Abstract: In his famous metaphor of an ant tracing a complicated trajectory on a beach, Herbert Simon points to the possibility of two alternative representations for the same complex phenomenon: the ant’s convoluted path may be described as complex behavior against a simple background, or as simple behavior against a complex background (or as a little of both, of course). The metaphor also supports the intuition that complexity is largely in the eye of the beholder – a fruitful philosophical position to take, as it encourages the observer to seek the representation that is the most useful for the purpose at hand. However, the ant-on-the-beach scenario falls short in one important respect: it views phenomena as consisting of a system of interest and an environment, whereas in fact every system description also involves a (usually tacit) underlying spatio-temporal framework.

I will discuss the notion of polyplexity as a new way of approaching the study of the most complex of systems, i.e., the systems studied in the social and policy sciences. Polyplexity goes one step further than most conventional approaches to complex systems by taking into account the possibility that the space and time within which a phenomenon enfolds may itself be complex. It suggests that the widely acknowledged greater complexity of the social relative to the natural sciences may be due in part to a more complex underlying spatio-temporal framework. Several examples will be used to illustrate the notion that ‘complexifying’ space-time in appropriate ways can lead to simpler models, more striking visualizations, and generally, better understanding of the phenomena of interest.
Helen Couclelis, Professor of Geography, joined the faculty at UCSB in 1982. Prior to completing a PhD in urban modeling from Cambridge University, she spent several years as a professional planner and policy advisor in Greece. She has held visiting appointments in the Department of Civil Engineering of the University of Waterloo, the Institute of Urban and Regional Development of the University of California at Berkeley, and the Woodrow Wilson School of Princeton University. Dr. Couclelis was Associate Director of the NCGIA from 1993 to 1996 and served on the executive committee of the Center for Spatially Integrated Social Science. She is a co-editor of the journal *Environment and Planning B: Planning and Design* and holds an Honorary Doctorate from Utrecht University, the Netherlands. Her research areas include urban and regional modeling and planning, spatial cognition, geographic information science, and the geography of the information society.

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The objectives of the ThinkSpatial brown-bag presentations are to exchange ideas about spatial perspectives in research and teaching, to broaden communication and cooperation across disciplines among faculty and graduate students, and to encourage the sharing of tools and concepts. Please contact Don Janelle (ext 5267, janelle@spatial.ucsb.edu) to review and schedule possible discussion topics or presentations that share your disciplinary interest in spatial thinking.