

# THE CITY THAT SOLD THE SUN



GARDEN MUSEUM





# FOREWORD

**Christopher Woodward**

Garden Museum Director

The Garden Museum is the only Museum in this 'nation of gardeners' to be dedicated to the history of gardens, and to their place in modern life. By an accident of foundation this Museum is a historic church on the banks of the Thames, next door to Lambeth Palace, and facing the Houses of Parliament.

Three years ago, we found ourselves on the front-line of London's battle for its architectural and environmental future, as we and our neighbours contested an application by developer u+I, described as 'grotesque' by Private Eye, to build luxury flats up to 26 stories high in the heart of Lambeth Village. That development was refused, owing to the impact on the heritage of the Conservation Area, and because it would have cast the interiors of the adjacent social housing into what the planning inspector called 'an unacceptable level of gloominess'.

But this campaign arose from that contest. A few steps from the Museum, on Lambeth High Street, is a little park called Old Paradise Gardens. It was once part of the churchyard of St Mary's, the ancient church in which the Garden Museum is housed; in the 19th-century it was the first green space in the parish to be converted into a park under the terms of the Metropolitan Open Spaces Act of 1881, which recognised the value of such spaces to the health of Londoners. It was this precious pocket of park which would have been overshadowed by the skyscrapers of luxury flats, and which will be the heart of Lambeth Green, a new green neighbourhood we hope to plant into being with our neighbours, Lambeth Council, and Transport for London, to a master-plan by Dan Pearson.

Our objection to over-shadowing was, however, invalid: the proposal was 'compliant with current guidelines which require two hours of sunshine per day as measured on 21st March'. Two hours? Surely I had mis-heard. But it is true: the current guidance is that a park can be in shadow, or in darkness, for twenty-two hours per day as measured at the spring solstice (when the sun is at its mid-point). Right now, as the writer Jessica Brown explains below, this 'two hour rule' is guidance. But the Greater London Authority's proposed new addendum to its Good Quality Homes for All Londoners guidance would make this two-hour rule the official policy.

**Photos of local residents supporting the petition in Old Paradise Gardens by Photographer Rachel Warne.**

*Cover image: Fawzia Kane*



***“We think of planning battles in terms of bricks and mortar, or the preservation of green space. But a new battle is taking place: a battle for the sky. And every time a skyscraper is built, a piece of the sky is sold for ever. London is getting darker. For ever.”***

***“Please do not take our daylight. This will affect our wellbeing, and we have already suffered enough through the global pandemic.”***

***- Ghazala Butt***

Our campaign is to change two hours to six for the parks, playgrounds, and wildlife reserves of London, for the benefit of its people, plants, and pollinators.

We are very grateful to the National Gardens Scheme, which supports nursing and health charities through the generosity of people who open their private gardens to the public, for enabling this publication, and the photo essay by Rachel Warne.

In the pages which follow Jessica, and four experts, share their thoughts on why sunshine matters to the public spaces we share.

London has only one sky. Let's not sell it.

Please join,

*Christopher Woodward*

*Director*

# Saving The Sky

Imagine being in the middle of a city. You might conjure the thick, heady fumes of a traffic jam, the roar and clatter of construction work, or sunbeams angrily refracting from angular towers.

But while cities are largely comprised of the manmade, many are also natural havens – and none more so than London. London has 3,000 parks, which stretch across almost a fifth of the entire city. That's more than the space taken up by all of its roads and railways combined.

Thankfully, there's strong political will to preserve London's greenness. Mayor Sadiq Khan has allayed the fears of many environmentalists with his focus on making sure London's natural life continues to flourish. He has set out an aim to put London on the path to becoming 50 percent green within the next 30 years, and for it to become the world's first 'National Park City'.

But London is on another, colliding mission – to expand upwards. Just last year, 35 new tall buildings sprung up in the capital – and more than 500 are currently being planned or built.

There's much to consider and negotiate before a tall building can go up, including balancing development opportunities with the interests of Londoners below, but things very often sway in the favour of developers.

**Jessica Brown**, freelance features journalist,  
writing about social and cultural issues.

[www.stories-to-sit-with.com/](http://www.stories-to-sit-with.com/)

## 6 months in the dark

Councils considering applications for tall buildings have a single piece of guidance available to help them decide their impact what schemes to approve. In 2011 The British Research Establishment Trust published technical guidance of how to design buildings for sunlight. One section (2.3.17) addresses outdoor spaces, including parks, and playgrounds. It is recommended that:

*‘at least half of the amenity areas listed above should receive two hours of sunlight on the 21st March’*

*(BRE 2011, p.18, Para 3.3.7)*

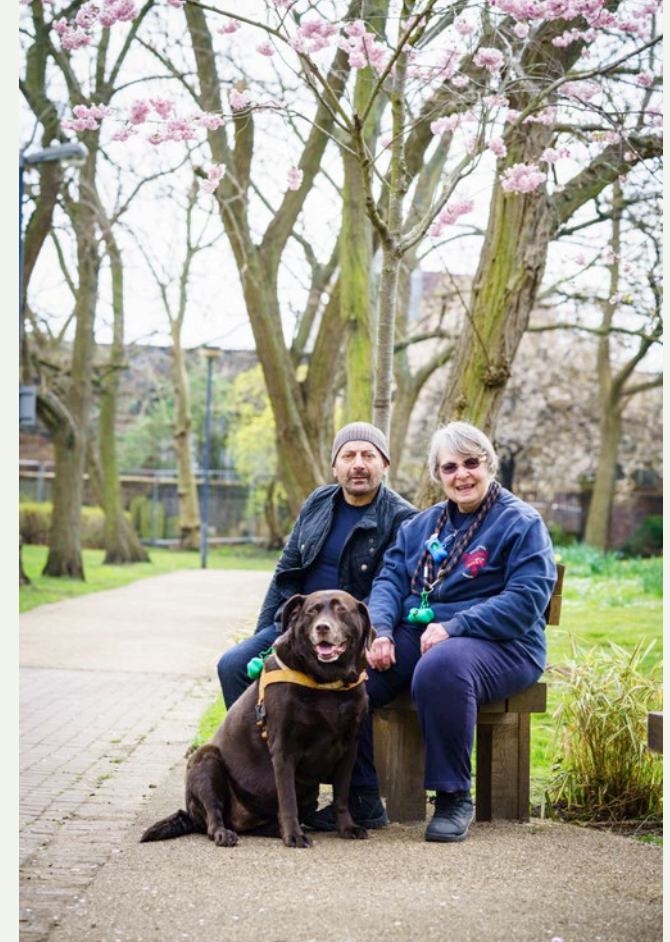
21st March is chosen as the average for the year; the sun is in the same place on 21st September. It is much lower, of course, during the winter.

The two-hour rule soon became a guide for planners across the UK. Numerous local authorities have since used it to navigate how much sunlight parks and green spaces should be entitled to, and developers have taken advantage of it.

Many green spaces in London – arguably very ‘significant’ areas – are already shrouded in the shadows of tall buildings. But there is a window of time to ensure it doesn’t happen to anymore, and that tall buildings don’t further encroach on the city’s natural life.

The same two-hour guidance can be found in the mayor’s draft supplementary planning guidance for the London Plan – Good Quality Homes for All Londoners, ready to become official policy. But it’s possible the inclusion is unintentional, given the mayor’s clear and consistent dedication to a green and thriving London.

This one-size-fits-all policy is not fitting for London’s future. As we come out of the pandemic, it’s clearer than ever before how important access to local green space is for our mental and physical wellbeing, whether you live in the City of London or the hills of Glamorgan.



*“It’s unbelievable to build flats and offices in an area [the size of a] postage stamp, blocking out light from people’s homes.”*

*- Nancy and NHS worker Marcus Sophocleous*



## Critical green space

We've never been more aware of the damaging effects air pollution has on our health, and the importance of green space to give our lungs a break. In London, poor air quality causes 1,000 hospital admissions for asthma and serious lung conditions every year.

And with approximately one in five of us having a vitamin D deficiency, our physical health largely depends on our exposure to the outdoors, too. Sunlight boosts vitamin D and our moods and encourages us to exercise. A well-lit park is also more likely to be abundant and filled with nature, which is also great for our mental wellbeing. We're far more likely to visit a warm park glistening with sunshine than a cold, dark one surrounded by tall towers.

Parks are also a hugely important resource for children. Research shows how crucial play is for children's development, especially those who don't have gardens of their own. And greener play areas – which need sunlight to thrive – contribute to children having healthier immune systems, according to research.

Parks and green spaces are especially crucial when you consider that a large majority of households in London do not have access to a private or shared garden, according to recent research from the Office of National Statistics. This is more than anywhere else in the UK.

Almost a third of residents in the London boroughs of Tower Hamlets, Camden, Westminster, Southwark, Hackney and Islington lack access to these spaces, all which have high levels of poverty.

Black people are almost four times as likely as white people to lack access to a garden and people in lower paid jobs are almost three times as likely to be without a garden than those higher up the pay scale.

Thankfully, public green space is more evenly distributed. People living in London are more likely than anywhere else in the country to have a park nearby, the ONS has found.

It's not just residents and visitors we need to think about; the city's plants and wildlife are hugely dependant on sunlight. Darker parks inhibit plants' growth, and winter sunshine is especially important for germination. In London there are 14,000 different species of plants, animals and fungi, and a huge number will be affected by a drop in sunlight.

This is a crucial time to fight for the preservation of green spaces in London. The city is only going to get denser, taller, and, subsequently, cast further into the shadows. For every tall building that rises up amid green space, another park loses sunlight, for ever.

But the situation we're facing doesn't need to spell doom and gloom; this generation of Londoners can leave a legacy that reflects our understanding of the importance of urban green spaces.

Amid developers' appetite for multiplying high-rises, there's a groundswell of public will to preserve what Londoners, and visitors to London, benefit from and value far more than tall buildings.

The Garden Museum, along with various other campaigning bodies, including London Skyline Campaign, SAVE Britain's Heritage, Stop the Blocks, the London Gardens Trust, Lambeth Village, London Wildlife Trust and the Metropolitan Parks and Gardens Association, is asking the Mayor and Greater London Authority to re-consider its expectations of sunshine in outdoor public areas in the New London Plan.

The Garden Museum has spoken to other supporters of the campaign; experts in their field who are concerned about the prospect of a London further deprived of sunlight. This is what they have to say.

# A Healthy London is a London With Sunlight

**Professor Sir Sam Everington** is a GP in Tower Hamlets, an area of high deprivation and one of the most densely populated areas of the UK. He's very concerned about the lack of sunlight his patients are exposed to in their daily lives and the major impact this has on their physical and mental health

You can get every other vitamin from sources other than sunlight, but not vitamin D.

The consequences of a vitamin D deficiency are very clear. At the less extreme end it causes muscle weakness and aches, and at the more extreme end, it causes rickets.

You wouldn't expect to see it in the modern world, certainly not in the UK. One of many eradicated diseases returning due almost entirely to lifestyle and the built environment.

There's a great discussion in the medical community about the link with the Covid-19 death rate and vitamin D deficiency. Both are a much greater problem in ethnic minority groups.

Half of children in Tower Hamlets have low vitamin D. We need to have children in the playground for at least half an hour a day, ideally one hour.

Medicalising something is always a bad idea. When people say they'll take vitamins and they don't eat fruit and vegetables, they are missing out on a whole variety of nutrients. If I'm prescribing a pill for something caused by lifestyle, I have failed. I give people with severe vitamin D deficiency a high dose for seven weeks, but I also tell them about the importance of spending time outside in the sun,

even on a cloudy day. But many in my community in East London, live an indoor life, or when they go out, they travel by car.

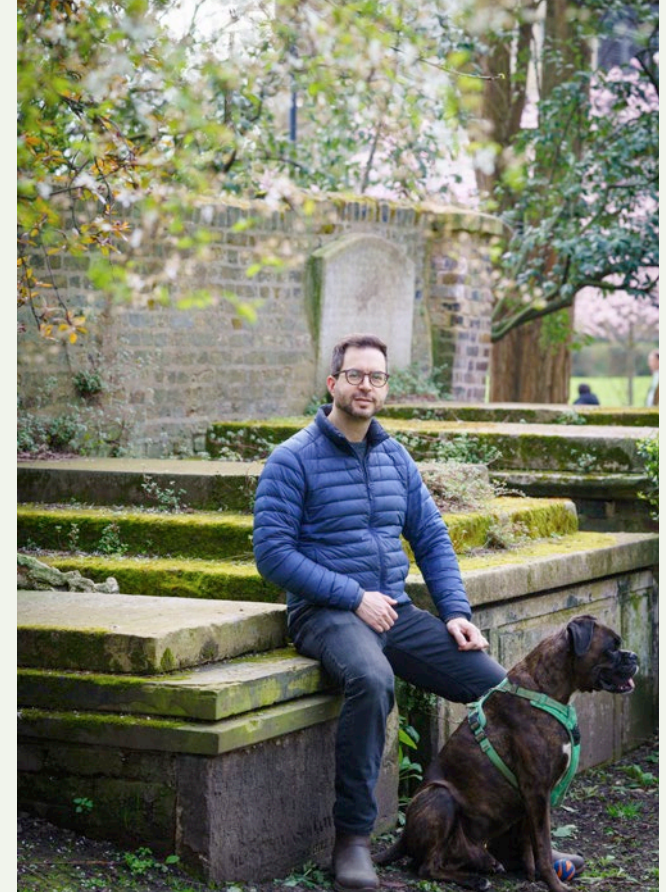
There's no evidence that vitamin D supplements aren't effective, but it undermines everything else we get from being outside. If you sit indoors, you don't take exercise, your muscles waste and you get unhealthier. If an 80 year-old spends 10 days in hospital, they lose 10 percent of their muscle mass, which is equivalent to 10 years of aging.

It is incredibly tragic, as so much of this is entirely preventable.

Thankfully, the pandemic has highlighted the relationship between mental and physical health and open spaces. People were confined close to where they live, so they're more aware of what's local and what they missed when they could go on holiday. Green spaces have become essential and appreciated.

Planners need to provide more green spaces and allotments to improve health instead of prioritising spaces for cars and roads.

*“Half my patients have a vitamin D deficiency – and if I’m prescribing them pills, I’ve failed”*



*“Our park is a lovely space, please don’t rob it of its sunlight.”*

*-Denis Doucakis*



# Science Behind Sunlight – Can London Be Green In The Shade?

**Samia Qureshi** is the Garden Museum school's science learning officer. She has worked as a post-harvest scientist for nearly twenty-five years and then as a secondary school Biology teacher. She's apprehensive about how tall buildings going up next to Old Paradise Gardens, near to the Garden Museum, will change the entire ecosystem of the park.

You might think plants are everywhere, but we generally suffer plant blindness. We tend to see a blanket of green and not the individual plant. But when you look closely at grass in the park, you can see green matter is made up of lots of different types of 'grass', of different lengths and leaf shape.

In Old Paradise Gardens, we've got a big mixture of life, including dandelions, yarrow, daisies and buttercups. If you change the ecosystem habitat of just one life, it causes a ripple effect across other species in that habitat and ecosystem. Old Paradise Gardens has fewer flowering plants to start off with compared to other parks because of the existing towers and buildings casting a shadow.

All plants need light, whether it's partial sunlight, shade or full sun. They capture light energy from the sun to make the glucose they need for growth. Light is made up of all the colours of the rainbow, and each colour has a different wavelength, which means different energy levels. Changing the amount of light getting to a plant changes the amount of light energy available to them.

You need more than six hours of sunlight a day to grow vegetables, while medium-light plants need four hours, and shade plants need two. Paradise Gardens contains a lot of indigenous flowers, but they won't grow if the environment changes and they're cast into the shadows.



*Councillor Jon Davies,*

*Photographed by Rachel Warne in  
Old Paradise Gardens*

If the towers get built, it will change the mix of plants, which will have repercussions on the whole ecosystem. The plants will suffer. They will grow tall in order to reach the light which is being reduced, the stems will become longer and will have fewer leaves. They won't synthesise as much food. Lower plants in the canopy won't survive very well; they'll turn a pale colour and have poor and distorted growth.

## *“You’re limiting people’s life experience and wellbeing”*

Shadows cast by the towers will turn the soil colder and delay germination. A plant's energy is within the bulb or seed, which needs the warmth from light to germinate it.

There will be a change in the biodiversity of insects and different pollinators, too, which will result in a smaller range and number of plants. Existing plants won't thrive, they'll probably decline or die.

We've got lovely cherry trees and blossom in the gardens at the moment, but apart from them, it's not really going to be a flowery garden. There would be no sunflowers, no lavender, no meadow flowers.

This would impact my teaching. It'd be wonderful to go into a cutting garden, pick and dissect flowers, perhaps comparing tulips and daffodils, and teach children about the different parts and the role of pollination. I have children coming from local Lambeth schools; not every child has a garden, so to be able to pick flowers is a wonderful experience for them.

People go to parks to experience sun and flowers, but if the towers go up, we won't have such a variety of flowers. You're limiting people's life experience and their wellbeing.

# A Precautionary Approach To Tall Buildings

**Mathew Frith** is Director of Policy & Research at London Wildlife Trust. He knows how difficult it is to say exactly what an individual tall building will do to the diversity of wildlife below – and this unpredictability of nature means it's often pushed to the bottom of the pile.

Light is a fundamental requirement for the growth of plants, and it affects the life cycles of many other animals and plants, as well.

There's not been a lot of research on the effects of shade caused by tall buildings, so we're having to make a lot of informed guesses. The studies that have taken place have generally been in more rural environments, and often based on shading from woodland edges, which rarely tower above 20 metres.

Nevertheless, we can make some informed judgements by noting that, for example, many insects require a certain temperature before they become active. On cool days in summer, you won't see many butterflies flying around. You may see a few insects, bees and wasps, who tend to warm themselves up by buzzing their wings, but other insects aren't necessarily able to do that, and rely on the warmth of the sun to do it for them.

For new landscaping designing in plants adapted to low light conditions isn't desirable; you won't get bees or wasps or butterflies because they need a certain amount of warmth.

Studies have shown that Britain's smallest butterfly, the small blue, requires a certain amount of sunlight at key times of the year for larvae caterpillars and adults to warm up and do their thing. Extended periods of shade are likely to delay their growth or shorten their feeding times. It is why this butterfly is rare in London, predominantly on open chalk grasslands on the edge of the North Downs.



## ***“The planning system isn’t taking enough account of the nuances, complexities and dynamism of nature. London is building problems”***

Generally, the butterflies you find in inner London tend to be able to cope with a wide range of conditions, but developing tall buildings will certainly impact on some of these and other flying insects over time.

Biodiversity itself isn’t easy to pigeonhole into certain time frame; nature is dynamic. There’s a science called phenology, which studies the timing of natural phenomena. This may be, for example when first cuckoos arrive from sub-Saharan Africa, when certain species of tree come into leaf or certain birds start nesting or certain plants come into bloom.

It’s being increasingly recorded through citizen science. Academic studies show the seasons shift; for example, this year I’ve noticed that plants are flowering much later. So, applying artificial dates in a calendar doesn’t necessarily chime with what’s happening in nature. This is one of the issues that demonstrates how anthropocentric the planning system is. It isn’t taking enough account of the nuances, complexities and dynamism of nature.

Nevertheless, if light levels are generally reduced in duration and intensity, then life-cycles of some species might be delayed or prevented; flowering times might be knocked back, and eggs might fail and all these things are adverse, they can weaken the ecological viability of an area. There will be localised effects, not just within the development area but also in the buffer zone around it. You may get a reduction in diversity and abundance of insects on a site, which may have effects on insectivorous birds in a wider area.

Tall buildings also tend to be in clusters, which causes significant additional cooling and disruptive effects of wind tunnelling which can kill plants (through desiccation and windburn) and make it very difficult for other wildlife to flourish.

We’d argue that best practice, in terms of planning decisions and urban design, should be taking account of impact of shade and standards that have been set in place. There is a significant shortage of ecological skills in planning departments and many decisions appear to take a crude approach in terms of positioning and landscaping.

We’d argue for a precautionary approach. Any light and shading should look at the biodiversity it may be affecting and mitigate accordingly. For us, that would easiest by reducing the size of buildings.

London is building potential problems with an ongoing increase in the height, numbers and locations of tall buildings. However, from an ecological perspective, it’s difficult to be precise as to what exactly those problems will be. We’d like to see more research done on this issue, because, right now, it’s difficult for us to stand up at a planning inquiry showing strong evidence of the shade from one building causing a specific ecological problem. Nevertheless, it’s quite clear that the wildlife of London has largely adapted to a townscape that is mostly less than 17 metres high, and that the larger the areas of extensive daytime shade caused by new tall buildings would compromise nature’s recovery in many parts of the city.

# We All Need Light

**Dr Sue Stuart-Smith** is a psychiatrist, psychotherapist and author of the book 'The Well Gardened Mind' (2020). She argues that light is crucial for health in more ways than we may already know.

The regulation for a minimum of two hours of sunlight in March does not allow for the fact that at this time of year people need vitamin D after a long winter when their levels are most depleted. Vitamin D is crucial for human health and although

supplements are available not everyone has access to them. Low levels of Vitamin D are linked to inflammatory diseases and diabetes as well as rickets and osteoporosis. There is also a link with depression.

Humans are finely attuned, psychologically and biologically, to the cycles of light and darkness. The brain evolved to respond in a fundamental way to varying levels of light. For example, daylight regulates the hormone melatonin, which influences our energy levels and alertness, as well as our sleep cycle, and exposure to light also regulates the neurotransmitter serotonin, which regulates mood and promotes mental well-being. Access to sunlight also enhances people's cognitive performance.

It is the blue light in the sun's rays that set our sleep-wake cycle and it is the blue portion of the visible light spectrum, that is most lacking in winter. Fundamentally, light is a form of nourishment.

Although Seasonal Affective Disorder (SAD) is increasingly recognised as a condition, not having enough daylight can affect us all. For example, hospital studies have found that it can influence the course of a patient's illness. One study compared patients with bipolar disorder who were admitted to sunny rooms in psychiatric units with patients in rooms that didn't have much natural light.

***“Humans are finely attuned, psychologically and biologically, to the cycles of light and darkness.”***

They found that patients who were admitted to sun-filled rooms were discharged from hospital significantly sooner. In another study, patients recovering from heart attacks who were assigned rooms with high amounts of natural light were more likely to recover faster, and they had lower mortality rates. Another study found that patients who had undergone spinal surgery and were in rooms with more natural light used 22% less pain medication.

There is also evidence from urban planning studies to suggest that people instinctively gravitate towards sunlight. As a result, shaded areas tend not to be frequented. What does a shady park become, if few people are inhabiting it? It becomes a vicious circle: if the environment doesn't appear safe because other people are not around, this becomes a deterrent to using it.

Currently around a quarter of people report feeling lonely or isolated and figures are particularly high

in urban populations. Social isolation has strong negative health consequences and is associated with an increase in mortality from all causes. However, research shows that introducing green space where there was previously derelict inner city land, draws people outside and increases neighbourliness. As a result, parks and gardens can have important social effects through alleviating the growing problem of loneliness and isolation.

**Final page image: John Sweeney,  
Writer and Broadcaster**

*“The year of the pandemic has proved that well-sunlit green spaces, accessible to all, are essential. Light is life!”*

*- Fawzia Kane*







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