

## Urban environment: Trauma or improvement

Nowadays, most cities are environments without much natural life, largely built from sensorially-uninviting industrial materials and dependent on technical systems to function. The 20<sup>th</sup> century bits have architecture dominated by International Style modernism, neither climate nor culture sensitive and more concerned with buildings than place. Consequently, disconnection and alienation is often high.

That's how it is now. But our world is about to change. In the built environment, energy-intensive materials will become hard to afford. So will technology dependence. In a few decades, many buildings will be barely habitable in heat-waves.<sup>i</sup> Economically, a shift to more ecological systems is unavoidable. Psychologically, we crave this. Ethically, it's imperative. But what forms can this take?

For larger systems, like fresh-air renewal and heat-wave mitigation, greening cities (trees, climbing vines on walls, green-roofs etc.) are a simple solution. Greening can lower peak summer temperatures 11°C (20°F).<sup>ii</sup> We'll also need to design buildings and landscaping to optimize outdoor-place micro-climate (wind-shielding, winter sun and summer shade) besides material functionality and appearance. This, flood-control and localised wastewater treatment also implies more vegetation: good both for wildlife and the human soul.

Buildings themselves will need to be climate-responsive: naturally cooled, solar-heated and thermally-massive (cheapest and least-polluting with heavy materials). Air-conditioning is expensive (often 40% of construction cost) and accounts for lots of CO<sub>2</sub>. Also, being electricity dependent, it's vulnerable to supply failure (e.g. transformers overheating, excess demand). This will affect their form and materials. Multi-storey buildings (lifts increase energy use 5-15%<sup>iii</sup>), deep-plan ones (dependent on artificial light), and over-glazed façades (overheating – or chilling – interiors) will become expensive to operate. This is likely to influence developers more than their unhealthy, unsociable, soul-hostile and anti-ecological characteristics.

We can also expect materials that are energy-intensive to produce or transport to become increasingly expensive. This will favour minimally-processed and local materials and possibly shift labour-materials cost-ratios till hand-craft becomes more affordable. Both natural materials and craft-input imbue places with soul.

The combination of local materials and responsiveness to local climate increases sensitivity to place and forms an authentic basis of a new localism. As transport cost will make imported food uncompetitive (if available!), supermarkets will lose their advantage over local shops. This will help localize economies – more resilient, sociable and personal. Regional (even parish) place-identity and strong local community can help us re-connect with where we are and belong (physically, socially, ecologically and spiritually), supporting self-esteem and nourishing our souls.

Sudden or gradual, the impacts of climate-change and peak-oil won't be painless, but we can choose : resist this flow till everything collapses or align with it. Resistance can defer crisis but makes it all the more traumatic when it comes. Alignment, however, can absorb many – not all – adverse impacts. Moreover, equally importantly, it can bring many soul and spirit benefits.

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<sup>i</sup> Lightweight buildings will need air-conditioning by 2021, heavyweight ones by 2061: UK

Climate Impacts Programme (cited in: *Masonry construction may benefit from global warming!* in *Building for a Future*, vol. 16, No 2, Autumn 2006.)

<sup>ii</sup> Welsh School Of Architecture. Internet 29 Oct 2007

<sup>iii</sup> About 10kWh/m<sup>2</sup> floor area. Roaf, S. (2005) Vestigial buildings, *Building for a Future*, Vol. 15, No.3, Winter 2005/6; *Ecohouse*, Architectural press.