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The Unseen Influence of “Place” on Behavior: Implications for Spatial Modeling

Human behavior is notoriously spatially heterogeneous. For instance, any mapping of crime patterns, transportation use, morbidity, etc. will almost certainly exhibit substantial spatial variation. To understand and model such heterogeneity, we try to identify the determinants of human behavior and these fall into two categories: attributes of individuals and attributes of places. However, in so doing, we invariably assume, implicitly, that the observed spatial heterogeneity in behavior can be explained completely by the measured spatial heterogeneity in the determinants of such behavior. In this presentation I pose the question: “What if the **processes** by which individuals make decisions exhibit spatial heterogeneity?” That is, suppose the attributes we use to model behavior are the same in different locations, but the behavior is different? I discuss possible reasons why processes might vary across space and how we can capture such variation through local forms of models. In doing so, I raise the possibility that our current reliance on global models leads us into misleading interpretations about the determinants of human behavior.

A. STEWART FOTHERINGHAM is Krafft Professor of Spatial Data Science in the Department of Geography at Florida State University where he is also Director of the Spatial Data Science Center (SDSC) in the College of Social Sciences and Public Policy. He is a member of the US National Academy of Sciences and of Academia Europaea and a Fellow of the UK’s Academy of Social Sciences. He is also a Fellow of the American Association of Geographers and the University Consortium for Geographic Information Science. He has been awarded over \$15m in research funding, published 12 books and over 250 research papers. He has nearly 50,000 citations and an H-index of 81. In both 2023 and 2025 he was recognized as one of the top 1% most influential scientists in the World by Clarivate (Web of Science). He is a recipient of the Award for Outstanding Achievement by the Modeling Geographical Systems Commission of the International Geographical Union, the Lifetime Achievement Award by the Chinese Professional Association of GIS, and the Distinguished Research Honors Award by the American Association of Geographers. His research interests are in the analysis of spatial data sets using statistical, mathematical and computational methods. He is well-known in the fields of spatial interaction modeling and local statistical analysis and he has substantive interests in health data, crime patterns, retailing and migration.