

Natural Urbanism: A Nonlinear Model for Urban Development

ROD BARNETT*

ONE OF THE PROBLEMS associated with the increasing internationalisation of design is clear: techniques, models and types from THERE (wherever that may be) are applied HERE (wherever that may be). Generic urban revitalisation initiatives, such as the Mainstreet Programme, and even the programme of architectural modernism, seem to bear their origins within them. They enshrine structures and values that are themselves culture and place specific, even though a) every here is simultaneously a there, and b) here, therefore, is anywhere and there is everywhere else.

Is it possible to develop a generic urban planning and design tool that can actualise specific landscape qualities no matter where it is applied?

This paper describes a tool that has been designed to do just that. It's a proposal for a new planning and design programme based on research in nonlinear dynamics. It bears the hallmarks of nonlinear systems: it is self-organising, feedback-based, open-ended, and it enables transformations to occur from the bottom up. Clouds, rivers and flocks of birds are natural examples of such systems. Cities are social examples. The mathematics that describe nonlinear systems do not recognise whether these systems are natural or social. Accordingly, this is an urban landscape design model that does not differentiate between social and natural processes. Instead, it investigates patterns of organisation.

These patterns, always changing, require an adaptive programme of urban planning and design that is time-sensitive and responsive to evolving circumstances. Such a programme must enable the generation of specific physical urban landscapes through the transfiguration of situational data according to local conditions. Its design productions will be specific and unrepeatable, even though they have been brought into being by a generic tool that can be applied anywhere.

The paper describes this urban planning and design tool with reference to one version of it, called ArtWeb, which is currently being tested in research at the writer's institution.

*Rod Barnett, Associate Professor of Landscape Architecture; Programme Director, Master of Landscape Architecture, School of Architecture and Landscape Architecture, Unitec New Zealand, Auckland, New Zealand.
Email: rbarnett@unitec.ac.nz*