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EDITORIAL
Too hot, too dry, too sunny. Using microclimate to temper the extremes

Date: Thursday 11th August 2022. Late morning. The day is heating up. Yesterday it reached 36°C in my garden (Gloucester city). News headlines scream a probable drought crisis looming. No rain forecast for the UK south; just "sunny, dry, hot". Released Met Office satellite images contrast green Britain weeks ago with brown Britain now. The driest summer for 50 years. You get the picture. Still remember it? The doom scenario also embraced the announcement of wildfires and restriction on portable barbecues. South west France and the American west reported fires out of control. High temperatures and dry vegetation the culprits. It's a European, a global catastrophe. Warnings and conspiracy theories abound: what to do, why bother, whose fault?

Baroness Young on the radio blamed the ill-preparedness of governments not doing anything with issues until they became crises: "Never try to do anything between the flash and the bang" she warned. Sufficiently advanced planning is what is needed. We have got to take the long view. Not just building more reservoirs – that should be the last resort. Tony Juniper of Natural England asserts that our environment is degraded, dessicated, quoting the loss of 90% of our wetlands over 100 years. We need to rewet the floodplain, revive peatlands, fenlands and coastal marshes. There are triumphs in the cities: formerly buried rivers have been 'exposed' – taken out of culverts – and bringing multiple benefits climatically and socially to the citizens. In Seoul the restored Cheonggyecheon river is cited as a landscape success. Can London's Fleet or even Cheltenham's river Chelt be similarly transformed?

But returning to the summer of '22 heatwave, what can be done to cool the climate? Reducing CO_2 emissions is fundamental. But at a local level, following the Notre Dame fire in Paris, landscape architect Bas Smets was appointed to turn the Ile de la Cité into a "verdant paradise" and thwart the heat island effect by drawing on microclimatic expertise. While global heating is global, he contends working at a smaller scale can make a big difference. You have to understand a site intimately in order to improve its resilience to extreme climate events by "using shade, humidity, wind and water to lower the temperature in the heart of Paris". The *parvis* in front of the cathedral is to be covered daily in a film of water which evaporates so cooling the air, just one feature unarguably drawing on Islamic tradition. Modern air-conditioning technology must be avoided. Such systems only generate more heat in other locations.

We need to learn from vernacular techniques that have been tried and tested for centuries. We need to understand the science of microclimatology. How to optimise the climatic potential of a site, modifying temperatures with attention to thermal properties of buildings, landscape materials and their surface reflectivities. Knowledge and consideration of the sun's seasonal and daily trajectory. (Tree) species selection that moderates high temperatures and humidity equably by transpiration. Reducing or promoting air movement (wind) for shelter or cooling. Learning about air quality and pollution. Yet more prerequisites for landscape architects. Get tooled up for the new normal.

[*Robert Moore]*