that the ornamental plants were living things that required care and attention and were adamant that the impact and qualities of living plants could not be replicated by artificial ones (Thomsen et al, 2011).

One can see in Figure 3 below that in relation to individual wellbeing plants affected mood, emotions and psychological wellbeing, physical wellbeing, concentration, self-confidence, and they stimulated the senses. The positive

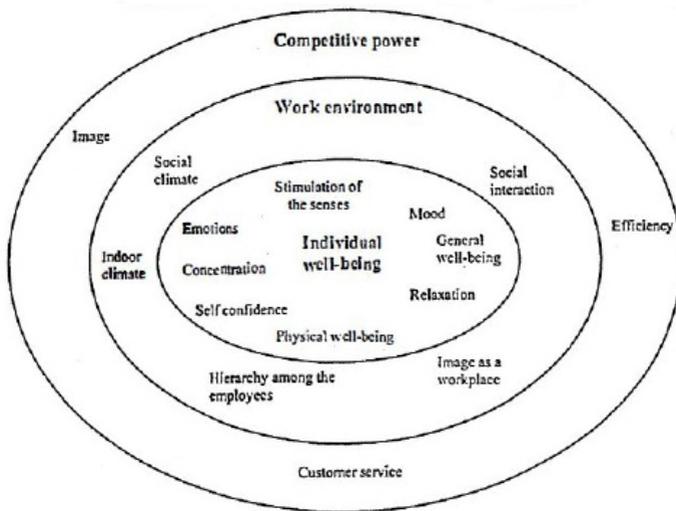


Figure 3 Individual wellbeing (from Thomsen et al, 2011)

effect plants had on the working environment included the social climate, the image of the workplace and the interaction among employees. The study also showed that plants were believed to influence the competitiveness of the workplace, its general image and the efficiency of the employees. This was linked to the finding that ornamental plants were regarded as an important means to create a comfortable atmosphere, which again was regarded as the basis for conducting effective and high-quality work (Thomsen et al, 2011). From this, it would be reasonable to assume that larger natural green spaces within the workplace could offer the same, if not greater levels of these benefits.

Paul Teslak, a professor of organisational behaviour and human resource management at the University of Maryland, thinks that gardens in the workplace can encourage team spirit amongst employees and become “a valuable asset the organisation is offering” (Flandez, 2009). This positive impact on workplace camaraderie is referred to many times in anecdotal articles on workplace productive gardens, and appears to be an important aspect for both employees and employers alike. Marie Duprey, who works as a graphic designer at Harvard Pilgrim Health Care, is in favour of their company garden, stating that “The garden encourages camaraderie because it gets workers out of their cubicles and mingling with people from other departments” (Pfeiffer, 2010), and according to Timberland’s Betsy Blaisdell, their garden “definitely brings together a diverse group of people” (Elmer, 2011).

In staff surveys, Chesapeake employees say they appreciate the friendships and workplace relationships they have built on their gardening teams (Elmer, 2011), and Fred Haberman says of their employee garden, “It’s creating that water-cooler effect...people have a greater excitement about working at Haberman” (Flandez, 2009). This illustrates the potential for



*Figures 4 and 5 The Haberman & Associates Dude Ranch productive garden: hard work is rewarded at employee social events*

productive gardens within the workplace to offer a viable means of team building, potentially replacing the need for costly off-site events and highly-paid consultants.

The productive garden at Habermans is also an example of its potential to enhance recruitment for the business. Haberman states that “We get a lot of people who read about the garden and say I want to work here. They’re great people ... You’re going to draw the people that you want on your team” (Elmer, 2011).

Green spaces within the workplace can also serve to improve company image and enhance Corporate Social Responsibility (CSR) strategy. Increasing green space in urban settings is widely accepted as beneficial to the environment and therefore a positive edition to any CSR profile, and in addition, green roofs have been shown to reduce building running costs, making the inclusion of either intensive or extensive green roofs a sound economic solution.

Productive green spaces in particular have been found to increase CSR as illustrated by Blue Cross Blue Shield in Minnesota, whose employees grow vegetables for a local shelter for domestic violence victims (The Independent, 2010). This seems to be a fairly common approach for employee gardens, with Timberland, PepsiCo, Chesapeake Energy and Irmco all donating produce grown at their workplaces to local food banks. According to Brad Jeffrey, Vice President of Irmco, “Since the first year, the garden has grown three times in size with 100% of the produce going to the Good News Kitchen in Chicago”, a reflection of the Irmco culture of giving to others. Annual costs amount to about \$500, but Jeffrey points to the strengthening of group bonds and corporate culture in justifying the expenditure (Ticus, 2010).

The benefits achieved in the US appear to be widely recognised within the



Figure 6 Chesapeake Energy employees tend their company garden.



Figure 7 Googleplex Growing Connections garden, California, from which produce is used in the staff canteen.

business world, with Bob Eubank from the New England Human Resources Association stating that

...this is something that has a minimal cost that could have decent benefit. At a time when many employers are slashing benefits, gardens are a small perk that can boost morale and let companies trumpet corporate values like teamwork, wellness and sustainability, and they could also be a recruiting tool (Pfeiffer, 2010).

and Vickie Elmer from the CNN affiliated website 'Management Fortune' states that "...growth has been fuelled largely by a growing interest in employee wellness and an effort to give workers a lowcost benefit" (Elmer, 2011). According to Kim Severson in the New York Times, many companies in the US have converted unused office landscape or flat roofs into green spaces that are maintained by employees as a way to make better use of neglected or unproductive space, as well as to give employees a new way to work together (Severson, 2010).

## **Conclusion**

It is well documented that workplace health and wellbeing is a major pre-occupation in the UK, with stress-related illnesses being the most concerning and costly issue. It is also understood that health and wellbeing is directly affected by proximity to a natural environment. It is therefore surprising I have not been able to find any examples of existing green spaces within UK workplaces that directly tackle this problem.

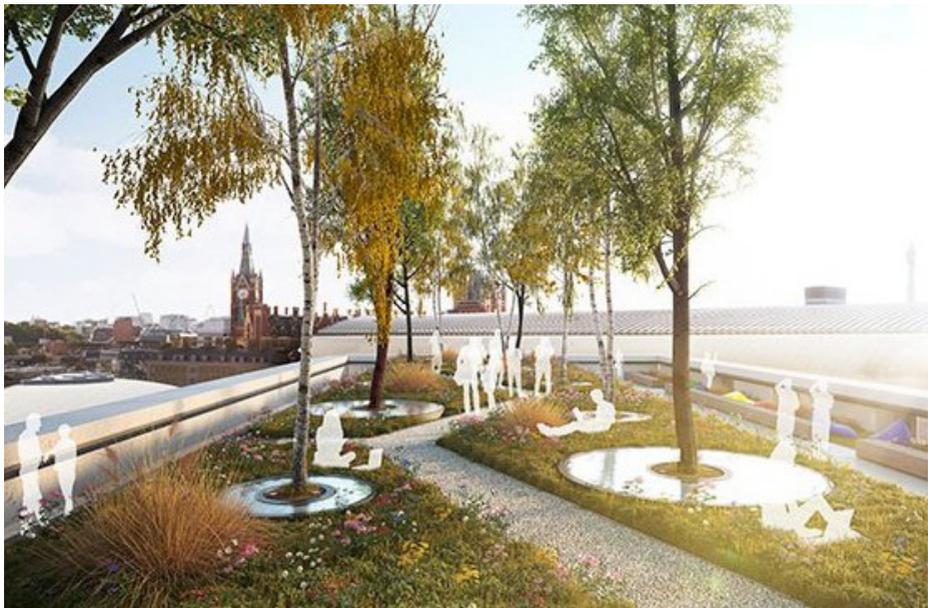
Stress was never raised as a motivating factor in any of the US examples, but instead their preoccupation appears to be with healthy eating habits. Recognition should be given to the fact that it is not a direct and fair comparison, with the UK having a fraction of the land mass and different employee health issues. However, obesity in the UK is now becoming a major concern too. Including well designed green spaces within workplaces, and in particular ones that offer employees the opportunity to be involved in the nurturing and development of them, may be an effective, democratic, comparatively cheap and aesthetic weapon against these growing problems.

One key contributing factor to the lack of green spaces within UK urban workplaces is that there is currently no requirement in planning law for them to be considered and included as part of new office developments. In addition, according to Bristol City Council, 'office provision' and 'green space provision' currently fall into two entirely separate policy areas, those of 'Delivering a Thriving Economy' and 'Green Infrastructure' respectively. This could potentially result in insufficient relationship between the different policy departments, thus when confronted with an application for an office development aspects of green infrastructure are not readily considered (Bristol City Council, 2014). One might conclude from this that a more joined-up approach to planning is required before the routine inclusion of workplace green space can occur.

As land is at a premium in the UK, especially within a densely packed urban environment, perhaps one solution would be to make use of redundant spaces such as courtyards, balconies and rooftops. However these do come with limitations and retrofitting may prove unsuitable in many situations. If supported by other studies, this may suggest a more progressive role for urban designers, architects, landscape architects, developers and city planners, with a focus on prevention rather than cure. Continued research and discussion can only help raise its profile, particularly as there appears to be little mention of it in design circles with much of the evidence coming from occupational and environmental psychology publications.

One positive example of how green spaces are being incorporated into new office developments, with employee wellbeing in mind, is the new Google headquarters in Kings Cross, London, designed by architects Allford Hall Monaghan Morris. Due to be completed in 2017, the design includes a large rooftop garden complete with swimming pool and running track, and continues Google’s focus on including multi-functional green spaces within their workplace environments, as seen in their current US and London offices (Figure 8). Clearly budgets play a big part in what is achievable, but as shown in earlier examples, green spaces created from small budgets can also be highly beneficial.

In a tough economic climate there may be temptation for employers to dismiss workplace wellness initiatives as ‘nice to do’ rather than essential, yet pressure to reduce costs and reliance on staff to see organisations



*Figure 8 Proposal for Google’s new headquarters at King’s Cross, London*



*Figure 9 Softscape more naturalistic and opportunities for physical exercise: Google, Mountain View, California*

through these difficult times means addressing wellness in the workplace is more than ever a business necessity. There is conclusive evidence, albeit anecdotal, that the inclusion of productive workplace green spaces can provide a broad range of benefits, from those associated with individual employee wellbeing to broader companywide benefits, and the example at Haberman & Associates in the US best encapsulates this.

In summary, this study has highlighted many benefits of including green spaces within workplaces and provides evidence to suggest including them as an intrinsic component to the workplace environment makes sound business sense. They offer a cost-effective solution shown to provide tangible benefits to employees, businesses, wider society and the environment, now and into the future; the bottom line being people, profit and planet.

### ***Biographical notes***

*Nicola Greaves is a recent diplomate of the landscape architecture course at the University of Gloucestershire and now runs a design studio offering landscape design services to developers, architects, public bodies and private residential clients. As a firm advocate of biophilic design, Nicola's interests lie in creating inspiring landscapes that seek to foster the wellbeing of people and place.*

## References

Beatley, Timothy (2011) *Biophilic Cities: Integrating Nature into Urban Design and Planning*, Washington DC: Island Press

Brassfield, M (2009) *Companies turn to gardening to boost workplace morale*, Trend Hunter (online), Available at: <http://www.trendhunter.com/trends/employer-sponsored-gardens>

CIPD (2014) *Employee turnover and retention*, available at: <http://www.cipd.co.uk/hr-resources/factsheets/employee-turnover-retention.aspx>

Cooper, C & Cartwright S (1994) Healthy Mind; Healthy Organization - A Proactive Approach to Occupational Stress, *Human Relations*, 47(4), UK: Manchester School of Management

Dugdill, L (2008) *Workplace physical activity interventions: a systematic review*, International Journal of Workplace Health Management

Dyrhaug Thomsen, J and Senderstrup-Anderson, H (2011) *People-plant Relationships in an Office Workplace: perceived benefits for the workplace and employees*, Horticultural Science

Edington, D & Schultz, A (2008) The total value of health: a review of literature, *International Journal of Workplace Health Management*, 1(1), 8-19, UK: Emerald Group Ltd

Elmer, V (2011) Gardening at work is sprouting up all over, *Management Fortune magazine* (online), available at: [fortune.com/2011/04/11/gardening-at-work-is-sprouting-up-all-over/](http://fortune.com/2011/04/11/gardening-at-work-is-sprouting-up-all-over/)

Employer Gardens, (2010) *Employer Gardens Blog*, available at <http://www.employergardens.com>

Flandez, R (2009) *Employer sponsored vegetable garden - cool idea*, Hudson Business Service (online), available at: <http://hudsonbusinessservice.blogspot.com/2009/08/employer-sponsored-vegetable-gardenfhtml>

Garden City Museum (2010) *Ebenezer Howard, founder of Letchworth Garden City*, First Garden City Heritage Museum (online), available at: [http://www.gardencitymuseum.org/about\\_us](http://www.gardencitymuseum.org/about_us)

HSE (2014) *Health & Safety Executive Statistics 2013/14*, London: HSE.

Kaplan R & Kaplan S (1989) *The experience of nature: A psychological perspective*, CUP

Kaplan, R (1993) The role of nature in the context of the workplace, *Landscape and Urban Planning*, 26(1), 193-201. USA: University of Michigan

Kaplan, R (2007) Employees' reactions to nearby nature at their workplace: the wild and the tame, *Landscape and Urban Planning*, 82(1-2), 17-24. Amsterdam: Elsevier B.V.

Kaplan, R (2007) Employees reactions to nearby nature at their workplace: the wild and the tame, *Landscape and Urban Planning*, Vol 82, pp 17-24

Kaplan, Rachel and Ryan, Robert L (1998) *With People in Mind*, Washington: Island Press

Kellert, S (2009) *Biophilic Design: The Theory, Science and Practice of Bringing Buildings to Life*, New Jersey: Wiley

Lee, S, Blake, H & Lloyd, S (2010) The price is right: making workplace wellness financially sustainable, *International Journal of Workplace Health Management*, 3(1), 58-69. UK: Emerald Group Publishing Ltd.

Loeppke, R (2008) The value of health and the power of prevention, *International Journal of Workplace Health Management*, 1 (2), 95-108. UK: Emerald Group Publishing Ltd

Lottrup, L, Grahn, P & Stigsdotter, U (2013) Workplace greenery and perceived level of stress: Benefits of access to a green outdoor environment at the workplace, *Landscape And Urban Planning*, 110, pp. 5-11

Lottrup, L, Stigsdotter, U, Meilby, H & Corazon, S (2012) Associations between use, activities and characteristics of the outdoor environment at workplaces, *Urban Forestry & Urban Greening*, 11, pp. 159-168

MIND (2011) *Taking care of business. Employer solutions for better mental health at work*, Report of Mind's business summit, London: Mind.

Natural England (2010) *Great Outdoors: How our natural health service uses green space to improve wellbeing/Briefing statement*, London: Faculty of Public Health in association with Natural England

Nieuwenhuis, M, Knight, C, Postmes, T & Haslam, S (2014) The relative benefits of green versus lean office space: three field experiments, *Journal of Experimental Psychology: Applied*, Vol 20(3), pp 199-214.

Pfeiffer, S (2010) *Companies embrace gardens*, WBUR, Boston's News Station (online), available at: <http://www.wbur.org/2010/06/07/gardens>

Sempik, J, Aldridge, J & Becker, S (2003) *Social and therapeutic horticulture: evidence and messages from research*, Evidence Papers, Centre for Child and Family Research, Reading: Loughborough University

Seversen, K (2010) The rise of company gardens, *The New York Times* (online), <http://www.nytimes.com/2010/05/12/dining/12gardens.html>

Smith, M (2014) *Workplace design: Green spaces may improve vibe*, The Modern Ape (online). Available at: <http://themoderna pe.com/2014/06/03/workplace-design/>

Stigsdotter, U (2004) *A Garden at your Workplace May Reduce Stress*, International Academy for Design and Health, Citeseer pdf

Thomsen, J, Sonderstrup-Andersen, H & Muller, R (2011) People-plant Relationships in an Office Workplace: Perceived Benefits for the Workplace and Employees, *Horticultural Science*, 46, 744-752, Sweden: University of Copenhagen

Terrapin Bright Green (2014) *The Economics of Biophilia. Why designing with nature in mind makes financial sense*, Available at: <http://www.terrapinbrightgreen.com/reports/the-economics-of-biophilia>

The Independent (2010) *Across the US, employer-sponsored gardens grow*, (online), available at <http://www.independent.co.uk/life-style/house-and-home/across-the-us-employersponsored-gardens-grow-2027127.html>

TICUS. J (2008) *Employee Gardens! Great for keeping the workplace healthy and happy! Bring forth the world* (online). Available at <http://jaticus.com/?p=37>

Ulrich, R (1983) Aesthetic and affective response to natural environment, *Behavior & the Natural Environment*, pp. 85-125. New York: Plenum

Ulrich, R (1991) Stress recovery during exposure to natural and urban environments, *Journal of Environmental Psychology*, 11 (3), 201-230. New York: Plenum

Winning Workplaces (2011) *Employee gardens healthier workforce*, Winning Workplaces (online)

# URBAN FUTURES: researching the territory between space, heritage, living and environment in the 21st century

David Buck

This symposium held at Rousham Gardens, Oxfordshire on 2nd August 2016 aimed to examine the landscape of future cities from both philosophical and practical perspectives. As Professor Jonathan Hill has noted, inherent in the original Italian word for design, *disegno*, was a duality suggesting both the drawing of a line on paper as well as the drawing forth of an idea. This dual connotation was used to make explicit the close relationship between thought and practice which underpins the various research interests of the participants: a group of academics from Asia and the UK, with invitees from English government agencies and private organisations, with speakers presenting their research interests under this broad theme of Urban Futures, including Places of Resilience, Sound as Space, National Park Cities, Our Inherited Urban Green Spaces, Urban Food and Place.

Unexpected synergies have unfolded from Dima Zogheib's notion of the commonplace in urban resilience to Chris Bolton's argument for ideas of place to include local ownership and pride. Or Judy Ling Wong's proposition for national park cities to actually create nature, while Jianwen Dong sees the potential for a functional nature that conflates urban ecology with aesthetics. This symposium, the first in a series of design research dialogues, provides not just some initial answers but importantly posits questions that our future collaborations might address. To return to the role that the past might play in speculating on the future, we might also consider that the nature of landscape itself has both driven and responded to cultural and technological changes since its first appearance in the English language in 1605.

The symposium was organised by the University of Gloucestershire landscape architecture team with the support of the Countryside and Community Research Institute. An Urban Futures publication is available which summarises the research aims and the day's presentations: ISBN 978-1-86174-221-6. Following the list of delegates are contributory articles from two of the symposium speakers.

*Dr David Buck is post-graduate course leader in landscape architecture at the University of Gloucestershire. His research is focused on sound as space, the relationship between music and landscape and new notations for landscape. He is developing digital tools for augmented aurally.*

## List of Symposium Delegates

Chris Bolton, head of landscape, oversees Natural England's landscape evidence, standards and practice. A graduate of Lancaster University, he gained an MPhil in landscape design from the University of Newcastle upon Tyne.

David Buck is a landscape architect with a particular interest in the temporality of landscape. His PhD from UCL is the first in the UK on architectural design and landscape. He is author of *A musicology for landscape* (Routledge, 2017).

Paul Yuen King Chan (Technological and HE Institute of Hong Kong, THEI) is a practising landscape architect and has much experience in the construction industry. He is head of department and has researched sustainability and greening the urban environment.

Jianwen Dong is professor in the School of Landscape Architecture at the Fujian Agriculture and Forestry University in Fuzhou, China, and with principal research interests in forest park planning, city forest aesthetics and scientific and technological support for national planning.

Janet Dwyer is director of the Countryside and Community Research Institute (CCRI) and professor of rural policy at the University of Gloucestershire. She directs research related to agriculture, the environment and rural development with particular interest in integrated approaches and environmental sustainability.

Weicong Fu is a PhD student in the School of Landscape Architecture at the Fujian Agriculture and Forestry University, Fuzhou, whose main research areas consist of forest park and scenic resort planning, and healing landscapes.

Yao Guo is a diplomate in landscape architecture at the University of Gloucestershire and is currently registered for a PhD. Her field of research is focussed on urban agriculture.

Shuping Huang (Fujian Agriculture and Forestry University), a doctoral student whose main research comprises forest park planning and design, 'emotional' plants, and solastalgia landscapes from environmental change.

David James is dean of academic development at the University of Gloucestershire. He has a particular interest in physical activity and public health, sport and exercise, specifically exercise physiology.

Allan Mitchell is a landscape architect with substantial practical experience and currently leads the undergraduate course in landscape architecture at the University of Gloucestershire. He is the first BREEAM associate professional in landscape architecture in the UK.

Chenxi Que is deputy head of landscape architecture at the Fujian Agriculture and Forestry University, Fuzhou, China. She has researched urban green spaces and traditional village landscape conservation and regeneration.

Matt Reed (CCRI) is a sociologist with research interests in how and why social change takes place around food, the organic food movement and the changing technologies of food. He is also subject group leader for Economy and Society at the University of Gloucestershire.

Gee Shankar, currently at the University of Gloucestershire, qualified in the Universities of Madras and East London and is a chartered environmentalist and environmental practitioner with extensive experience in sustainability appraisals, project management and environmental assessment tools such as BREEAM.

Jenifer White (Historic England) is responsible for advice and standards on the conservation of historic parks and gardens. She is a chartered landscape architect and has held various landscape conservation and management advisory roles.

Judy Ling Wong CBE (National Park City) is an artist, environmental activist, vision caster and major voice on policy towards social inclusion. She has contributed to Black Environment Network, Urban Green Spaces Task Force and the IUCN Urban Specialist Group.

Dima Zogheib is a landscape architect who graduated from the landscape architecture program at the American University of Beirut. Dima currently works at Arup in London. She is interested in planning for resilience in cities.

# THE FUTURE OF CITIES IS URBAN AGRICULTURE

**Matt Reed**

For many years, the future of cities has been a sort of noir, an ever-increasing array of buildings, concrete and glass that serves to emphasise that the urban is not the countryside. If we turn to the ur-text of so much of contemporary urbanism, *Bladerunner (The Director's Cut)* ends with the protagonist escaping the neon-confusion and squalor of the city for a wooded valley. In doing so, he is fleeing controlling corporations and the compromises of mimetic capitalism, arriving in the real.

With the flow of our society into one dominated by information, the role of cities has become operating as nodal points in the flow of bits and bytes, where people come together to speed information and services onto the next node. These nodal cities have become consumption sites for materials produced and processed elsewhere, returning only waste products. Across the world architects and civil engineering consultancies are building cities in anticipation that they will in time become these nodal points. There are also cities that have failed to become active nodal points; famously Detroit is being re-absorbed into the prairie from where it first sprung. Cities can be overwhelmed by natural catastrophes, such as New Orleans or the flooding that engulfed Bangkok. Equally, they can be killed, the urban warfare that has engulfed so many ancient cities in the middle east showing how a city or even, as in Aleppo, sections of the city can be crushed.

But this relentless urban vision is being disrupted by those who see the necessity for the concrete to be punctured by the green, particularly edible greens. With the concerns about future trends in food security, a response can be seen in 'vertical agriculture', which is mainly importing agricultural technology into urban areas and replicating intensive farming within the urban envelope. This agritectural has given little thought to the *agriculture* implied in these designs but rather present a fantasy of a high-rise greenhouse, a twist on the towers of glass and steel that dominate so many cityscapes.

More significant are the citizen-led initiatives to transform their cities; in this context 'grassroots' is both accurate and a pun. In many cities, residents are looking to the brownfield sites, the verges, and over-run corners as sites with potential. In a world where food is cheap, ubiquitous and alarmingly disposable, the craft and community of growing your own has become a counterpoint to bland perfection. The extraordinary efficiency and success of the food system has turned against it, as people feel detached from the offer of supermarkets and the rigours of consumption. Growing in

the corners of the city, gathering with neighbours and Facebook friends to cultivate a meal, to share that experience and distribute it has become a way of reclaiming the city. Urban agriculture is one of a range of organisations that foster belonging and community that are appearing in cities across the world, operating as mechanisms for creating new relationships between people. They are part of re-asserting that life in the city is just as real and related to nature as a life led in a rural context.

Of course, this is not a challenge to those farmers who grow endless hectares of cereal crops, or thousands of chickens or pigs in vast sheds. But it is a reminder that horticulture at least until recently was local and seasonal; that market gardens used to ring cities. The urban gardens are a symbolic challenge, and as such a work in progress but they provide a series of questions as to the way in which cities are developing and how life in them could be. At one end of this spectrum are those who view this as part of city marketing, in the global competition for the talented and the entrepreneurial, or the tourism spend, cities need to cultivate a vibrant 'food scene'. Somewhere at the other end of this spectrum are those working to create an inclusive food economy, where those reliant on food banks have better access food security, and a community grows around the street markets and micro-businesses growing, processing and selling this food.

The difficulty for those analysing these trends is that contemporary capitalism is mimetic. As soon as a trend or movement arises, already it is being copied, emulated and marketed – if that trend does not do that to itself. Lurking in these experiments remains an impulse that suggests things that cannot be turned into the calculations of corporations. It is a generosity and excessiveness that points to both an older mode of business, and potentially a future one. Many living in urban areas carry with them an experience of a previous rural life, and others the aspiration for migrating to the countryside, their escape to the country. Increasingly this exit is blocked, rural domestic property is unaffordable, rural economies are dominated by the nearest city. The rural historian Alun Howkins describes this as the death of the rural, but rather it can be seen that in losing its autonomy many rural areas have become ex-urban, that we live in a post-rural situation. In this context citizens might as well re-create the rural in the city, bringing their memories of rural life and their aspirations for a reconnection to nature to the place that they live.

A friend of mine creates an aperitif from flowers gathered in the city's parks, which he brews, bottles and distributes only within that city. The process of making this drink is a reimagining of the tradition with contemporary high-tech food processing. His workforce is very largely people who have found themselves socially marginalised, and his equipment is the latest technology from the home of all such craft production (Italy). None of this he wants you to know from the label, he does not want the product to shout or preach, rather he just wants it to be fun and 'sexy'. The operation he

runs owes more to a design studio or an atelier than a factory, and his ends are to do environment and social good within the city, without being forced to declare his hand. He runs a business, not a charity, but his concern for others is excessive for a business, his awareness of the externalities of his production generous. He is in many ways self-consciously old-fashioned but also looking to the future where food is re-localised and cities flourish in new ways.

The nature writer and ecologist Jules Pretty several years ago broke the word agriculture, into *agri-culture* and this offers a suggestion as to how food is going to reshape the future city. It will not be through draping buildings with greenery or megastructures of greenhouses but a changed relationship between food and city. That the city will be the site of production for some foods, some will not spread far beyond that place and residents will be involved in its production. Rather than consumers within the city's food systems, they will be protagonists.

What does this mean practically? For designers and architects, either professional or pro-am volunteers this emergent food system will provide considerable opportunities:

- How can we give people growing space around their homes and shared areas? What are the regulations and requirements for new dwellings that allow for some self-provisioning?
- How might we offer the chance to forage for food in the city? Do we just plant fruit trees in the parks, or should green corridors link into the surrounding countryside to allow for exchanges that take on their own dynamics?
- What do communal growing and dining areas look like on the street? How do we plan shared spaces to allow for not only growing but the sharing of food, where will the pop-up restaurants be found, the stop for food trucks, the market spaces?
- What are the limits of combining homes and growing? What can retro-fitting achieve: roof top gardens are established but what about bioreactors for algae, small-scale dairies or poultry production?
- How do we integrate food production and urban infrastructure? Can we grow fish in the river that runs through the city, can we float islands on the reservoirs or fruit trees alongside the road?
- How do we use the networks of cyberspace to allow people to exchange their produce? In the increasingly smart city how do we link people together in ways that allow for food to flourish beyond the purview of the council, schools and residential homes, in ways that nurture community rather than impose tailored solutions?
- What does a micro-business premises look like? How do we plan for the brewers, growers, rooftop beekeepers, food recyclers and cellar mushroom growers, when cities have become dominated by the logistical needs of chain stores?

- Can I open my urban food kiosk in front of the superstore? This transition will not always be smooth, there will be conflict and competition, who sets the rules and holds the ring as these are worked out?

Like much of the future, some of it is already present, and it is waiting for a wider distribution. I have seen many possible solutions but in many areas we are waiting for people with the creative drive to engage with these problems.

### ***Biographical notes***

*Dr Matt Reed is a sociologist with research interests in how and why social change takes place around food, rural and fishing communities, social networks, the organic food movement and the changing technologies of food. He has worked at the Countryside and Community Research Institute since 2007 and is subject group leader for Economy and Society at the University of Gloucestershire.*



*Urban bee-keeping with bee-pods (photo: Bradley James, Creative Commons)*

# WHAT IF LONDON WAS A NATIONAL PARK CITY?

Judy Ling Wong

Cities are extraordinarily dynamic places. London is exceptionally so, in particular in the context that the UK has the most developed voluntary sector in the world. There are more than 120,000 voluntary organisations in London alone – a force of people used to grappling with issues on the ground, influencing policy through campaigning or celebrating different aspects of life. People have agency. Beyond caring for and protecting nature, they can create more nature. Our unique selling point (USP) is people power. When asked about the park initiative, 85% of Londoners instinctively and immediately said yes, and went on to elaborate on their wishes and needs. The recognition that London already has 47% green space with outstanding natural areas combines with the sense that the claiming of London as a National Park City across its entire fabric is a possible dream. It is about reimagining a city landscape as a setting for a rich cultural life close to nature within our urban reality.



Figure 1 London's open spaces (shaded)

The concept of a National Park City draws from the values and aims of the UK's traditional rural national parks – better conservation, better enjoyment, better economy – and extends these in an urban context. Its defining characteristic is that we will pay equal attention to outstanding natural places and the potential of the built environment for wild nature. London National Park City is an identity. Living in nature as part of urban culture is compelling. London National Park City is a setting for life – a way of being and a way of acting.

The 13 already designated national parks do have great natural beauty and are fairly accessible to the main centres of population, but for Londoners a plethora of green places is literally on their doorstep (Figure 1) offering them the sensory benefits of nature – smells, sights, sounds – perfect opportunities of respite from busy urban life. Furthermore, it has been shown that such contact with nature brings health benefits and an extraordinary sense of wellbeing through fitness and socialising. London, then, is well endowed with open spaces but one objective of the initiative is to ensure they are linked by ribbons of greenery. Streets can be transformed into pedestrianised routes – even at a small scale, the simple use of flowerpots and window boxes can improve the atmosphere of a place (Wong, 2017). Making London the world's first National Park City is a big idea, based on conservation, enjoyment and a sustainable economy. Politically there is cross-party support and the range of people and organisations involved is extensive. *Greater Environment, Greater Enjoyment* and *Greater Prosperity* are our watchwords.



Figure 2 Cityscape

In a poll of 1,000 Londoners (Truch, 2015), the main themes to explore for a national park city included the following:

*Community*; children, dogs, event, social interaction, volunteering

*Culture and Arts*; art installations, events, concerts

*Economic*; business, donations, funding

*Education*; information services, schools, guided tours

*Governance*; wardens, policing, community involvement

*Landscape*; litter, amenities, community gardens, water, zoning

*Nature*; environment, biodiversity, food growing, public gardens and wildlife

*Recreation and Sports*; cycling, eateries, games, play areas, pools and lakes, outdoor gyms

*Transport*; access, sustainable transport

*Wellbeing*; mental health, physical health

### **Specific opportunities**

There are opportunities very specific to London that excite us. London has 3.8 million gardens and individual actions set within this vast area can multiply to huge effect. Local people can be empowered to transform where they live: from front gardens to garage rooftops. Many places are 'hard' and paved over. Here not much effort is required to turn these into gardens – for local people, old and young, able and disabled, fit and unhealthy, to grow plants for food or pleasure. Some claim a network of local streets as their own, creating a lush urban oasis. They bring beauty to the world and just being there is therapeutic. Perhaps a wild garden could be designed attracting birds, bees, butterflies – linking with efforts made by public bodies. Everybody can do something even in a small space (Wong, op cit).

Another opportunity is that in various boroughs of London, the green space set within social housing exceeds the overall area of public parks and gardens. Many of these green areas are often of the lowest quality with only mown grass and dog waste. Working to bring social landlords on board and opening up participation by residents may result in wild nature and opportunities for outdoor activities, with pleasant spaces for leisure right outside the windows of some of our most disadvantaged communities. Partnership at different levels from powerful organisations, local authorities, to national and local environmental and heritage organisations right down to voluntary local community groups will be needed for such a venture.

## **The battle for the planet and other challenges**

There are big themes too. The battle for the environment, pointed out by Habitat 3 (2016), will be fought and won in our cities. It is no news to any of us that our children, whom we critically need to be the next generation that loves and protects our environment, are losing contact with nature in our urban areas.

The British Nutrition Foundation's research on a sample of 27,500 pupils (BNF, 2013) confirmed our fears of disconnection. They homed in on where food comes from. Never mind wildlife, they found that 29% of primary school children thought cheese came from plants and 18% believed fish fingers came from chickens. One in ten secondary school children thought tomatoes grew underground and over a third of 5-8 years olds believed pasta came from animals, as did 17% of 8-11 year olds. Everything we eat is alive and food is the single most direct link to nature for children who do not have ready access to natural areas. There is a rise in interest that activities around food-growing can be one of the key inroads into connecting to nature. The care and protection of the planet that literally feeds us is dependent on a very human process : we love what we enjoy, and we protect what we love. Enabling access to nature paves the way for the survival of our planet.

## **Specific challenges and linking into physical and mental health**

Enjoying and benefitting people and nature go hand in hand, and getting outside is now recognised as fundamental to some of the biggest issues of our day – obesity and health. Dr. Bird, CEO of Intelligent Health, says “The single most important thing that we can do in terms of public health is simply to get people outdoors into nature.” By promoting knowledge of where to go and supporting experience, we can put nature outdoors centre stage, and we will help chip away at what will be the largest bill in history that the National Health Service (NHS) has ever seen!

There are so many opportunities for healthy activity. In addition to the green spaces previously described, there is also a dense network of waterways in the greater London area, allowing sailing, kayaking, stand-up paddle-boarding, even cycling along the towpaths – all ages and abilities are catered for. Apart from such health benefits being on the water, the experience also brings people up close to wildlife and draws their attention to the rich biodiversity existing there.

Outdoor activity organisations are businesses that can expand as we highlight them. Access to nature and outdoor activities is an issue for our highly stressed disadvantaged communities. When we made our main film (Wong, 2017), people asked “Where are those deer in London?” Many members of our community have never seen the deer in Richmond Park. They cannot afford the fare to take them to the west side of the city. Equality



Figure 3 Community gardeners ^



Figure 4 Bee-keeper children >

and social cohesion will underpin our work in our very multicultural city, with 41% of our citizens historically from different countries of origin. Diversity is one of our key assets.

Stress is headline news. Science now tells us that stress causes inflammation and opens the doorway to disease. The London Mental Health report (2014) tells us that “...mental ill health affects almost every aspect of a person’s life, from their education and employment to their physical health and the quality of their relationships ... result[ing] in around £26 billion each year in total economic and social costs to London.” The presence of nature has a significant and cost-effective role to play in London life.

### **Socio-cultural-environmental actions – an integrated approach**

It just makes so much sense to see our environment in an integrated way. The sheer success of the environmental sector has redefined a crucial word: environment. Once upon a time ‘environment’ meant everything around us – now when the word is mentioned, we immediately only think ‘green’. The concept of London National Park City is all about an integrated way of seeing and taking action.

We aspire, over time, to grow an ever more informed population that can take action in their personal lives through demanding change and take charge of their own behaviour modification. Promotion of good ideas and good practice can enable people to own their immediate environment and proceed to shape it as a lush urban oasis. We need everyone to exert local influence on policy, and their own families and neighbours, to build a rich cultural way of life close to nature. So often, people say to us “I would like



*Figure 5 Multicultural festival*

something better, but I do not know quite what.” One of our key projects will be the Bank of Good Ideas, a searchable website for inspiration and good practice, combined with a programme of visits.

We look forward to a city that is rich with wildlife, where every child benefits from exploring, playing and learning outdoors. Children are a very special focus for us.

Apart from teaching maths, literacy, geography and so on, through contact with the environment, it is proven that youngsters also develop their self-esteem, confidence and engagement with school subjects. Their motor skills improve through garden work, digging and planting, and cooperation with other pupils helps them understand teamwork: all useful skills for future life and employment. All parents and teachers need to be enthused with this curriculum which is a relevant education for the protection of the environment (Wong, op cit).

We wish to work for a city where we all enjoy high quality green spaces, the air is clean to breathe and our rivers support nature and recreation. Tourism can play a key role towards a better economy. We aspire towards having a prestigious National Park Centre, our main base where we can showcase our facilities. Our outdoor activity centres can be an expanding playground and all the businesses associated with tourism can benefit.

We envision London as an attractive place for growing prosperity. A beautiful environment vibrant with nature will be an attractive setting that attracts businesses. The shift in vision beyond the pure green approach

to our city opens up partnership between traditionally very siloed arenas. Music and cultural festivals outdoors, heritage trails, environmental action, signposting for activities for enjoying green and blue space or simply hanging out, art installations, outdoor learning, family days out – everything that Londoners have named in the survey are all on the agenda.

But, it is not just about the outdoors. What happens indoors is equally important. Researchers at Exeter University were surprised to find that people with pot plants on their desks had a 20% higher productivity. Access to the stimulus of the qualities of changing daylight indoors benefits mood and work. There are now living breathing interior green walls. Nature can penetrate our indoor work and school lives.

Government, the environmental sector, businesses of all kinds but in particular those tied to elements of the environment such as the water industry, the voluntary sector, schools, artists, health professionals, architects, landscape designers, social workers, the community and individuals all have a role to play within the continuity of vision, to reimagine our city – embedding the National Park City identity.



*Figure 6 Green space cafe*

## **Declaring London a National Park City in 2018**

The target in mind is Summer 2018. In the UK, National Parks are designated, defined in law with specific dimensions through an Act of Parliament. A National Park City is an altogether new concept. We will be defined by our own Charter and the process to declare London a National Park City hinges on claiming a mandate through getting  $\frac{2}{3}$  of London's over 600 local councillors on board.

We are well on our way. We are able to announce that we have just gone past the 50% mark. The idea has captured the imagination of Londoners. We have the support of London's extraordinary mayor Sadiq Khan. Together we can make London a greener, healthier, and fairer place to live and visit.

### **The National Park City Foundation**

This Foundation has been formed to facilitate the campaign and deliver the vision, including convening a partnership that will make London National Park City a reality. Above all, each organisation is characterised by the people who shape its direction. The founding trustees are ideas people and experts in their field, creative and innovative, with strong leadership anchored in the realities of sustainability, representing key sectors of environment, arts and culture, education, business, and social engagement.

Cities are special because millions of people have agency not just to enjoy nature, but to actually create nature. The National Park City recognises this and the concept builds on this to inspire Londoners in this endeavour. They can be motivated and supported to shape their culture and environment. Our programme will revolve around the USP of London National Park City – its direct link to the people of London, in touch with their needs, their wishes and their vast potential contribution. The many community-based links and networks it will be tied into means that we will have sufficient outreach and a people-based approach that will deliver our vision.

### **The Foundation's objects**

- 1 To promote for the benefit of the public the conservation, protection and improvement of the physical and natural environment of Greater London having aesthetic, architectural, historic, scientific or educational interest;*
- 2 To advance the education of the public in the conservation, protection and improvement of the physical and natural environment of Greater London;*
- 3 To advance the education of the public in the heritage and culture of Greater London;*
- 4 To promote for the benefit of the inhabitants of Greater London the provision of facilities for recreation or other leisure time occupation for the public at large in the interests of social welfare and with the object of improving the condition of life of the said inhabitants.*

## ***Biographical Notes***

*Judy Ling Wong CBE is an artist and environmental activist. Judy is a vision caster and major voice on policy towards social inclusion. She was the director of Black Environment Network from 1987 to 2011. She has over the years contributed to various environmental improvement organisations and is currently trustee of the National Park City Foundation.*

## **References**

BNF (2013) <https://www.nutrition.org.uk/nutritioninthenews/pressreleases/healthyeatingweek.html>, accessed 1/3/17, also available as a pdf download

Habitat III (2016) United Nations Conference on Housing and Sustainable Urban Development, Quito, Ecuador, 17–20 October

London Mental Health (2014) available at : [https://www.london.gov.uk/sites/default/files/gla\\_migrate\\_files\\_destination/Mental%20health%20report.pdf](https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Mental%20health%20report.pdf)

National Park City (2017) <http://www.nationalparkcity.london>. Accessed 24 March 2017

Truch, E (2016) London is probably a lot greener than you think, *The Independent*, 9 March.

Wong, JL (2017) cited in NPCmainvideo.mp4. Accessed 24 March 2017

**All Photographs:** Judy Ling Wong

# IN THE WAKE OF THE STORM: TREE DAMAGE AT KEW GARDENS\*

Sarah Edwards

On 16th October 1987 unprecedented weather conditions struck the south of Britain. Hurricane force winds caused extensive damage to property and the loss of 15 million trees from the landscape. The storm was not technically a hurricane but a mid-latitude depression which intensified abruptly over the Bay of Biscay, and whose movement was blocked by a large anticyclone causing it to affect Britain predominantly. Between 1 and 6am on 16th October pressure fell dramatically and the winds increased with gusts of up to 85mph being recorded. By midday, the centre of the storm had moved away over the North Sea but in a few short hours the landscape of South East England had altered dramatically. Trees had been particularly vulnerable because of the abnormally high rainfall in the first few weeks of that month, saturating the soil, thus undermining their roots' anchorage. In addition, many were still in full leaf increasing their resistance against the wind. The direction they fell reflected the angle of approach of the strongest winds, being southerly on the eastern side of the country and westerly on the west.

On a more local scale topography was an important factor. The wind was funnelled by hills and valleys or large buildings, explaining the apparently random destruction of certain stands of trees. Giants which had stood for 100s of years were felled, whole woods were brought down and priceless collections of rare trees established over centuries were destroyed literally overnight. Of all those plant collections in southern England that are nationally important from both historical and scientific viewpoints, the Royal Botanic Gardens at Kew probably was the one to have experienced most damage from the storm. For over two hundred years the gardens have functioned essentially as a scientific establishment rather than as a landscaped park, and the damage done to many prime specimens is more a botanical loss than an aesthetic one.

The Royal Botanic Gardens are situated in Surrey where the River Thames forms a double bend from Richmond to just east of Kew Bridge. Running north eastwards it encloses the Old Deer Park to the south west and the Royal Botanic Gardens to the north east, the two being separated by a dry ditch. The site of Kew Gardens is virtually flat apart from some artificially created mounds and hollows.

The soil is developed upon river gravels and sands, overlying London clay.

*\* From the Archive of thirty years ago: Landscape Issues 1987 vol 4 (2) pp 40-45*



It is free-draining, rarely suffering from waterlogging, but it tends to be shallow which does not encourage deep and extensive root growth of trees. The climate at Kew has been closely monitored over a long period at the main observatory. The average rainfall for the area is 590mm/annum, being fairly distributed throughout the year.

Because of Kew's low altitude severe gales are rare. However high winds have caused damage in the past: on 29th July 1956 several trees were uprooted and over sixty large limbs were blown off in addition to hundreds of smaller ones.

First estimates of the 1987 damage put the toll at 10% of the trees at Kew had been uprooted, and later, more precise figures showed that 500 trees had died and 1000 were badly damaged. Several buildings were also damaged such as the temporary Palm House, the King William's Temple and Hanover House. On the morning after the storm, a curators' meeting was held to discuss a contingency plan and the gardens were closed to the public until the extent of the damage was made known and made safe. Tree gangs made up of tree surgeons and other Kew staff were sent out to start the clear-up operation and rectify the urgent problems such as the damage to the Palm House. Fortunately it had been a fairly mild night and the

air entering through the broken panes of glass did not do any irreparable damage to the priceless plants inside.

A Tree of Heaven (*Ailanthus altissima*) had struck the roof of the newly-restored King William Temple, but luckily this was found to be less serious than was at first thought. Hanover House also had a tree fall onto its roof. Remarkably, the Pagoda and the other glasshouses were unaffected.

Many very significant trees were lost such as the Royal Walnut which was planted by the Queen at Kew's bicentennial celebrations in 1959. The Sacred Tree of Kisa was also uprooted; this was planted by the Emperor Hirohito of Japan on his first visit to Britain after the War. Also among the casualties were the oldest recorded *Zelkova carpinifolia*, dating from 1761; three *Northofagus obliqua*, 80 feet tall and dating from the first introduction of the seed by Elwes and Henry in 1902; also one of the only two Himalayan elms (*Ulmus villosa*) in the country was uprooted.

Certain species were far more susceptible to the storm than others. As the gardens had been laid out taxonomically some areas were found to have been more damaged than others. For example, many of the trees situated around the Pagoda were devastated. This area contained many species from the Leguminosae family and also some Juglandaceae. Of two pairs of mature hickories, three were blown down. Surprisingly, despite its flexible character, this species was badly affected throughout South-Eastern Britain. On the other hand, it was found that some species such as Wellingtonias (*Sequoiadendron giganteum*), Monterey pines (*Pinus radiata*) and western hemlocks (*Tsuga heterophylla*) remained intact, probably because in their countries of origin where gales of up to 100mph are common they have developed a flexible trunk. The majority of *Quercus* species fared badly; the holm oak (*Quercus ilex*) which makes up the Syon Vista was unaffected however. Other vistas did not fare as well: along the Broad Walk seven out of ten tulip-trees were uprooted, so destroying the avenue effect. Behind the row of tulip-trees a secondary row of oaks were planted about three years ago, so when they are more mature the effect intended will once again be evident.

In some cases the damage caused to some trees will not become apparent for a few years, Where trees have had root damage the trees will not be able to take up enough water volume and the extremities of the tree will die back resulting in 'stagheadedness'.

Most of the damage done to shrubs occurred when trees fell on top of them, although some of the taller shrubs like lilac were uprooted. The shrubs that did survive the storm may suffer from lack of winter shelter and summer shade cover for two or three years.

Immediately after the storm, machinery was assembled and the expensive task of tree felling and removal of dangerous branches began. Very careful

attention was paid to the condition of the trees and dead or dangerous branches were removed, 'hung-up' trees being brought down and branches cleared away. By Wednesday 21st October it was possible to allow limited access for the public, with the areas still needing work being roped off. Clearance work then centred on the west and southern parts of the arboretum, where remedial work still continues. The root plates of large trees are a problem, for many are several metres in diameter and laden with soil. They can neither be burned or cut up easily, so Kew has had to hire a machine that converts tree roots into sawdust. Some of the fallen trees are intended to be left in situ for ecological purposes, as the rotting wood will encourage rare and important insects.

In regard to planting, Kew has a ten year planting programme. The winter planting of stock will be systematically accelerated for the next few years to make up for the losses, but the replacement of rare species will be gradual, as and when stock becomes available. The emphasis is on planting for the long term rather than for immediate effect. The replanting will not be as rigidly structured as in a National Trust property, but certain constraints such as creating the vistas and taxonomic collections will have to be observed, although they may not necessarily plant 'like for like'. In a collection such as Kew, landscaping has to be balanced with the needs of the botanical collections. In some cases the loss of trees has come as a mixed blessing. For instance, in one area there was insufficient space for



the planting programme of the *Carya* species and some of the collection had to be transferred into another area, but now there is additional space the newer plantings can return to the main collection.

Since the storm many rare trees, previously unavailable, are now used for scientific research within Kew's Jodrell Laboratory: 50mm slides taken from all the fallen trees will be available for future analysis. Botanist David Cutler is currently undertaking an extensive study on tree roots and their effects on buildings using information gained from the lost trees. The results of this survey should be published by the end of 1988.

The full financial cost of the storm will not be known for some considerable time. A significant proportion of the expenditure will have gone into the 'clear-up' operation, including the cost of machinery and overtime payments to employees. In addition further purchase of tree saplings and the funding of botanists to collect plants will be borne by Kew.

Fortunately, in retrospect, the storm's effects on Kew have been fairly limited. This is probably due to a combination of factors including topography and varying ages of stock. Many of those trees that were lost, however, were of great national, if not international, significance, because of their rarity, age and size, but hopefully Kew will keep up its policy of systematic tree planting and in time most will be replaced.

*Sarah Edwards was a second year student in landscape architecture at the Gloucestershire College of Arts and Technology, a parent college of the University of Gloucestershire. This report was an edited version of a research study she completed in January 1988.*

*It is almost 30 years since the notorious hurricane struck the southern counties of England and devastated much of the landscape including Kew Gardens as described in Sarah's report, above. As she predicted, a flurry of data collection and analysis followed in the years immediately after the storm, most of the results being published through the Forestry Commission (available at <http://www.forestry.gov.uk/fr/infd-76pdhs>). Studies carried out have tended to be concentrated on the natural regeneration of trees within damaged woodlands [Ed].*

# ALL THESE I LEARNT

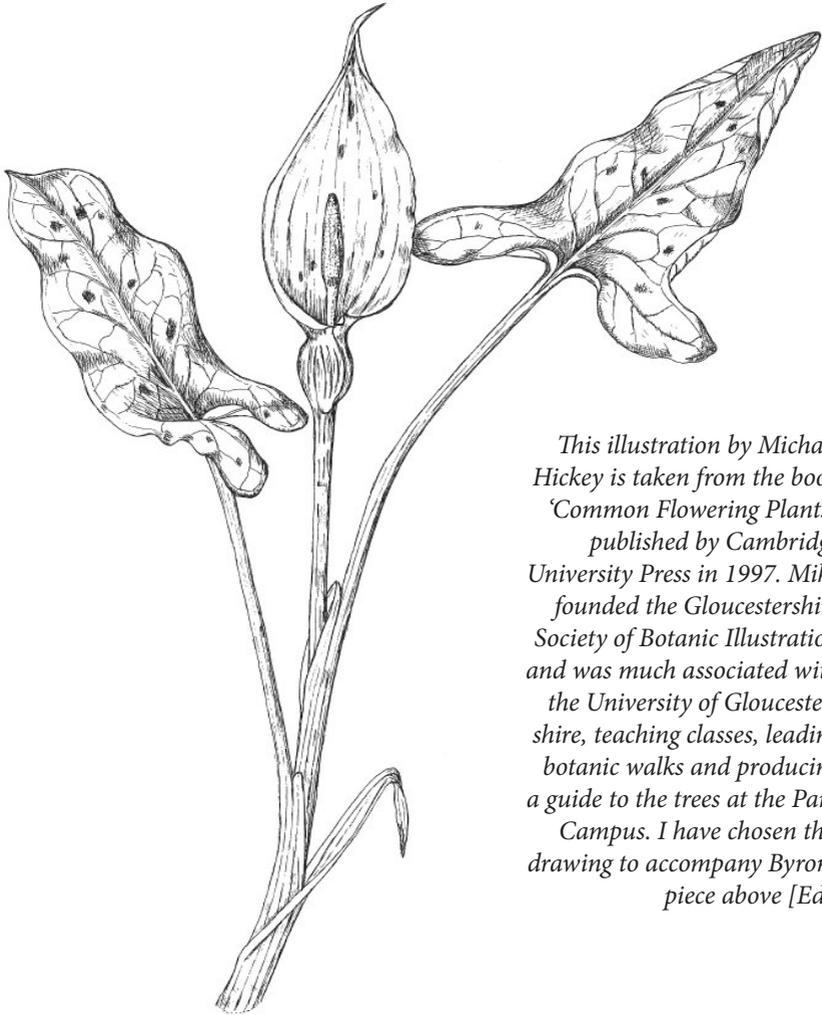
## Robert Byron

If I have a son, he shall salute the lords and ladies who unfurl green hoods to the March rains, and shall know them afterwards by their scarlet fruit. He shall know the celandine, and the frigid, sightless flowers of the woods, spurge and spurge laurel, dogs' mercury, wood-sorrel and queer four-leaved herb-paris fit to trim a bonnet with its purple dot. He shall see the marshes gold with flags and kingcups and find shepherd's purse on a slag-heap. He shall know the tree-flowers, scented lime-tassels, blood-pink larch-tufts, white strands of the Spanish chestnut and tattered oak-plumes. He shall know orchids, mauve-winged bees and claret-coloured flies climbing up from mottled leaves. He shall see June red and white with ragged robin and cow parsley and the two champions. He shall tell a dandelion from sow thistle or goat's beard. He shall know the field flowers, lady's bedstraw and lady's slipper, purple mallow, blue chicory and the cranesbills – dusky, bloody, and blue as heaven. In the cool summer wind he shall listen to the rattle of harebells against the whistle of a distant train, shall watch clover blush and scabious nod, pinch the ample vetches, and savour the virgin turf. He shall know grasses, timothy and wag-wanton, and dust his finger-tips in Yorkshire fog. By the river he shall know pink willow-herb and purple spikes of loosestrife, and the sweetshop smell of water-mint where the rat dives silently from its hole. He shall know the velvet leaves and yellow spike of the old dowager, mullein, recognise the whole company of thistles, and greet the relatives of the nettle, wound-wort and hore-hound, yellow rattle, betony, bugle and archangel. In autumn, he shall know the hedge lanterns, hips and haws and bryony. At Christmas he shall climb an old apple-tree for mistletoe, and know whom to kiss and how.

He shall know the butterflies that suck the brambles, common whites and marbled white, orange-tip, brimstone, and the carnivorous clouded yellows. He shall watch fritillaries, pearl-bordered and silver-washed, flit like fireballs across the sunlit rides. He shall see that family of capitalists, peacock, painted lady, red admiral and the tortoiseshells, uncurl their trunks to suck blood from bruised plums, while the purple emperor and white admiral glut themselves on the bowels of a rabbit. He shall know the jagged comma, printed with a white c, the manx-tailed iridescent hair-streaks, and the skippers demure as charwomen on Monday morning. He shall run to the glint of silver on a chalk-hill blue – glint of a breeze on water beneath an open sky – and shall follow the brown explorers, meadow brown, brown argus, speckled wood and ringlet. He shall see death and revolution in the burnet moth, black and red, crawling from a house of yellow talc tied half-way up a tall grass. He shall know more rational moths, who like the night, the gaudy tigers, cream-spot and scarlet, and the red and yellow

underwings. He shall hear the humming-bird hawk moth arrive like an air-raid on the garden at dusk, and know the other hawks, pink sleek-bodied elephant, poplar, lime, and death's head. He shall count the pinions of the plume moths, and find the large emerald waiting in the rain-dewed grass.

All these I learnt when I was a child and each recalls a place or occasion that might otherwise be lost. They were my own discoveries. They taught me to look at the world with my own eyes and with attention. They gave me a first content with the universe. Town-dwellers lack this intimate content, but my son shall have it!



*This illustration by Michael Hickey is taken from the book 'Common Flowering Plants', published by Cambridge University Press in 1997. Mike founded the Gloucestershire Society of Botanic Illustration and was much associated with the University of Gloucestershire, teaching classes, leading botanic walks and producing a guide to the trees at the Park Campus. I have chosen this drawing to accompany Byron's piece above [Ed].*

*Arum maculatum*, Lords-and-ladies, Cuckoo-pint

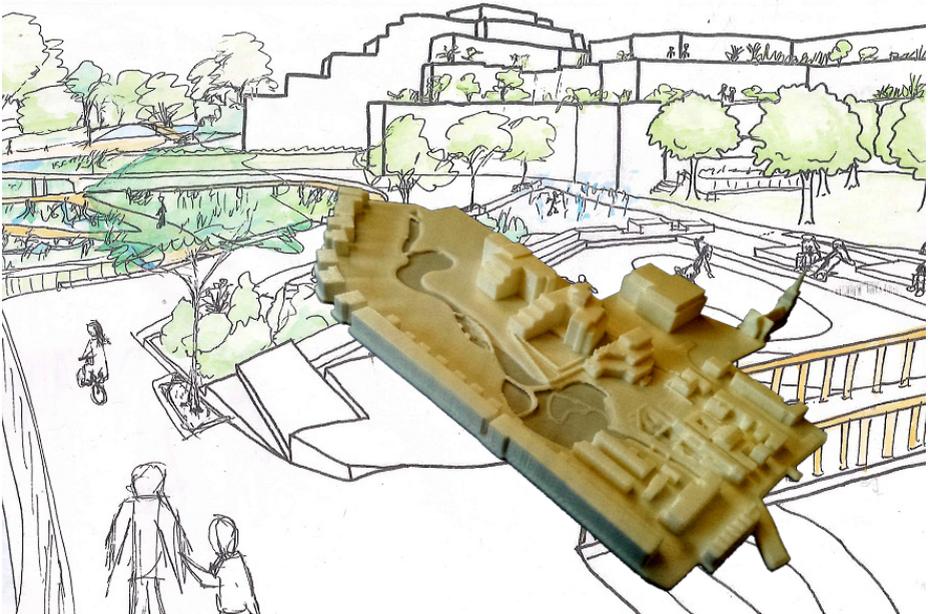
# TECHNICAL INNOVATIONS ON THE CHELTENHAM COURSE

## Creating a physical site model by 3D printing

The process known as Additive Manufacturing (and popularly as 3D printing) is being used in a wide spectrum of design applications. Not wanting to miss the opportunity, Graham Gardener, post-graduate student, used his SketchUp model of St James' Square in Cheltenham to produce the printed model (shown below). Although quite small, it allowed him to visualise better the massing of buildings. Subsequently he generated individual buildings which were incorporated into a larger foam board model.

## The application of augmented reality

Virtual and augmented reality have many potential uses within landscape architecture, not least because of its central concern with the visual world. Using *Unity* technology and the *Vuforia* mobile vision platform, Graham was able to view a target image (the picture of a house on the desk) using his smart phone which recognised the image and converted it to a 3D model which pops out of the phone camera as depicted (following page). To push the frontiers of landscape design, it is essential we encourage our students to embrace these technologies whenever possible.





*Augmented reality*

### **High-resolution imagery using UAVs (drones)**

The value of drone technology has already been established in landscape architecture site survey (*Landscape Issues*, 2015). A former colliery in the Forest of Dean being used for a student ‘sustainable technology’ project was the perfect location to test its use in topographical and vegetation analysis. With Lidar data providing the terrain ground truth, high-resolution drone imagery can be used independently for vegetation mapping or to produce a 3D drape visualisation. While the attributes of multi-spectral data can help ‘classify’ the vegetation into discrete cover types, what the simple colour imagery can achieve is to train students to identify and map vegetation as part of a general ecological survey (top, opposite).

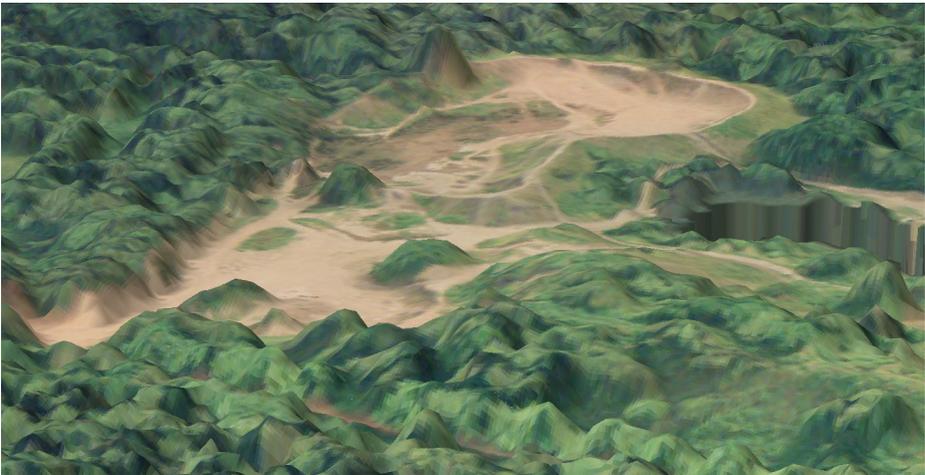
The extensive data set of full-colour imagery of the site demonstrates the clear benefit of up-to-date information, better resolution than GoogleEarth and at a cheaper cost than commercially-available imagery. The quadcopter UAV (unmanned aerial vehicle) has limited flight duration (maximum 10 minutes) but for a small site this was adequate.

Multi-spectral imagery provides data at different frequencies across the electro-magnetic spectrum, including infra-red which is particularly sensitive to healthy green vegetation and obviously of much interest to landscape architects. Using specialist software, individual ‘targets’ (soils, roads, rocks, vegetation) with their own characteristic spectral responses

can be inferred from the digital radiance values and surface cover maps can be produced. The next phase of our research will explore the potential for finer species identification using UAV data, which clearly should be more discriminating than the Landsat 30m resolution data as used so far.



Viewed from 20m above, the improved resolution of the form and texture can help identify (clockwise from top left) hawthorn (*Cretageous monogyna*), bracken (*Pteridium aquilinum*), birch (*Betula pendula*) and oak (*Quercus spp*).



Lidar digital surface model of the study site showing the cratered colliery spoil landscape, the main lake hollow and 'lumpy' forest canopy.

# REVIEWS

## **The Naming of the Shrew: a curious history of Latin names, by John Wright, Bloomsbury, 2015**

Most students of landscape architecture are introduced to scientific plant names through taught classes and fieldwork in ecology, then later in design projects where plant specification is required. Not much Latin is taught in schools these days so inevitably plant technical names can initially be somewhat confusing both in the spelling and pronunciation. Some, as *Juniperus communis*, are easy to unravel as the common juniper, but what of *Cotoneaster horizontalis*, one of the first shrubs I learned on arrival on the landscape course? While *horizontalis* is easy, what has *Cotoneaster* got to do with easter? (Nothing, it turns out.) Then there is *Senecio squalidus* or the Oxford ragwort. The Latin translates as dirty old man!

If you think knowing something about the derivation of these words, and others, would help a better understanding and appreciation of plant studies, then *The Naming of the Shrew* by John Wright is the book for you. Neither a Latin primer nor a listing of entertaining names, instead it is a lively, personal account of the history of scientific naming, including some trivia, but extremely readable, gently amusing and very informative. The author's stated aim is to inspire a delight in Latin names achieved by their relevance to natural history and revealing the hidden, but logical, etymology. I think he succeeds.

When I first opened the book, I was immediately drawn to the chapter on Carl Linnaeus, the 'Father of Taxonomy', who for me will be the name forever associated with my early introduction to plants in the landscape. A few years ago I travelled to Uppsala in Sweden specifically to visit the Linnaeus garden and museum there. The garden was the first botanical garden in Sweden and the famous plant taxonomist lived in that town from 1743 until his death in 1778.

While there may be other equally or more important gardeners and plantsmen in the history of botany who struggled to identify, describe, sort and organise plants into a rational taxonomy or naming system, it was Linnaeus who grasped the nettle so to speak and imposed the two-name tags on 6000 plants to initiate a universal language now underwritten by the International Code of Botanical Nomenclature which establishes and maintains the basic (but sometimes changing) hierarchy of the plant world. So it is worth acknowledging our debt to his endeavours.

Some aspects of his life story are worth repeating here. As an academic teacher he was unique for his time (1707-1778). His daily public lectures were interesting and captivated hundreds of listeners from all disciplines.

He was pedagogical – unusual for universities at that time – according to information at the museum: while other professors droned on he spoke freely and passionately often with practical demonstrations. During the vacations Linnaeus exchanged the indoor lectures for practical walks in the countryside. These also drew large groups of students keen to learn how he examined plants in their habitats, talking about names and anatomy, their practical use and their place in folklore.

Apart from the chapter on Linnaeus, the book recounts more of the history of listing plants from early herbalists, botanists such as John Ray and de Tournefort. The words in the naming system are mostly of Latin or Greek origin and are derived from mythology, geographical locations, habitat or simple descriptive terms, such as leaf form. The actual structure of words is explained – the significance of the common Latin prefixes and suffixes and how the current rules for nomenclature have been agreed by the scientific community. This is a complex, esoteric subject, but John Wright has managed to communicate the main ideas without resorting to dry or technical language. Indeed it is fun to read and, for me, a page turner. A book which is both refreshingly uncomplicated and instructional.

John Wright is a mycologist by training and conducts frequent forays into the countryside in search of fungi, whose many and varied colourful scientific names he passes on to his accompanying groups. What a way to learn practically and reminiscent of Linnaeus’ pedagogic field trips! I believe landscape architecture courses would benefit from similar: there is no better way to reinforce the Latin names of plants than by close inspection of the living specimens in the field.

### Robert Moore



*Tilia* = Latin for linden/lime tree  
*cordata* = heart-shaped (leaves)

*Tilia cordata* in the  
Linneträdgården,  
4/5/12 Uppsala

**Borders, an exhibition of the paintings of Robert Davison at the Museum in the Park, Stroud, July, 2016 and the National Botanic Gardens of Wales, 22nd April to 21st June 2017.**

Borders: outlines, edges, national boundaries, flower beds, frames. Borders define areas but also propose a place of transition: where are you as you cross the border from one state to another? Where does the town end and the country begin?

The notion of borderland is apt for Bob Davison's art which occupies the liminal state between figuration and abstraction, mirroring perceptual processes which integrate objective observation with the subjectivity of memories and feelings.

The mystery of seeing is that, unlike a camera's mechanical recording of data, our vision is constantly informed by experience both consciously and unconsciously: what lies beyond the border of consciousness shapes what lies within.

Davison's subtle meditations on nature and memory, colour and form, are rich counterpoints to the mechanistic images which dominate our culture and ways of seeing. The gifts of photography have been prodigious, but photography has spoiled us, too. Is there any thing, any place, that has not been photographed? The camera's gaze reveals everything in fascinating,



*Borders Crocosmia Acrylic on paper '07-8 24" x 33"*

but superficial, detail. Human perception might seem a poor thing next to the detail in a high definition, digital image; but, perhaps, it has made us lazy? We see only the surface appearance – we need to look harder.

This is where drawing and painting comes in. Davison’s pictures embody the recognition that the fullest experience of the world is dependent on not only looking, but thinking, acting and feeling. (John Constable declared *painting is... feeling*<sup>1</sup>.)

Visual perception is more than data collection: it is informed by movement, emotion, memories and imagination. The eye is never still; it is constantly scanning, calculating, discriminating and selecting. We experience the world by moving through it. We see what is interesting and important to us – what is meaningful. These sights, and the accompanying sensations, are stored away as memories – to inform subsequent perceptions.

The richness, complexity and subtle layering of Davison’s work mean that – unlike a photograph which can deliver a great deal of information very quickly – the paintings demand, and repay, prolonged scrutiny and, even then, do not exhaust their visual pleasures, for each further viewing will reveal fresh colours, forms and textures.

The achievement of these paintings is hard won: Davison’s study of nature and art has resulted in his mastery of drawing from nature and of the language of painting. The story of modern painting has broadly been a dance



***Dappled Big Red*** Acrylic and pigments on canvas '15 60" x 79"

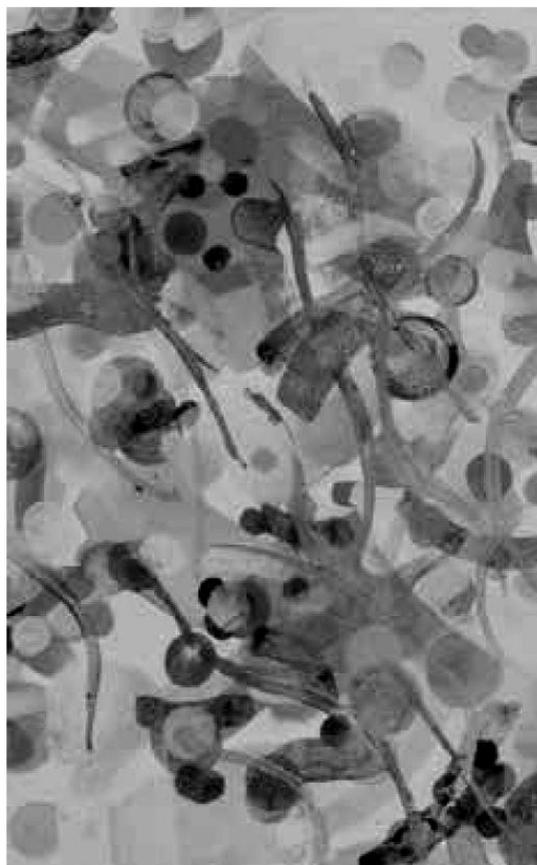
between figuration and abstraction – and Davison’s work is exemplary in this respect. As flowers dance in a breeze, so shapes and forms in the paintings dance between figure and abstraction: forms dissolve and reform in the ambiguous, translucent space of shadows and reflections. It is a mark of great painting that form and content are, as here, inseparable from each other.

The gift of Bob Davison’s luminous paintings is to reward the act of looking with an apprehension of the beauty and mystery of the world before us: to cross the border between appearance and sensation, between looking and feeling.

**Richard Salkeld, University of Gloucestershire**

<sup>1</sup>Stephen F. Eisenman (2011) *Nineteenth Century Art*, London: Thames & Hudson, p232

This review is an edited version of the introduction which appeared in the exhibition catalogue.



*Valerian Studies Blue I* Acrylic on paper '15 16" x 10"

# OBITUARY

It is with sadness that we learnt of the death of **Geoff Brown**, a fellow landscape architect, in a swimming accident in Cornwall in August 2016. Geoff was a licentiate MLI and an active member of the Landscape Institute South West (LISW). Geoff was born and grew up in Germany where his family were stationed as part of the British Army of the Rhine. He trained as a landscape architect at Cheltenham and gained his diploma in 1982. While travelling in Africa he met his future wife, and subsequently moved to Switzerland where he lived for almost 20 years. Fluent in German and French, he worked for a number of years as a landscape architect for a Swiss civil engineering company and gained his Postgraduate Diploma in Landscape Planning / Nature and Landscape Conservation at Rapperswil Technical College in 1991. In 1995 he set up his own planning consultancy in Schoeffland with a focus on garden design, nature conservation and landscape management. A project he particularly enjoyed was the refurbishment of cemeteries along sustainable ecological principles for Suhr and Kolliken councils. Geoff relocated to the UK in 2005, working at Moore Environment in Coleshill, and then Tisdall King in Worcester, delivering landscape management plans, LVIA's and contract administration. He moved to Devon in 2009 to work on Highways Agency Area 1, as landscape architect with responsibility for the A38 and A30. Towards the end of 2014 he moved to Stroud to carry out LVIA work for Ecotricity. He was a keen nature enthusiast, walker and sailor, having crewed sailing yachts in the Mediterranean during the early 1980s. Thorough, hardworking, reliable and conscientious, Geoff had a generosity of spirit and enjoyed helping and encouraging others as demonstrated through his service on numerous groups and professional committees, including the LISW where he was a driving force.

[condensed from the LISW newsletter]

# INFORMATION FOR CONTRIBUTORS

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