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A brief position statement**"To what extent are the fundamental spatial concepts that lie behind GIS relevant in design?"**

This is a tricky question, and one that I feel ill-equipped to answer despite working for seven years in a planning school. Pushed for a response, I would probably take refuge in the work that I did with Mike Batty back in the 1990s, a high point of which was the 'Fractal Cities' monograph. Much of this book sets out the superficially different ways in which planned, organic or hybrid cities fill space, and many of my interests at the time focused upon the use of fractals to provide measures of space filling norms that characterise urban development across a range of spatial scales. Statistics pertaining to space filling are now much more widely available than they were, both within and outside of GIS.

Related to this is my interest in evaluation of urban models. Fractal geometry crystallised my interest in the notion (popularised by Mandelbrot) that a fundamental test of any model should draw upon the qualitative notion that it 'looks right,' and that such evaluation was more important than mere numerical comparisons. These considerations are frequently neglected in geographical models, but are nevertheless important at scales ranging from the architectural to the global.

Largely unrelated to this, I also think that the conception and measurement of diversity is pertinent to issues of design—see below.

"To what extent can the fundamental spatial concepts of design be addressed with GIS?"

I would probably again take refuge in the ability of GIS to provide measures of size, scale, shape, dimension and space-filling, to artificial as well as natural structures. Additionally, design is often about planning for diversity, as with issues of homogeneity and heterogeneity of neighbourhood communities. It is an interesting conjecture as to whether communities should be, or can be 'designed,' but it is clear that GIS provides a valuable tool for measuring and monitoring diversity of built structures and residential (and also daily activity pattern) characteristics.

"Is it possible to devise a curriculum designed to develop spatial thinking in both GIS and design?"

My own current interests in this area focus upon ways in which the diversity of communities is conceived, represented and analysed. This introduces a number of GIS related tasks,

including: (a) the creation of new information resources in order to measure diversity; (b) the harnessing of consultative practices to the classification of neighbourhoods; (c) the effective use of GIS to accommodate issues of disclosure control in effective representation; and (d) the use of geoweb 2.0 architectures to build and disseminate neighbourhood classifications. We are in the process of designing teaching and professional development packages to articulate these, as part of the ‘Spatial Literacy in Teaching’ Centre of Excellence in Teaching and Learning at UCL.