

that is a rewarding and exciting place in which to live. This is the lesson of Siena and countless other traditional cities.

The construction and maintenance of the built environment is one of the major areas of energy consumption, so engaging with principles of sustainability in our cities and towns has become an urgent imperative. The introduction of legislation to ensure that dwellings and workplaces are more energy efficient in their operation and deploy more sustainable materials in their construction is the well-meaning but predictable response at the governmental level. Few would dispute that this is an appropriate action. However, it is a mistake to think that mandating for energy efficient houses on smaller blocks of land can make suburban development a sustainable form of habitation. Urban growth is not a problem in itself; it is the pattern of that growth and the way it is managed that is currently problematic.

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A much more holistic perspective is required when setting strategies for urban growth. For example, most would agree that a more extensive and improved public transport system is an essential ingredient for a liveable and sustainable city. However this is diversionary rhetoric because the important question is avoided: what form of urban development can reduce the need to travel extensively throughout the metropolitan area on a daily basis? The pattern of urban development is intimately tied to the key issues of energy, transport, food production, water supply and waste management, together with an extensive range of social requirements, but only by embracing density can we comprehensively address these issues to create sustainable cities. Sacrificing market gardens and small farms to suburban growth has a greater impact than merely the loss of local food production. Because food represents 20% of our current energy use and over 90% of food costs go to packaging, transport and distribution, the loss of productive rural land in close proximity to urban sites of consumption affects not only our access to fresh, locally grown produce, but also results in higher food prices and places greater demands on energy, transport and recycling.



One of the main characteristics of suburban sprawl is its continuous and undifferentiated pattern of low density. To simply introduce high densities within such a pattern would make a bad situation even worse – continuous and undifferentiated high density! For density to work successfully it must be discontinuous. A well-linked network of a hundred small cities in the Sydney metropolitan area, each about the size, scale and complexity of Siena would have the potential to accommodate major population growth at the same time reinstating farmland, bushland and other forms of non-urban land-use to almost 90% of the metropolitan area. Everyone could enjoy the benefits of urban living in a pedestrian-friendly, sustainable environment within walking distance of extensive open spaces. Furthermore, public transport would finally become efficient, as its primary function would be to provide linkages between the cities rather than through them. But there is a catch – thankfully, most of the suburban sprawl would need to go under the plough, but as it comprises mainly the ubiquitous brick veneer project home, it is a fabric of dubious quality that was never built to last in any case. ■

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# A European view on design

Rolf Haefeli was brought up in Switzerland where his family were in the decorating business. After graduating as an architect he left for London, Saudi Arabia and finally Australia. "My family were craftsman and I grew up in a small town. Both factors shaped my views and values, in particular my approach to architecture.

"The village" is at the core, a model "Universe in miniature". The village community is seen as a complex organism of interconnected parts, integrating economic as well as social factors. Within that model the built environment is testament to traditions and beliefs, the self image of a community, with a distinct character of its own.



Fig1. Schaffhausen - border town on the Rhine

Of course industrialisation and urbanisation as a consequence, have resulted in a dissolution of the village community, in urban sprawl and destruction of landscape.

In Switzerland, nevertheless, the model still seems to survive in the face of globalisation. Is it really possible to be at once conservative and yet modern? How flexible and open to transformation are our urban communities? Is Switzerland in fact one big city, the size of Tasmania, with 7 million inhabitants; a rich urban tapestry with regional centres and excellent infrastructure? (fig 1.)

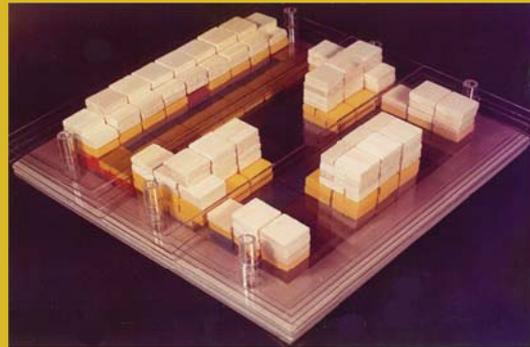


Fig. 2 mixed use urban development with green roofs - max height 4-5 storeys

Alternatively, at the other end of the scale: Can the urban block become a "miniature village" It certainly appears to make economic sense to mix commercial functions such as office-, retail-, even select manufacturing, with medium density housing [max. 4-5 storeys]; thus recognising and creating a trend towards a more "urban lifestyle", attractive to professionals and companies alike. (fig 2.)

Finally, even buildings can be considered "miniature towns", as demonstrated in Frei Ottos leisure complex in Riyadh. (fig 3.)

The realisation of buildings is of course of great importance to architects. Yet as critical as the design itself is the formulation of the brief. We can only marvel at the diversity of past structures, They are proof of man's resourceful nature when facing new challenges. Few buildings survive the test of time, usually due to "lack of use" and subsequent deterioration. Sustainable design therefore has to be adaptable and be built to last. To achieve that we need creative architects as well as competent builders and tradesmen.

To say, as one noted architect stated, that future homes should be factory built, making local builders with utes a thing of the past, is therefore in my view both short sighted and unsustainable". ■

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Fig 3. Diplomatic Club, Saudi Arabia - OHO joint project. Building or small town?