Bibliography

[1] Ackley, D. and Littman, M. (1994). Altruism in the Evolution of Communication. In Brooks, R. and Maes, P. , eds., *Artificial Life IV: Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems.* The MIT Press, Cambridge, MA.

[2] Allison, P. (1992). The cultural evolution of beneficent norms. *Social Forces*, 71(2):279-301.

[3] Armstrong, A. & Durfee, E. (1998). Mixing and Memory: Emergent Computation in an Information Marketplace. In *The Preceedings of the 3rd International Conference in Multi-Agent Systems (ICMAS'98).* IEEE Computer Society Press, Los Alamitos, CA.

[4] Aunger, R. (1999). A Report on the Conference "Do Memes Account For Culture". *Journal of Memetics - Evolutionary Models of Information Transmission (JoM-EMIT),* vol. 3, no. 2: <http://www.cpm.mmu.ac.uk/jom-emit/1999/vol3/cambridge_conference.html>

[5] Axelrod, R. (1980). *The Evolution of Cooperation.* Basic Books, New York.

[6] Axelrod, R. and Hamilton, W. D. (1981). The Evolution of Co-operation. *Science* 211, pages 1390-1396.

[7] Axelrod, R. (1995). The Convergence and Stability of Cultures: Local Convergence and Global Polarization. *SFI Working Paper 95-03-028.* Santa Fe Institute, Santa Fe, N.M.

[8] Axelrod, R. (1995). A Model of the Emergence of New Political Actors. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life.* UCL Press, London.

[9] Axelrod, R. (1997). Advancing the Art of Simulation in the Social Sciences. In Conte. R., Hegselmann. R. and Terna, P., eds., *Simulating Social Phenomena - LNEMS 456.* Springer-Verlag, Berlin.

[10] Batali, J. and Kitcher, P. (1994). Evolutionary Dynamics of Altruistic Behaviour in Optional and Compulsory Versions of the Iterated Prisoner's Dilemma. In Brooks, R. and Maes, P., eds., *Artificial Life IV: Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems.* The MIT Press, Cambridge MA.

[11] Belding, T. (1996). *Drone 1.01 User's Guide.* The CAR Group, University of Michigan Program for the Study of Complex Systems, University of Michigan. Availible at <http://www.pscs.umich.edu/Software/Drone/doc/drone.html>.

[12] Best, M. (1997). Models for Interacting Populations of Memes: Competition and Niche Behaviour. In Husbands, P. and Harvey, I., eds., *The Fourth European Conference on Artificial Life.* The MIT Press, Cambridge MA.

[13] Binmore, K. (1994). *Game Theory and the Social Contract Volume 1: Playing Fair.* The MIT Press, Cambridge, MA.

[14] Binmore, K. (1998). *Game Theory and the Social Contract Volume 2: Just Playing.* The MIT Press, Cambridge, MA.

[15] Blackmore, S. (1999). *The Meme Machine.* Oxford University Press, Oxford.

[16] Bonner, J.T. (1980). *The Evolution of Culture in Animals.* Princeton University Press, New Jersey.

[17] Bordini, R.H. (1999). *Contributions to and Anthropoplogical Approach to the Cultural Adaptation of Migrant Agents.* Unpublished PhD thesis, University College London, London, UK. Available at <http://www.inf.ufrgs.br/~bordini/PhDThesis.html>

[18] Bowles, S. and Gintis, H. (2000). Optimal Parochialism: The Dynamics of Trust and Exclusion in Networks. *SFI Working Paper 00-03-017.* Santa Fe Institute, Santa Fe, N.M. Available at <http://www.santafe.edu/sfi/publications/>

[19] Boyd, R. and Richerson, P. (1985). *Culture and the Evolutionary Process.* University of Chicago Press, Chicago.

[20] Briggs, W. and Cook, D. (1995). Flexible Social Laws. In *The Proceedings of the 1995 International Joint Conference on Artificial Intelligence (IJCAI95).* Kaufmamm, California.

[21] Bura, S. (1994). MINIMEME: Of Life and Death in the Noosphere. In Mayer, J. and Wilson, S., eds., *From Animals to Animats 3: Proceedings of the 3rd International Conference on Simulation of Adaptive Behaviour (SAB94)*, Bradford Books, London.

[22] Castelfranchi, C. and Conte, R. (1996). Distributed Artificial Intelligence and Social Science: Critical Issues. In O'Hare, G. and Jennings, N., eds., *Foundations of Distributed Artificial Intelligence*. Wiley, New York.

[23] Cavalli-Sforza, L. and Fledman, M. (1981). *Cultural Transmission and Evolution: A Quantitative Approach*. Princeton University Press, Princeton.

[24] Cecconi, F. and Parisi, D. (1998). Individual versus social survival strategies. In *Journal of Artificial Societies and Social Simulation* vol. 1, no. 2, <http://www.soc.surrey.ac.uk/JASSS/1/2/1.html>

[25] Cesta, A. et al. (1996). Effects of Different Interaction Attitudes on a Multi-Agent System Performance. In Van de Velde and Perram, eds., *Agents Breaking Away: Proceedings of the 7th European Workshop on Modelling Autonomous Agents in a Multi-Agent World (MAAMAW96)*. Springer-Verlag, Berlin.

[26] Chanon, A. and Damper, R. (1998). The Evolutionary Emergence of Socially Intelligent Agents. Presented at the *SAB'98 workshop on Socially Situated Intelligence*. Centre for Policy Modelling Discussion Paper CPM-98-41, Manchester Metropolitan University, Manchester, UK. Available at <http://www.cpm.mmu.ac.uk/cpmrep42.html>

[27] Chattoe, E. (1996). What Are We Simulating Anyway? Some Answers from Economics. In Troitzsch, K., Mueller, U., Gilbert, N., eds., *Social Science Microsimulation*. Springer-Verlag, Berlin.

[28] Cohen, F. (1987). Computer Viruses: Theories and Experiments. *Computers and Security* 6(1):22-35.

[29] Cohen, M., Riolo, L., Axelrod, R. (1999). The Emergence of Social Organization in the Prinsoner's Dilemma: How Context-Preservation and other Factors Promote Cooperation. *SFI Working Paper 99-01-002.* Santa Fe Institute, Santa Fe, N.M. Available at <http://www.santafe.edu/sfi/publications/>

[30] Conte, R. and Castelfranchi, C. (1994). Mind Is Not Enough: The Precognitive Bases of Social Interaction. In Gilbert, N. and Doran, J., eds., *Simulating Societies: the Computer Simulation of Social Phenomena.* UCL Press, London.

[31] Conte, R. and Castelfranchi, C. (1995). Understanding the Functions of Norms in Social Groups Through Simulation. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life.* UCL Press, London.

[32] Conte, R. and Castelfranchi, C. (1995). *Cognitive and Social Action.* UCL Press, London.

[33] Danielson, P. (1997). How to Evolve Irrational Preferences. Discussion paper for *The Colloquium on Philosophical Perspectives on Irrationality, University of Montreal, 10-12 Oct. 1997.* Availible at http://www.ethics.ubc.ca/pad/

[34] Davis, L. (1991). *Handbook of Genetic Algorithms.* Van Nostrand Reinhold, New York.

[35] Dawkins, R. (1976). *The Selfish Gene.* Oxford University Press, Oxford.

[36] Dawkins, R. (1982). *The Extended Phenotype.* Freeman, Oxford.

[37] Dawkins, R. (1993). Viruses of the Mind. In Dahlbom, B., ed., *Dennett and His Critics.* Blackwell, Cambridge.

[38] Dennett, D. (1987). *The Intentional Stance.* The MIT Press, Cambridge MA.

[39] Dennett, D. (1993). *Consciousness Explained.* Penguin, London.

[40] Dennett, D. (1995). *Darwin's Dangerous Idea.* Simon & Schuster, New York.

[41] Di Paolo, E. (1997). Social Co-ordination and Spatial Organization: Steps Towards The Evolution of Communication. In Husbands, P. & Harvey, I., eds., *The Fourth European Conference on Artificial Life.* The MIT Press, Cambridge MA.

[42] Doran, J. and Palmer, M. (1995). The EOS Project: Integrating Two Models of Palaeolithic Social Change. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life.* UCL Press, London.

[43] Doran, J. (1996). From Computer Simulation to Artificial Societies. *Transactions SCS*, 14(2):69-77.

[44] Doran, J. (1997). Foreknowledge in Artificial Societies. In Conte, R., Hegselmann, R. and Terna, P., eds., *Simulating Social Phenomena - LNEMS 456.* Springer-Verlag, Berlin.

[45] Doran, J., Franklin, S., Jennings, N., and Norman, T. (1997). On co-operation in Multi-agent Systems. *Knowledge Engineering Review*, 12(3).

[46] Doran, J. (1998). Simulating Collective Misbelief. *Journal of Artificial Societies and Social Simulation* vol. 1 no. 1, <www.soc.surrey.ac.uk/JASSS/1/1/3.html>

[47] Doran, J. (1998). Social Simulation, Agents and Artificial Societies (Extended Abstract of Invited Address). In *Proceedings of the 3rd International Conference on Multi-Agent Systems (ICMAS'98).* IEEE Computer Society. California,

[48] Doran, J., Palmer, M., Gilbert, N., and Mellars, P. (1994). The EOS Project: Mod-

elling Upper Palaeolithic Social Change. In Gilbert, N. and Doran, J., eds., *Simulating Societies: the Computer Simulation of Social Phenomena.* UCL Press, London.

[49] Doran, J. (2000). Questions in the Methodology of Artificial Societies. In Suleiman, R., Troitsch, K., and Gilbert, N., eds., *Tools and Techniques for Social Science Simulation.* Physica-Verlag, Heidelberg.

[50] du Preez, P. (1996). The Evolution of Altruism: A Brief Comment on Stern's "Why Do People Sacrifice for Their Nations? *Political Psychology*, 17(3).

[51] Edmonds, B. and Dautenhahn, K. (1998). The Contribution of Society to the Construction of Individual Intelligence. Presented at the *SAB'98 workshop on Socially Situated Intelligence.* Centre for Policy Modelling Discussion Paper CPM-98-42, Manchester Metropolitan University, Manchester, UK. Available from <http://www.cpm.mmu.ac.uk/cpmrep42.html>

[52] Epstein, J. & Axtell, R. (1996). *Growing Artificial Societies: Social Science from the Bottom Up.* The MIT Press, Cambridge MA.

[53] Evers, J. (1998). Selection According to the Memetic Application of Hamilton's Rule. In *Proceedings of the 15th International Congress on Cybernetics.* The International Association for Cybernetics (IAC), Belgium, Namur.

[54] Everitt, B. (1974). *Cluster Analysis.* Heinemann, London.

[55] Feldman, M. et al (1989). On the Theory of Evolution under Genetic and Cultural Transmission, with Application to the Lactose Absorption Problem. In Feldman, M., ed., *Mathematical Evolutionary Theory,*. Princeton University Press, Princeton.

[56] French, R. and Messinger, A. (1994). Genes, Phenes and the Baldwin Effect: Learning and Evolution in a Simulated Population. In Brooks, R. & Maes, P., eds., *Artificial Life IV: Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*. The MIT Press, Cambridge MA.

[57] Gabora, L. (1995). Meme and Variations: A Computational Model of Cultural Evolution. In *The 1993 Lectures in Complex Systems*. Addison-Wesley, London.

[58] Gabora, L. (1997). The Origin and Evolution of Culture and Creativity. *Journal Of Memetics - Evolutionary Models of Information Transmission*, vol.1, no.1, <http://www.cpm.mmu.ac.uk/jom-emit/vol1/gabora_1.html>

[59] Gibbons, R. (1992). *A Primer In Game Theory*. Harvester, New York.

[60] Gilbert, N and Doran, J, eds. (1994). *Simulating Societies: the Computer Simulation of Social Phenomena*. UCL Press, London.

[61] Gilbert, N. (1995). Emergence in Social Simulation. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life*. UCL Press, London

[62] Gilbert, N. (1997). A Simulation of the Structure of Academic Science. *Sociological Research On-Line*, vol. 2, no. 2, <www.socresonline.org.uk/socresonline/2/2/3.html>

[63] Gilbert N. and Conte R. (Eds.) (1995), Artificial Societies: the Computer Simulation of Social Life, UCL Press, London.

[64] Gilbert, N. and Troitzsch, K. (1999). *Simulation for the Social Scientist*. Open University Press, Milton Keynes.

[65] Glance, N. S. and Hogg, T. (1995). Dilemmas in Computational Societies. In Lesser, V., ed., *The Proceedings of the First International Confer-*

ence on Multi-Agent Systems. AAAI Press Menlo Park, CA. Available from <ftp://parcftp.xerox.com/pub/dynamics>

[66] Gould, S. J. (1990). *Wonderful Life*. Hutchinson Radius, London.

[67] Hegselmann, R. (1996). Understanding Social Dynamics: The Cellular Automata Approach. In Troitzsch, K., Mueller, U. and Gilbert, N., eds., *Social Science Microsimulation*. Springer-Verlag, Berlin.

[68] Hales, D. (1997). Modelling Meta-Memes. In Conte, R., Hegselmann, R. and Terna, P., eds., *Simulating Social Phenomena - LNEMS 456*. Springer-Verlag, Berlin.

[69] Hales, D. (1998). Artificial Societies, Theory Building and 'Ceduction'. Presented at the CRESS (Centre for Research on Simulation in the Social Sciences) workshop: "The Potential of Computer Simulation in the Social Sciences", January 1998. University of Surrey, UK.

[70] Hales, D. (1998). Selfish Memes and Selfless Agents - Altruism in the Swap Shop. Extended abstract in *Proceedings of the 3rd International Conference on Multi-Agent Systems (ICMAS'98)*. IEEE Computer Society, California.

[71] Hales, D. (1998). Stereotyping, Groups and Cultural Evolution: A Case of 'Second Order Emergence?'. In Sichman, J., Conte, R., & Gilbert, N., eds., *Multi-Agent Systems and Agent-Based Simulation. Lecture Notes in Artificial Intellignece 1534*. Springer-Verlag. Berlin.

[72] Hales D. (1998). Report on the Panel Discussion from the 1st Symposium on Memetics. *Journal of Memetics - Evolutionary Models of Information Transmission* vol. 2, no. 3, <http://www.cpm.mmu.ac.uk/jom-emit/1998/vol2/panel_discussion.html>

[73] Hales, D. (1998). An Open Mind is Not an Empty Mind - Experiments in the Meta-Noosphere. *Journal of Artificial Societies and Social Simulation (JASSS)* vol. 1, no. 4, <http://www.soc.surrey.ac.uk/JASSS/1/4/2.html>

[74] Hales, D. (1998). Artificial Societies, Theory Building and Memetics. In *The Proceedings of the 15th International Conference on Cybernetics*. International Association for Cybernetics (IAC), Belgium, Namur.

[75] Hales, D. (1998). Viruses Can Be Good Guys Too - May I Infect You? Invited talk, presented at the UCL AI seminar series, September 1998, University College London, UK.

[76] Hales, D. (1999). Belief Has Utility - An Intentional Stance. *Journal of Memetics - Evolutionary Models of Information Transmission (JoM-EMIT)* vol. 3, no. 1., <http://www.cpm.mmu.ac.uk/jom-emit/1999/vol3/hales_d.html>

[77] Hales, D. (forthcoming). Memetic Engineering and Culture Evolution. In *the UNESCO Encyclopedia of Life Support Systems (EOLSS)* as an article under the topic of Agent-Based Genetic and Emergent Computational Models of Complex Systems. EOLSS Publishers Co. Ltd. London.

[78] Halpin, B. (1999). Simulation in Sociology. *American Behavioral Scientist*, 42(10).

[79] Hamilton, W. (1972). Altrusim and Related Phenomena, Mainly in Social Insects. *Annual Review of Ecology and Systemics,* 3:193-232.

[80] Hardin, G. (1968). The tragedy of the commons. Science, 162:1243-1248.

[81] Hare, M. (1999). *Weaver: A hybrid artificial intelligence laboratory for modelling*

complex, knowledge- and data-poor domains. Unpublished PhD thesis, University of Aberdeen.

[82] Hemelrijk, C. (1997). Co-operation WIthout Genes, Games Or Cognition. In Husbands, P. & Harvey, I., eds., *The Fourth European Conference on Artificial Life*. The MIT Press, Cambridge MA.

[83] Heylighen, F. and Campbell, D. (1995). Selection of Organization at the Social Level: Obstacles and Facilitators of Metasystem Transitions. *Journal of General Evolution*: Special Issue on "The Quantum of Evolution: Toward a Theory of Metasystem Transitions". Available at <ftp://ftp.vub.ac.be/pub/projects/Principia_Cybernetica/WF-issue/Social_MST.txt>

[84] Hoffmann, R. and Waring, N. (1996). The Localisation of Interaction and Learning in the Repeated Prisoner's Dilemma. *SFI Working Paper 96-08-064*. Santa Fe Institute, Santa Fe, NM. Available at <http://www.santafe.edu/sfi/publications/>

[85] Hogg, T. and Jennings, N. (1997). Social Rational Agents-Some Preliminary Thoughts. In *Proceedings of the 2nd AISB Workshop on Practical Reasoning and Rationality*. April 7-9, 1997, Manchester University, UK.

[86] Hogg, T. (1995). Social Dilemmas in Computational Ecosystems. In *The Proceedings of the 1995 International Joint Conference on Artificial Intelligence (IJCAI95)*. Kaufmamm, California.

[87] Holland, J. (1992). *Adaptation in Natural and Artificial Systems*. The MIT Press, Cambridge MA.

[88] Holland, J. (1993). The Effect of Lables (Tags) on Social Interactions. *SFI Working Paper 93-10-064*. Santa Fe Institute, Santa Fe, NM.

[89] Holland, J. (1995). *Hidden Order*. Perseus Books, Cambridge, MA.

[90] Holland, J. (1998). *Emergence - From Chaos to Order*. Perseus Books, Cambridge, MA.

[91] Hostetler, J. (1963). *Amish Society*. Johns Hopkins Press, Baltimore.

[92] Huberman, B. A, and Lukose, R. M. (1997). Social Dilemmas and Internet Congestion. *Science*, 277:535-537

[93] Huberman, B. A. and Glance, N. S. (1993). Evolutionary Games and Computer Simulations. *Proceedings of the National Academy of Sciences*, 90:7712-7715.

[94] Hutchins, E. and Hazlehurst, B. (1992). Learning in the Cultural Process. In Langton, C. et al., eds., *Artificial Life II: Proceedings of the Workshop on Artificial Life Held February, 1990 in Santa Fe, New Mexico*. Addison-Wesley, New York.

[95] Hutchins, E. and Hazlehurst, B. (1995). How to Invent a Lexicon: The Development of Shared Symbols in Interaction. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life*. UCL Press, London.

[96] Rao, A. and Georgeff, M. (1991). Modeling Rational Agents within a BDI-Architecture. In *Proceedings of the 2nd International Conference on Principles of Knowledge Representation and Reasoning*, pp.473-484. Morgan Kaufmann Publishers.

[97] Jennings, N. and O'Hare, G., eds. (1996). *Foundations of Distributed Artificial Intelligence*. Wiley, London.

[98] Jennings, N., and Campos, J. (1997). Towards a Social Level Characterisation of Socially Responsible Agents. *IEE Proceedings on Software Engineering*, 144(1):11-25.

[99] Johnson, G. A. (1982). Organizational Structure and Scalar Stress. In Renfrew, C., Rowlands, M. J., Segraves, B. A., eds., *Theory and Explanation in Archaeology*. Academic Press, New York.

[100] Kalenka, S. and Jennings, N. (1999). Socially Responsible Decision Making by Autonomous Agents. In Korta, K., Sosa, E. and Arrazola, X., eds., *Cognition, Agency and Rationality*. Kluwer.

[101] Keller, L. and Ross, K. (1998). Selfish genes: a green beard in the red fire ant. *Nature*, 394:573-575.

[102] Kirchkamp (1996). Spatial Evolution of Automata in the Prisoner's Dilemma. In Troitzsch, K., Mueller, U., Gilbert, N., Doran, J.,eds., *Social Science Microsimulation*. Springer-Verlag, Berlin.

[103] Kramer, R. and Brewer, M. (1984). Effects of Group Identity on Resource Use in a Simulated Commons Dilemma. *Journal of Personality and Social Psychology*, 46(5):1044-1057.

[104] Kreps, D. M. (1990). *Game Theory and Economic Modelling*. Oxford University Press, New York.

[105] Langley, P., Simon, H. A. and Bradshaw, G. L. (1987). Heuristics for Empirical Discovery. In Bloc, L., ed., *Computational Models of Machine Learning*, Springer-Verlag, Berlin.

[106] Langton, C. (1992), Preface. In Langton, C. et al., eds., *Artificial Life II: Proceedings of the Workshop on Artificial Life Held February 1990 in Santa Fe, New Mexico.* Addison-Wesley, New York.

[107] Lansing, S. J. (2000). Anti-Chaos, Common Property, and the Emergence of Cooperation. In Kohler, T. and Gumerman, G., eds., *Dynamics in Human and Primate Societies: Agent-Based Modeling of Social and Spatial Processes.* Oxford University Press, New York, NY.

[108] Larrain, J. (1979). *The Concept of Ideology.* Hutchinson, London.

[109] Leyens, J. et al. (1994). *Stereotypes and Social Cognition.* Sage, London.

[110] Liebrand, W., and Messick, D. (1996). Game Theory, Decision Making in Conflicts and Computer Simulations: a Good-Looking Triad. In Troitzsch, K., Mueller, U., Gilbert, N., Doran, J., eds., *Social Science Microsimulation.* Springer-Verlag, Berlin.

[111] Lindgren, K. (1996). Evolutionary Dynamics in Game-Theoretic Models. *SFI Working Paper 96-06-043.* Santa Fe Institute, Santa Fe, NM. Available at <http://www.santafe.edu/sfi/publications/>

[112] Lotem, A., Fishman, M., Stone, L. (1999).Evolution of co-operation between individuals. *Nature*, 400:226-227.

[113] Lumsden, C. and Wilson, E. (1981). *Genes, Mind and Culture.* Harvard University Press, London.

[114] Lynch, A. (1996). *Thought Contagion: How Belief Spreads Through Society.* Basic Books, New York.

[115] Macy, M. and Flache, A. (1995). Beyond Rationality in Models of Choice. *Annual Review of Sociology*, 21:73-91.

[116] Macy, M. and Skvoretz, J. (1998). Trust and Cooperation Between Strangers. *American Sociological Review*, 63:638-660.

[117] Macy, M. (1998). Social Order in Artificial Worlds. *Journal of Artificial Societies and Social Simulation (JASSS)* vol. 1, no. 1, <www.soc.surrey.ac.uk/JASSS/1/1/4.html>

[118] Macy, M. (1998). Social Order and Emergent Rationality. In Sica, A., ed., *What is Social Theory?: The Philosophical Debates*. Blackwell.

[119] May, R. et al (1995). Spatial Games and Evolution of Cooperation. In Moran, F. et al, eds., *Advances in Artificial Life, 3rd European Conference on Artificial Life, LNAI 929*. Springer-Verlag, Berlin.

[120] Maynard Smith, J. (1982). *Evolution and the Theory of Games*. Cambridge University Press, Cambridge.

[121] Mithen, S. (1990). *Thoughtful Foragers*: A Study of Prehistoric Decision Making. Cambridge University Press, Cambridge.

[122] Mithen, S. (1994). Simulating Prehistoric Hunter-Gatherer Societies. In Gilbert, N. and Doran, J., eds., *Simulating Societies: the Computer Simulation of Social Phenomena*. UCL Press, London.

[123] Mithen, S. (1996). *The Prehistory of the Mind*. Thames & Hudson, London.

[124] Moss, S., Edmonds, B. and Wallis, S. (1997). Validation and Verification of Computational Models with Multiple Cognitive Agents. *CPM Report 97-25*. Cen-

tre for Policy Modelling, Manchester Metropolitan University, UK. Availible from <http://www.cpm.mmu.ac.uk/cpmrep25.html>

[125] Nowak, A. and Latané (1994). Simulating the Emergence of Social Order from Individual Behaviour. In Gilbert, N. and Doran, J., eds., *Simulating Societies: The Computer Simulation of Social Phenomena*. UCL Press, London.

[126] Nowak, M. and Sigmund, K. (1992). Tit for tat in Heterogeneous populations. *Nature*, 355:250-253.

[127] Nowak, M. and May, R. (1992). Evolutionary Games and Spatial Chaos. *Nature*, 359:826-929.

[128] Nowak, M. and Sigmund, K. (1998). Evolution of indirect reciprocity by image scoring. *Nature*, 393:573-577.

[129] Nwana, S. and Ndumu, D. (1999). A Perspective on Software Agents Research. *The Knowledge Engineering Review*, 14(2):1-18.

[130] Oakes, P. et al. (1994). *Stereotyping and Social Reality*. Blackwell, Oxford.

[131] Oliphant, M. (1994). Evolving Cooperation in the Non-Interated Prinsoner's Dilemma: The Importance of Spatial Orgainsation. In Brooks, R. and Maes, P., eds., *Artificial Life IV: Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*. The MIT Press, Cambridge MA.

[132] Parisi, D., Cecconi, F. and Cerini, A. (1995). Kin-directed altruism and attachment behaviour in an evolving population of neural networks. In Gilbert, N. and Conte, R., eds., *Artificial Societies: the Computer Simulation of Social Life*. UCL Press, London.

[133] Parisi, D., Nolfi, S. and Cecconi, F. (1992). Learning, Behaviour and Evolution. In Varela, F. and Bourgine, P., eds., *The Proceedings of the First European Conference on Artificial Life*. The MIT Press, Cambridge MA.

[134] Pedone, R. and Parisi, D. (1997). In What Kinds of Social Groups can Altruistic Behaviour Evolve? In Conte, R., Hegselmann, R. and Terna, P., eds., *Simulating Social Phenomena - LNEMS 456*. Springer-Verlag, Berlin.

[135] Poundstone, W. (1993). *Prisoner's Dilemma*. Anchor Books, Doubleday, NY.

[136] Popper, K. (1968). *The Logic of Scientific Discovery*. Hutchinson, London.

[137] Posch, M. (1997). Win Stay - Lose Shift. *SFI Working Paper 97-06-056 E*. Santa Fe Institute, Santa Fe, N.M. Availible at <http://www.santafe.edu/sfi/publications/>

[138] Press, H., Flannery, B., Teukolsky, S. and Vetterling, W. (1992). *Numerical Recipes in C : The Art Of Scientific Computing*. Cambridge University Press, Cambridge.

[139] Quinlan, J. R. (1993). *C4.5: Programs For Machine Learning*. Morgan Kaufmann, San Mateo, California.

[140] Ray, T. (1992). An Approach to the Synthesis of Life. In Langton, C. et al., eds., *Artificial Life II: Proceedings of the Workshop on Artificial Life Held February, 1990 in Santa Fe, New Mexico*. Addison-Wesley, New York.

[141] Reynolds, R. (1994). Learning to Cooperate using Cultural Algorithms. In Doran, J. and Gilbert, N., eds., *Simulating Societies: The Computer Simulation of Social Phenomena*. UCL Press, London.

[142] Ridley, N. (1996). *The Origins of Virtue*. Penguin Books, London.

[143] Riolo, R. (1997). The Effects of Tag-Mediated Selection of Partners in Evolving Populations Playing the Iterated Prisoner's Dilemma. SFI Working Paper 97-02-016. Santa Fe Institute, Santa Fe, NM. Available at <http://www.santafe.edu/sfi/publications/>

[144] Rusell, S., Norvig, P. (1995). *Artificial Intelligence: A Modern Approach.* Prentice-Hall.

[145] Sakoda, J.M. (1971). The Checkerboard Model of Social Interaction. J*ournal of Mathematical Sociology,* 1:119-132.

[146] Schelling, T. (1969). Models of Segregation. *American Economic Review* 59:488-493.

[147] Shoham,Y. and Tennenholtz, M. (1992). On the Synthesis of Useful Social Laws for Artificial Agent Societies. In *Proceedings of the Tenth National Conference on Artificial Intelligence (AAAI-92).* The MIT Press, Cambridge MA.

[148] Simon, H. A.(1990). A Mechanism for Social Selection and Successful Altruism. *Science,* 250:1665-1668.

[149] Skyrms, B. (1996). *The Evolution of the Social Contract.* Cambridge University Press, Cambridge.

[150] Soltis, J., Boyd, R. and Richerson, P. (1995). Can Group-functional Behaviours Evolve by Cultural Group Selection? *Current Anthropology,* 36(3).

[151] Spath, H, (1980). *Cluster Analysis Algorithms for Data Reduction and Classification of Objects.* Ellis Horwood, Chichester.

[152] Steward, J. (1997). Evolutionary Transitions and Aritificial Life. *Artificial Life, 3(3).*

[153] Suleiman, R. (1996). Simulating co-operation and Competition: Present State and Future Objectives. In Troitzsch, K., Mueller, U., Gilbert, N. and Doran, J., eds., *Social Science Microsimulation*. Springer-Verlag, Berlin.

[154] Tajfel et al. (1971). Social Categorization and Intergroup behavior. *European Journal of Social Psychology,* 1:149-177.

[155] Taylor, T. and Hallam, J. (1997). Studying Evolution with Self-Replicating Computer Programs. In Husbands, P. & Harvey, I., eds., *The Proceedings of the Fourth European Conference on Artificial Life*. The MIT Press, Cambridge MA.

[156] Teran, O., Edmonds, B., Wallis, S. (forthcoming), Mapping the Envelope of Social Simulation Trajectories. *Presented at the Second International Workshop on Multi-Agent Based Simulation (MABS 2000) at ICMAS 2000*. 8-9th July 2000, Boston.

[157] Thearling, K. and Ray, T. (1995). Evolving Multi-Cellular Artificial Life. In Brooks, R. and Maes, P., eds., *Artificial Life IV: Proceedings of the Fourth International Workshop on the Synthesis and Simulation of Living Systems*. The MIT Press, Cambridge MA.

[158] Trivers, R. L. (1971). The evolution of reciprocal altruism. *Q. Rev. Biol.* 46:35-57.

[159] Tsang, E.P.K. and Voudouris, C. (1997). Fast local search and guided local search and their application to British Telecom's workforce scheduling problem. *Operations Research Letters,* 20(3):119-127.

[160] von Neumann, J. and Morgenstern, O. (1947). *The Theory of Games and Economic Behaviour*. Princeton University Press, Princeton.

[161] Turner, P. and Chao, L. (1999). Prisoner's dilemma in an RNA virus. *Nature*, 398:441-443.

[162] Werner, G. & Dyer, M. (1992). Evolution of Communication in Artificial Organisms. In Langton, C. and Taylor, C., eds., *Artificial Life II: Proceedings of the Workshop on Artificial Life Held February, 1990 in Santa Fe, New Mexico.* Addison-Wesley, New York.

[163] Wilson, E. (1975). *Sociobiology: The New Synthesis.* Harvard Universtiy Press, Cambridge MA.

[164] Wilson, S. (1997). Generalization in Evolutionary Learning. In Husbands, P. and Harvey, I., eds, *Proceedings of the Fourth European Conference on Artificial Life.* The MIT Press, Cambridge MA.

[165] Wilson, D. S. and Sober, E. (1994). Reintroducing group selection to the human and behavioural sciences. *Behavioural and Brain Sciences,* 17(4):585-654.

[166] Woodridge, M. and Jennings, R. (1997). Formalizing the Cooperative Problem Solving Process. In Huhns, M. N., and Singh, M. P, eds., *Readings in Agents.* Morgan Kaufman, pp430-442.

[167] Woodridge, M. & Jennings, R. (1994). Agent Theories, Architectures, and Languages: A Survey. In *Intelligent Agents: Proceedings of the Workshop on Agent Theories, Architecture, and Languages (ECAI94), August 1994.* Springer-Verlag, Berlin.