

CASA0001: Urban Systems Theory

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1

Longley P, Batty M, University College, London. Centre for Advanced Spatial Analysis. Advanced spatial analysis: the CASA book of GIS. Redlands, Calif: ESRI Press 2003.

2

Park RE. Human Ecology. American Journal of Sociology. 1936;42:1–15. doi: 10.1086/217327

3

McKenzie RD. The Ecological Approach to the Study of the Human Community. American Journal of Sociology. 1924;30:287–301. doi: 10.1086/213698

4

Batty M. The Size, Scale, and Shape of Cities. Science. 2008;319:769–71. doi: 10.1126/science.1151419

5

Sheppard E. Thinking Geographically: Globalizing Capitalism and Beyond. Annals of the Association of American Geographers. 2015;105:1113–34. doi: 10.1080/00045608.2015.1064513

6

SOJA EW. THE SOCIO-SPATIAL DIALECTIC. Annals of the Association of American

Geographers. 1980;70:207–25. doi: 10.1111/j.1467-8306.1980.tb01308.x

7

Geyer H, Kontuly T. A Theoretical Foundation for the Concept of Differential Urbanization. *International Regional Science Review*. 1993;15:157–77. doi: 10.1177/016001769301500202

8

Kontuly T, Geyer HS. Lessons Learned from Testing the Differential Urbanisation Model. *Tijdschrift voor Economische en Sociale Geografie*. 2003;94:124–8. doi: 10.1111/1467-9663.00242

9

Brenner N. Theses on Urbanization. *Public Culture*. 2013;25:85–114. doi: 10.1215/08992363-1890477

10

Angel S, Parent J, Civco DL, et al. The dimensions of global urban expansion: Estimates and projections for all countries, 2000–2050. *Progress in Planning*. 2011;75:53–107. doi: 10.1016/j.progress.2011.04.001

11

Espino NA. Chapter 6 (Power and urban segregation) / Chapter 7 (Power and land markets) / Chapter 8 (Segregation and urban economies). *Building the inclusive city: theory and practice for confronting urban segregation*. London: Routledge 2015.

12

Batty M. *Cities and complexity: understanding cities with cellular automata, agent-based models, and fractals*. Cambridge, Mass: MIT Press 2005.

13

Batty M. Cellular Automata and Urban Form: A Primer. *Journal of the American Planning Association*. 1997;63:266–74. doi: 10.1080/01944369708975918

14

Schelling TC. Dynamic models of segregation. *The Journal of Mathematical Sociology*. 1971;1:143–86. doi: 10.1080/0022250X.1971.9989794

15

Pumain D. *Scaling Laws and Urban Systems*. Published Online First: 2004.

16

Cottineau C, Finance O, Hatna E, et al. Defining urban agglomerations to detect agglomeration economies. Published Online First: 2016.

17

Arcaute E, Hatna E, Ferguson P, et al. Constructing cities, deconstructing scaling laws. *Journal of The Royal Society Interface*. 2014;12:20140745–20140745. doi: 10.1098/rsif.2014.0745

18

Hägerstraand T. WHAT ABOUT PEOPLE IN REGIONAL SCIENCE? *Papers in Regional Science*. 2005;24:7–24. doi: 10.1111/j.1435-5597.1970.tb01464.x

19

Sheller M, Urry J. The New Mobilities Paradigm. *Environment and Planning A*. 2006;38:207–26. doi: 10.1068/a37268

20

Coulter R, Ham M van, Findlay AM. Re-thinking residential mobility. *Progress in Human Geography*. 2016;40:352–74. doi: 10.1177/0309132515575417

21

Michael Pacione. Residential mobility and neighbourhood change (chapter 10). Urban geography: a global perspective. London: Routledge 2009.

22

Batty M. Generating cities from the bottom-up: Using complexity theory for effective design. 2008.

23

Burrows R, Gane N. Geodemographics, Software and Class. Sociology. 2006;40:793-812. doi: 10.1177/0038038506067507

24

Ethnographic Evidence, Heterogeneity, and Neighbourhood Effects After Moving to Opportunity. Neighbourhood effects research: new perspectives. Dordrecht: Springer 2012.

25

Harvey, D. FROM MANAGERIALISM TO ENTREPRENEURIALISM - THE TRANSFORMATION IN URBAN GOVERNANCE IN LATE CAPITALISM. Geografiska Annaler Series B-Human Geography. ;71:3-17.

26

Campbell SD. The Planner's Triangle Revisited: Sustainability and the Evolution of a Planning Ideal That Can't Stand Still. Journal of the American Planning Association. 2016;82:388-97. doi: 10.1080/01944363.2016.1214080

27

Giddens A. The Constitution of Society: Outline of the Theory of Structuration. Hoboken: Wiley 2013.

28

Carlstein T, Parkes D, Thrift NJ. 9 A time-geographic simulation model of individual activity programmes. *Timing space and spacing time: Vol.2: Human activity and time geography*. London: Edward Arnold :163–80.

29

T H. 7 Survival and Arena. *Timing space and spacing time: Vol.2: Human activity and time geography*. London: Edward Arnold :122–45.

30

Domencich TA, McFadden D. *Urban travel demand: a behavioral analysis*. Amsterdam: North-Holland Publishing Co. [etc.] 1975.

31

Oppenheim N. *Urban travel demand modeling: from individual choices to general equilibrium*. New York: Wiley 1995.

32

Castells M. *The rise of the network society*. 2nd ed., with a new pref. Chichester: Wiley-Blackwell 2010.

33

Urry J. Social networks, mobile lives and social inequalities. *Journal of Transport Geography* . 2012;21:24–30. doi: 10.1016/j.jtrangeo.2011.10.003

34

Urry J. *Mobilities*. Cambridge: Polity 2007.

35

Batty M. The new science of cities. Cambridge, Mass: MIT Press 2013.

36

Jiang, Bin Prof, Xiaobai Yao. Geospatial analysis and modelling of urban structure and dynamics. Dordrecht: Springer 2010.

37

Batty M, Longley P. Fractal cities: a geometry of form and function. London: Academic Press 1994.

38

Maguire DJ, Batty M, Goodchild MF. GIS, spatial analysis, and modeling. Redlands, Calif: ESRI Press 2005.

39

Mandelbrot B. How Long Is the Coast of Britain? Statistical Self-Similarity and Fractional Dimension. Science. 1967;156:636-8. doi: 10.1126/science.156.3775.636

40

Savage M, Bagnall G, Longhurst B. Globalization and belonging. London: SAGE 2005.

41

Harris R, Sleight P, Webber R. Geodemographics, GIS, and neighbourhood targeting. Chichester: Wiley 2005.

42

Parker S, Uprichard E, Burrows R. Class Places and Place Classes: Geodemographics and the spatialization of class. Information, Communication & Society. 2007;10:902-21. doi: 10.1080/13691180701751122

43

Bourdieu, Pierre. What Makes a Social Class? On The Theoretical and Practical Existence Of Groups. *Berkeley Journal of Sociology*. ;32:1–17.

44

Castells M. The informational city: information technology, economic restructuring, and the urban-regional process. Oxford: Blackwell 1989.

45

Sassen S. The global city: New York, London, Tokyo. 2nd ed. Princeton, NJ: Princeton University Press 1991.

46

Harvey D, Harvey D, Harvey D. The urban experience. Baltimore: Johns Hopkins University Press 1989.

47

Graham S, Marvin S. Splintering urbanism: networked infrastructures, technological mobilities and the urban condition. London: Routledge 2001.

48

Bourdieu P. Practical reason: on the theory of action. London: Polity Press 1998.

49

Ham M van. Neighbourhood effects research: new perspectives. Dordrecht: Springer 2012.

50

SpringerLink (Online service). Understanding Neighbourhood Dynamics: New Insights for Neighbourhood Effects Research. Dordrecht: Springer Netherlands 2013.

51

Krieger N. Embodiment: a conceptual glossary for epidemiology. *Journal of Epidemiology & Community Health*. 2005;59:350–5. doi: 10.1136/jech.2004.024562

52

Brunner E, Marmot M. Social organization, stress, and health. In: Marmot M, Wilkinson R, eds. *Social Determinants of Health*. Oxford University Press 2005:6–30.

53

Hidden Cities, Unmasking and Overcoming Health Inequities in Urban Settings. 2010.

54

Improving urban health equity through action on the social and environmental determinants of health. 2010.

55

Wilson WJ. *The truly disadvantaged: the inner city, the underclass, and public policy*. Chicago: University of Chicago Press 1987.

56

Florida R. Cities and the Creative Class. *City and Community*. 2003;2:3–19. doi: 10.1111/1540-6040.00034

57

UN Habitat. *The New Urban Agenda - Habitat III*. 2017.

58

United Nations Sustainable Development. *Agenda 21*. 1992.

59

Transforming our world: The 2030 agenda for sustainable development. 2015.

60

Jenks M, Burton E, Williams K. The compact city: a sustainable urban form? London: E & FN Spon 1996.

61

Jabareen YR. Sustainable Urban Forms. Journal of Planning Education and Research. 2006;26:38-52. doi: 10.1177/0739456X05285119

62

Kenworthy JR. The eco-city: ten key transport and planning dimensions for sustainable city development. Environment and Urbanization. 2006;18:67-85. doi: 10.1177/0956247806063947

63

Florida RL. The new urban crisis: how our cities are increasing inequality, deepening segregation, and failing the middle class-- and what we can do about it. New York: Basic Books 2017.

64

Pratt AC. The cultural contradictions of the creative city. City, Culture and Society. 2011;2:123-30. doi: 10.1016/j.ccs.2011.08.002

65

Ward K. Entrepreneurial Urbanism, Policy Tourism, and the Making Mobile of Policies. In: Bridge G, Watson S, eds. The New Blackwell Companion to the City. Oxford, UK: Wiley-Blackwell 2011:726-37.

66

Relph EC. Place and placelessness. London: Pion 1976.

67

Steadman P. Von Thunen Model.

<http://www.complexcity.info/media/software/von-thunens-model/>

68

Batty M, Axhausen KW, Giannotti F, et al. Smart cities of the future. The European Physical Journal Special Topics. 2012;214:481–518. doi: 10.1140/epjst/e2012-01703-3

69

Batty M. Cities as Complex Systems: Scaling, Interaction, Networks, Dynamics and Urban Morphologies. In: Meyers RA, ed. Encyclopedia of Complexity and Systems Science. New York, NY: Springer New York 2009:1041–71.

70

BERRY BJL. CITIES AS SYSTEMS WITHIN SYSTEMS OF CITIES. Papers of the Regional Science Association. 1964;13:147–63. doi: 10.1111/j.1435-5597.1964.tb01283.x

71

Newman MEJ. Resource Letter CS–1: Complex Systems. American Journal of Physics. 2011;79:800–10. doi: 10.1119/1.3590372

72

Michael Batty. Mike Batty's Lectures on Models, Complexity, and Smart Cities at various places. <http://www.spatialcomplexity.info/>

73

Complexity Explorer: Santa Fe Institute. <http://www.complexityexplorer.org/>

74

Weaver W. Science and Complexity. *American Scientist*. 1948;36:536-44.

75

Rees PH. The Factorial Ecology of Calcutta. *American Journal of Sociology*. 1969;74:445-91. doi: 10.1086/224681

76

Engels F, Kiernan VG. The condition of the working class in England. Harmondsworth: Penguin 1987.

77

Doreen Massey. 2 New Directions in Space. In: Gregory D, Urry J, eds. *Social relations and spatial structures*. New York: St. Martin's Press 1985.

78

Massey DB. *Spatial divisions of labour: social structures and the geography of production*. London: Macmillan 1984.

79

Simmel G. *The metropolis and mental life*. 1971.

80

Wirth L. Urbanism as a way of life. *American Journal of Sociology*. 1938;44:24-44.

81

Burgess E. *The Growth of the City: An Introduction to a Research Project*. The city. Chicago: Chicago University Press 1967.

82

Bourne LS. Reinventing the suburbs: Old myths and new realities. *Progress in Planning*. 1996;46:163–84. doi: 10.1016/0305-9006(96)88868-4

83

Kasarda JD, Crenshaw EM. Third World Urbanization: Dimensions, Theories, and Determinants. *Annual Review of Sociology*. 1991;17:467–501. doi: 10.1146/annurev.so.17.080191.002343

84

Coulter R, Ham M van, Findlay AM. Re-thinking residential mobility. *Progress in Human Geography*. 2016;40:352–74. doi: 10.1177/0309132515575417

85

Hamnett C. Social Polarisation in Global Cities: Theory and Evidence. *Urban Studies*. 1994;31:401–24. doi: 10.1080/00420989420080401

86

David Harvey. Chapter 4 of *The urban experience (Theory of residential differentiation)*. *The urban experience*. Baltimore: Johns Hopkins University Press 1989.

87

Rees P, Bell M, Kupiszewski M, et al. The Impact of Internal Migration on Population Redistribution: an International Comparison. *Population, Space and Place*. 2017;23. doi: 10.1002/psp.2036

88

Sassen S. *The global city: New York, London, Tokyo*. 2nd ed. Princeton, N.J.: Princeton UP 2001.

89

United Nations, Department of Economic and Social Affairs. World Urbanization Prospects: The 2018 Revision, Highlights. 2018.

90

Lambooy JG. Economies of agglomeration and spatial development: Cities in the era of the knowledge economy. 1998.

91

Alonso W. Location and land use: toward a general theory of land rent. Cambridge, Mass: Harvard University Press 1964.

92

Alonso W. Location and land use: toward a general theory of land rent. Cambridge, Mass: Harvard University Press 1964.

93

Anas A, Alex Anas, Richard Arnott and Kenneth A. Small R, Alex Anas, Richard Arnott and Kenneth A. Small AA Richard Arnott and Kenneth A Small. Urban spatial structure. Journal of Economic Literature. 1998;36:1426-64.

94

Glaeser EL. Triumph of the city. London: Macmillan 2011.

95

Jacobs J. The death and life of great American cities. Harmondsworth: Penguin 1972.

96

Jacobs J. The economy of cities. Harmondsworth: Penguin Books 1972.

97

Mirowski P. More Heat than Light: Economics as Social Physics, Physics as Nature's Economics. Cambridge: Cambridge University Press 1989.

98

Robin Morphet. Von Thunen's Legendre Transform. 2013.

99

Alan Wilson. Chapter 1. Complex spatial systems: the modelling foundations of urban and regional analysis. Harlow: Pearson Education 2000.

100

Zia RKP, Redish EF, McKay SR. Making sense of the Legendre transform. American Journal of Physics. 2009;77:614-22. doi: 10.1119/1.3119512

101

Fujita M, Thisse JF. Economics of Agglomeration: Cities, Industrial Location, and Globalization. 2nd ed. Cambridge: Cambridge University Press 2013.

102

West GB. A General Model for the Origin of Allometric Scaling Laws in Biology. Science. 1997;276:122-6. doi: 10.1126/science.276.5309.122

103

Bettencourt LMA, Lobo J, Helbing D, et al. Growth, innovation, scaling, and the pace of life in cities. Proceedings of the National Academy of Sciences. 2007;104:7301-6. doi: 10.1073/pnas.0610172104

104

Bettencourt LMA. The Origins of Scaling in Cities. *Science*. 2013;340:1438–41. doi: 10.1126/science.1235823

105

Rohilla Shalizi C. Scaling and Hierarchy in Urban Economies. Published Online First: 2011.

106

Leitão JC, Miotto JM, Gerlach M, et al. Is this scaling nonlinear? *Royal Society Open Science*. 2016;3. doi: 10.1098/rsos.150649

107

Pisarenko VF, Sornette D. Robust statistical tests of Dragon-Kings beyond power law distributions. *The European Physical Journal Special Topics*. 2012;205:95–115. doi: 10.1140/epjst/e2012-01564-8

108

Clauset A, Shalizi CR, Newman MEJ. Power-Law Distributions in Empirical Data. *SIAM Review*. 2009;51:661–703. doi: 10.1137/070710111

109

Newman MEJ. Power laws, Pareto distributions and Zipf's law. *Contemporary Physics*. 2005;46:323–51. doi: 10.1080/00107510500052444

110

Eeckhout J. Gibrat's Law for (All) Cities. *American Economic Review*. 2004;94:1429–51. doi: 10.1257/0002828043052303

111

Cristelli M, Batty M, Pietronero L. There is More than a Power Law in Zipf. *Scientific Reports*. 2012;2. doi: 10.1038/srep00812

112

Gabaix X. Zipf's Law for Cities: An Explanation. *The Quarterly Journal of Economics*. 1999;114:739–67. doi: 10.1162/003355399556133

113

Gabaix X. Zipf's Law and the Growth of Cities. *American Economic Review*. 1999;89:129–32. doi: 10.1257/aer.89.2.129

114

Stumpf MPH, Porter MA. Critical Truths About Power Laws. *Science*. 2012;335:665–6. doi: 10.1126/science.1216142

115

Fotheringham AS, Crespo R, Yao J. Exploring, modelling and predicting spatiotemporal variations in house prices. *The Annals of Regional Science*. 2015;54:417–36. doi: 10.1007/s00168-015-0660-6

116

Harvey D, American Council of Learned Societies. *Rebel cities: from the right to the city to the urban revolution*. Paperback ed. London: Verso 2013.

117

De Landa M. *A new philosophy of society: assemblage theory and social complexity*. London: Continuum 2006.

118

McFarlane C. The City as Assemblage: Dwelling and Urban Space. *Environment and Planning D: Society and Space*. 2011;29:649–71. doi: 10.1068/d4710

119

King LJ. Central place theory. Beverly Hills, Calif: Sage Publications 1984.

120

Tuan Y. Space and place: the perspective of experience. Minneapolis: University of Minnesota Press 1977.

121

Lynch K. The image of the city. Cambridge, Mass: MIT Press 1960.

122

Weber M. Basic concepts in sociology. Secaucus, N.J.: Citadel 1962.

123

Lefebvre H. The production of space. Oxford: Blackwell 1991.

124

Longley P. Geographic information science & systems. Fourth edition. Hoboken, NJ: John Wiley & Sons 2015.

125

McDowell L. Space, place and gender relations: Part I. Feminist empiricism and the geography of social relations. *Progress in Human Geography*. 1993;17:157–79. doi: 10.1177/030913259301700202

126

Enright T. The political topology of urban uprisings. *Urban Geography*. 2017;38:557–77. doi: 10.1080/02723638.2016.1168568

127

Engels, Frederick 1820-1895, Marx, Karl Heinrich 1818-1883. Karl Marx, Frederick Engels: Collected Works, vol. 35, Karl Marx: Capital, vol. 1. New York, NY: International Publishers 1996.

128

Geyer NP. Counterurbanization in South Africa: Measuring migration significance. *Regional Science Policy & Practice*. 2018;10:3–14. doi: 10.1111/rsp3.12105

129

Garreau J. *Edge city: life on the new frontier*. New York: Anchor Books 1992.

130

Brenner N, Schmid C. The 'Urban Age' in Question. *International Journal of Urban and Regional Research*. 2014;38:731–55. doi: 10.1111/1468-2427.12115

131

Robinson J. Cities in a World of Cities: The Comparative Gesture. *International Journal of Urban and Regional Research*. 2011;35:1–23. doi: 10.1111/j.1468-2427.2010.00982.x

132

Robinson J. Comparative Urbanism: New Geographies and Cultures of Theorizing the Urban. *International Journal of Urban and Regional Research*. 2016;40:187–99. doi: 10.1111/1468-2427.12273

133

Harvey D. Cities or urbanization? *City*. 1996;1:38–61. doi: 10.1080/13604819608900022

134

Pooley CG, Turnbull J, Adams M. A mobile century?: changes in everyday mobility in Britain in the twentieth century. Aldershot: Ashgate 2005.

135

van Ham, M. Intergenerational transmission of neighbourhood poverty: an analysis of neighbourhood histories of individuals. Transactions of the Institute of British Geographers. Published Online First: 2013.

136

Guy L, Wen L. 1. Consumer Registers as Spatial Data Infrastructure and their Use in Migration and Residential Mobility Research. Consumer data research. 2018;14-27.

137

Inclusive and Healthy Mobility: Understanding Trends in Concessionary Travel in the West Midlands. <https://www.cdrc.ac.uk/research/healthymobility/>

138

Kwan M. Gis methods in time-geographic research: geocomputation and geovisualization of human activity patterns. Geografiska Annaler: Series B, Human Geography. 2004;86:267-80. doi: 10.1111/j.0435-3684.2004.00167.x

139

Longley PA, Adnan M. Geo-temporal Twitter demographics. International Journal of Geographical Information Science. 2016;30:369-89. doi: 10.1080/13658816.2015.1089441

140

Paul A L, Alexander S. The London Output Area Classification (LOAC). 2016.

141

DCLG (Department for Communities and Local Government). The English Indices of

Deprivation 2015: Technical report. 2015.

142

Charles Booth's London. <https://booth.lse.ac.uk/>

143

Booth C, Booth C, Macmillan & Co. Life and labour of the people in London. London: Macmillan and Co 1892.

144

Oka M, Wong DWS. Capturing the Two Dimensions of Residential Segregation at the Neighborhood Level for Health Research. *Frontiers in Public Health*. 2014;2. doi: 10.3389/fpubh.2014.00118

145

Massey, D. The dimensions of residential segregation. *Social Forces*. ;67:281–315.

146

Poulsen M, Johnston R, Forrest J. Using local statistics and neighbourhood classifications to portray ethnic residential segregation: a London example. *Environment and Planning B: Planning and Design*. 2011;38:636–58. doi: 10.1068/b36094

147

Harris R, Johnston R. Measuring and modelling segregation – New concepts, new methods and new data. *Environment and Planning B: Urban Analytics and City Science*. 2018;45:999–1002. doi: 10.1177/2399808318808889

148

Lan T, Kandt J, Longley PA. The Changing Pattern of Ethnic Segregation in Great Britain.

149

Kandt J. Social practice, plural lifestyles and health inequalities in the United Kingdom. *Sociology of Health & Illness*. 2018;40:1294–311. doi: 10.1111/1467-9566.12780

150

Kandt J, Chang S-S, Yip P, et al. The spatial pattern of premature mortality in Hong Kong: How does it relate to public housing? *Urban Studies*. 2017;54:1211–34. doi: 10.1177/0042098015620341

151

Auchincloss AH, Diez Roux AV. A New Tool for Epidemiology: The Usefulness of Dynamic-Agent Models in Understanding Place Effects on Health. *American Journal of Epidemiology*. 2008;168:1–8. doi: 10.1093/aje/kwn118

152

Auchincloss AH, Garcia LMT. Brief introductory guide to agent-based modeling and an illustration from urban health research. *Cadernos de Saúde Pública*. 2015;31:65–78. doi: 10.1590/0102-311X00051615

153

Harland, K. Creating realistic synthetic populations at varying spatial scales: A comparative critique of population synthesis techniques. (2012) Creating realistic synthetic populations at varying spatial scales: A comparative critique of population synthesis techniques *Journal of Artificial Societies and Social Simulation*. Published Online First: 2012.

154

State of European Cities Report: Adding value to the European Urban Audit. 2007.

155

Bryant CGA. *Positivism in social theory and research*. New York: St. Martin's Press 1985.

156

Ley D, Samuels MS. Humanistic geography. London: Croom Helm 1978.

157

Murdoch J. Post-structuralist geography: a guide to relational space. London: SAGE 2006.

158

Johnston RJ. Philosophy and human geography: an introduction to contemporary approaches. 2nd ed. London: Edward Arnold 1986.

159

Harvey D. Explanation in geography. London: Edward Arnold 1969.

160

Carlstein T, Parkes D, Thrift NJ. Timing space and spacing time: Vol.2: Human activity and time geography. London: Edward Arnold .

161

Pacione M. Urban geography: a global perspective. 3rd ed. London: Routledge 2009.

162

Knox PL, Pinch S. Urban social geography: an introduction. 6th ed. Harlow: Prentice Hall 2010.

163

Paddison R. Handbook of urban studies. London: SAGE 2001.

164

Urban Geography. Routledge 2011.

165

Hall S, Burdett R, editors. The Sage handbook of the 21st century city. 1st edition. Thousand Oaks, CA: SAGE Publications Inc 2017.

166

Espino NA. Building the inclusive city: theory and practice for confronting urban segregation. London: Routledge, Taylor & Francis Group 2015.

167

Byrne DS. Complexity theory and the social sciences: an introduction. London: Routledge 1998.

168

Reardon, Sean. Measures of Spatial Segregation. Sociological Methodology. ;34:121-62.

169

Agent-Based Modelling in Population Studies. Springer 2017.

170

Hall P, Tewdwr-Jones M. Urban and regional planning. 5th ed. London: Routledge 2011.

171

Hall P, Pfeiffer U. Urban future 21: a global agenda for twenty-first century cities. London: Spon Press 2000.