GAMES, STRATEGY, AND POLITICS

Politics V53.0844 S. J. Brams
New York University 19 West 4th St., Rm. 309
Fall 2008 (212) 998-8510; steven.brams@nyu.edu
Class: Mon. & Wed., 2:00 - 3:15 PM Office Hrs.: Mon., 3:30 - 6 PM
TA: Han Il Chang, Rm. 402; (212) 992-8088; hc665@nyu.edu Hrs.: Wed., 4:30-6:30

Applications of game theory—and an alternative strategic theory called "theory of moves"—as well as social-choice theory to a wide variety of strategic situations, principally but not exclusively in politics, will be examined. Uses of strategy in voting in committees and elections, in political campaigns, in the defense and deterrence policies of nations, and in bargaining and coalition-building situations will be among the topics discussed. Secrecy and deception as political strategies will also be analyzed.

Although the applications of strategic thinking will be mainly to American and international politics, strategy in everything from the Bible to sports and business today will be studied, too. Social-choice topics that will be analyzed include the manipulability of different voting systems, problems of achieving proportional representation in parliamentary democracies, and conflicts among different apportionment methods. Fair-division procedures for resolving disputes will also be analyzed.

In addition to the required readings, further readings will be recommended throughout the course for those interested in pursuing particular topics in greater depth. No mathematical training beyond high school mathematics is assumed in the course. The written requirements of the course include a midterm and a final examination plus a short paper on a topic that is chosen in consultation with the instructor. Each of the three written requirements will count approximately 30 percent towards your final grade, with homework constituting the remaining 10 percent.

Required Books

Brams, Steven J. RATIONAL POLITICS: DECISIONS, GAMES, AND STRATEGY. Washington, DC/Boston: CQ Press/Academic Press, 1985/1989 (out of print; used copies and bound reproductions in bookstore). **RP**

Brams, Steven J. THEORY OF MOVES. Cambridge, UK: Cambridge University Press, 1994. **TOM**

Brams, Steven J., and Alan D. Taylor. THE WIN-WIN SOLUTION: GUARANTEEING FAIR SHARES TO EVERYBODY. New York: W.W. Norton, 1999. **W-W**

Dixit, Avinash, and Barry Nalebuff. THINKING STRATEGICALLY: THE COMPETITIVE EDGE IN BUSINESS, POLITICS, AND EVERYDAY LIFE. New York: W.W. Norton, 1991. **TS**

Assignments Due

Sept. 3: **RP**, chs. l-2; **TOM**, Introduction; **TS**, Introduction
Sept. 8: **TOM**, ch. 1; **TS**, chs. 1-2
Sept. 15: **TOM**, ch. 2; **TS**, chs. 3-4
Sept. 22: **TOM**, ch. 3; **TS**, chs. 5-6
Sept. 29: **TOM**, ch. 4; **TS**, ch. 7
Oct. 6: **TOM**, chs. 5-6
Oct. 15: **TOM**, chs. 7-8
Oct. 20: Review and Midterm Examination
Oct. 27: **RP,** ch. 3; **TS**, chs. 8-9
Nov. 3: **RP**, ch. 4**; TS**, chs. 10-11
Nov. 10: **RP**, chs. 5 & 7 (skip ch. 6)
Nov. 17: **RP**, chs. 8-9; **TS**, chs. 12-13
Nov. 24: 6-8 page paper due; oral reports
Dec. 1: **W-W**, entire book
Dec. 8: Review
Dec. 15(?): Final Examination

Game Theory Texts

Aliprantis, Charalambus D., and Subir K. Chakrabarti. GAMES AND DECISION MAKING. Oxford University Press, 2000.

Barron, E. N. GAME THEORY: AN INTRODUCTION. Wiley, 2008.

Binmore, Ken. PLAYING FOR REAL: A TEXT ON GAME THEORY. Oxford University Press, 2007.

Camerer, Colin F. BEHAVIORAL GAME THEORY: EXPERIMENTS IN STRATEGIC INTERACTION. Princeton University Press, 2003.

Chatterjee, Kalyan, and William Samuelson (eds.). GAME THEORY AND BUSINESS APPLICATIONS. Kluwer, 2001

Davis, Morton D. GAME THEORY: A NONTECHNICAL INTRODUCTION, 2nd ed. Basic, 1983.

Dixit, Avinash, and Susan Skeath. GAMES OF STRATEGY, 2nd ed. W.W. Norton, 2004.

Dutta, Prajit K. STRATEGIES AND GAMES: THEORY AND PRACTICE. MIT Press, 1999.

Fudenberg, Drew, and Jean Tirole. GAME THEORY. MIT Press, 1991.

Gibbons, Robert. GAME THEORY FOR APPLIED ECONOMISTS. Princeton

University Press, 1993.

Gintis, Herbert. GAME THEORY EVOLVING: A PROBLEM-CENTERED INTRODUCTION TO STRATEGIC MODELING IINTERACTION. Princeton University Press, 2000.

Hargreaves Heap, Shaun P., and Yanis Varoufakis. GAME THEORY: A CRITICAL TEXT, rev. ed. Routledge, 2004.

Harrington, Joseph E., ,Jr. GAMES, STRATEGIES, AND DECISION MAKING. Worth, 2008.

Lepton-Brown, Kevin, and Yoav Shoham. ESSENTIALS OF GAME THEORY: A CONCISE, MULTIDISCIPLINARY INTRODUCTION. Morgan & Claypod, 2008.

Luce, R. Duncan, and Howard Raiffa. GAMES AND DECISIONS: A CRITICAL SURVEY. Wiley, 1957.

Mendelson, Elliot. INTRODUCING GAME THEORY AND ITS APPLICATIONS. CRC Press, 2004.

Miller, James D. GAME THEORY AT WORK: HOW TO USE GAME THEORY TO OUTTHINK AND OUTMANEUVER YOUR COMPETITION. McGraw-Hill, 2003.

Morrow, James D. GAME THEORY FOR POLITICAL SCIENTISTS. Princeton University Press, 1994.

Montet, Christian, and Daniel Serra. GAME THEORY AND ECONOMICS. Palgrave Macmillan, 2003.

Nowak, Martin A. EVOLUTIONARY DYNAMICS: EXPLORING THE EQUATIONS OF LIFE. Harvard University Press, 2006.

Osborne, Martin J. AN INTRODUCTION TO GAME THEORY. Oxford University Press, 2004.

Rasmusen, Eric. GAMES AND INFORMATION: AN INTRODUCTION TO GAME THEORY, 3rd ed. Basil Blackwell, 2001.

Ritzberger, Klaus. FOUNDATIONS OF NON-COOPERATIVE GAME THEORY. Oxford University Press, 2002.

Rubinstein, Ariel, and Martin J. Osborne. A COURSE IN GAME THEORY. MIT Press, 1994.

Straffin, Philip D. GAME THEORY AND STRATEGY. Mathematical Associaiton of

America, 1993.

Vega-Redondo, Fernando. ECONOMICS AND THE THEORY OF GAMES. Cambridge University Press, 2003.

Watson, Joel. STRATEGY: AN INTRODUCTION TO GAME THEORY, 2ed ed. W. W. Norton, 2008.

Applications and History of Game Theory and Social-Choice Theory

Ankeny, Nesmith C. POKER STRATEGY: WINNING WITH GAME THEORY. Basic, 1981.

Arrow, Kenneth J., Amartya K. Sen, and Kotaro Suzumura (eds.). HANDBOOK OF SOCIAL CHOICE AND WELFARE, vol. 1. North Holland, 2002

Aumann, Robert J., and Sergiu Hart (eds.). HANDBOOK OF GAME THEORY WITH ECONOMIC APPLICATIONS, vols. 1/2/3. North Holland, 1992/1994/2002.

Austen-Smith, David, and Jeffrey S. Banks. POSITIVE POLITICAL THEORY I/II: COLLECTIVE PREFERENCE/STRATEGY AND STRUCTURE. University of Michigan Press, 2000/2005.

Avenhaus, Rudolf, and I. William Zartman (eds.). DIPLOMACY GAMES: FORMAL MODELS AND INERNATIONAL NEGOTIATIONS. Sprnger, 2007.

Axelrod, Robert. THE EVOLUTION OF COOPERATION. Basic, 1984.

Baird, Douglas G., Robert H. Gertner, and Randal C. Picker. GAME THEORY AND THE LAW. Harvard University Press, 1994.

Bates, Robert H., *et al.* ANALYTIC NARRATIVES. Princeton University Press, 1998.

Beck, Jósef. COMBINATORIAL GAMES: TIC-TAC-TOE THEORY. Cambridge University Press, 2008.

Bewerdorff, Jörg. LUCK, LOGIC, AND WHITE LIES: THE MATHEMATICS OF GAMES. A. K. Peters, 2005.

Binmore, K. G. GAME THEORY AND THE SOCIAL CONTRACT. Vols 1/2: PLAYING FAIR/JUST PLAYING. MIT Press, 1994/1998.

Binmore, Ken, Alan Kirman, and Piero Tani (eds.). FRONTIERS OF GAME THEORY. MIT Press, 1993.

Boorman, Scott A. THE PROTRACTED GAME: A WEI-CH'I INTREPRETATION OF MAOIST REVOLUTIONARY STRATEGY. Oxford University Press, 1969.

Brams, Steven J. GAME THEORY AND POLITICS. Free Press/Dover, 1975/2004.

Brams, Steven J. PARADOXES IN POLITICS: AN INTRODUCTION TO THE NONOBVIOUS IN POLITICAL SCIENCE. Free Press, 1976.

Brams, Steven J. THE PRESIDENTIAL ELECTION GAME. Yale University Press, 1978/2007.

Brams, Steven J. BIBLICAL GAMES: GAME THEORY AND THE HEBREW BIBLE. MIT Press, 1980/2003.

Brams, Steven J. SUPERIOR BEINGS: IF THEY EXIST, HOW WOULD WE KNOW? GAME-THEORETIC IMPLICATIONS OF OMNISCIENCE, OMNIPOTENCE, IMMORTALITY, AND INCOMPREHENSIBILITY. Springer, 1983/2007.

Brams, Steven J. SUPERPOWER GAMES: APPLYING GAME THEORY TO SUPERPOWER CONFLICT. Yale University Press, 1985.

Brams, Steven J. NEGOTIATION GAMES: APPLYING GAME THEORY TO BARGAINING AND ARBITRATION. Routledge, 1990/2003.

Brams, Steven J. MATHEMATICS AND DEMOCRACY: DESIGNING BETTER VOTING AND FAIR-DIVISION PROCEDURES. Princeton University Press, 2008.

Brams, Steven J., and Peter C. Fishburn. APPROVAL VOTING. Birkhäuser Boston, 1983/2007.

Brams, Steven J., and D. Marc Kilgour. GAME THEORY AND NATIONAL SECURITY. Basil Blackwell, 1988.

Brams, Steven J., and Alan D. Taylor. FAIR DIVISION: FROM CAKE-CUTTING TO DISPUTE RESOLUTION. Cambridge University Press, 1996.

Brandenburger, Adam, and Barry J. Nalebuff. CO-OPETITION. New York: Doubleday, 1996.

Case, James. COMPETITION: THE BIRTH OF A NEW SCIENCE. Hill and Wang, 2007.

Chwe, Michael Suk-Young. RATIONAL RITUAL: CULTURE, COORDINATION, AND COMMON KNOWLEDGE. Princeton University Press, 2001.

Colman, Andrew. GAME THEORY AND ITS APPLICATIONS IN THE SOCIAL AND BIOLOGICAL SCIENCES, 2nd ed. Butterworth, Heinemann, 1995.

Colomer, Josep M. STRATEGIC TRANSITIONS: GAME THEORY AND DEMOCRATIZATION. Johns Hopkins University Press, 2000.

Congleton, Roger D., and Birgitta Swedenborg (eds.). DEMOCRATIC CONSTITUTIONAL DESIGN AND PUBLIC POLICY: ANALYSIS AND EVIDENCE. Cambridge University Press, 2006.

Coughlin, Peter. PROBABILISTIC VOTING THEORY. Cambridge University Press, 1992.

Cox, Gary W. MAKING VOTES COUNT: STRATEGIC COORDINATION IN THE WORLD'S ELECTORAL SYSTEMS. Cambridge University Press, 1997.

Crossman, Ross. EVOLUTIONARY DYNAMICS AND EXTENSIVE FORM GAMES. MIT Press, 2003.

Downs, Anthony. AN ECONOMIC THEORY OF DEMOCRACY. Harper, 1957.

Economics of Voting: Symposium. JOURNAL OF ECONOMIC PERSPECTIVES 9, no. 1 (Winter 1995): 3-98.

Elster, Jon. EXPLINING SOCIAL BEHAVIOR: MORE NUTS AND BOLTS FOR THE SOCIAL SCIENCES. Cambridge University Press, 2007.

Farquharson, Robin. THEORY OF VOTING. Yale University Press, l969.

Felsenthal, Dan S., and Moshé Machover. THE MEASUREMENT OF VOTING POWER: THEORY AND PRACTICE, PROBLEMS AND PARADOXES. Edward Elgar, 1998.

Gaertner, Wulf. A PRIMER IN SOCIAL CHOICE THEORY. Oxford University Press, 2006.

Garfinkel, Michelle R., and Setergios Skaperdas (eds.). THE POLITICAL ECONOMY OF CONFLICT AND APPROPRIATION. Cambridge University Press, 1997.

Gilboa, Itzhak, and David Schmeidler. A THEORY OF CASE-BASED DECISIONS. Cambridge University Press, 2001.

Grillidi Cortona, Pietro. EVALUATION AND OPTIMIZATION OF ELECTORAL SYSTEMS. SIAM, 1999.

Gura, Ein-Ya, and Michael B. Mascher. INSIGHTS INTO GAME THEORY: AN ALTERNATIVE MATHEMATICAL EXPERIENCE. Cambridge University Press, 2008.

Hanley, Nick, and Henk Folmer (eds.). GAME THEORY AND THE ENVIRONMENT. Edward Elgar, 1998.

Hinich, Melvin J., and Michael C. Munger. ANALYTICAL POLITICS. Cambridge University Press, 1997.

Hodge, Jonathan K., and Richard E. Klima. THE MATHEMATICS OF VOTING AND ELECTIONS: A HANDS-ON APPROACH. American Mathematical Society, 2005.

Howard, Nigel. PARADOXES OF RATIONALITY: THEORY OF METAGAMES AND POLITICAL BEHAVIOR. MIT Press, 197l.

Kaminski, Marek M. GAMES PRISONERS PLAY: THE TRAGICOMIC WORLDS OF POLISH PRISON. Princeton University Press, 2004.

Kuhn, Harold W. (ed.). CLASSICS IN GAME THEORY. Princeton University Press, 1997.

McDonald, John. THE GAME OF BUSINESS. Doubleday, 1975.

McGann, Anthony. THE LOGIC OF DEMOCRACY: RECONCILING EQUALITY, DELIBERATION, AND MINORITY PROTECTION. University of Michigan Press, 2006.

Mackie, Gerry. DEMOCRACY DEFENDED. Cambridge University Press, 2003.

McLean, Iain, and Arnold B. Urken (eds.). CLASSICS OF SOCIAL CHOICE. University of Michigan Press, 1995.

Mailath, George J., and Larry Samuelson. REPEATED GAMES AND REPUTATIONS: LONG-RUN RELATIONSHIPS. Oxford University Press, 2006.

Méro, László. MORAL CALCULATIONS: GAME THEORY, LOGIC, AND HUMAN FRAILTY. Copernicus/Springer-Verlag, 1998.

Merrill, Samuel III, and Bernard Grofman. A UNIFIED THEORY OF VOTING: DIRECTIONAL AND PROXIMITY SPATIAL MODELS. Cambridge University Press, 1999.

Milgrom, Paul. PUTTING AUCTION THEORY TO WORK. Cambridge University Press, 2004.

Mor, Ben D. DECISION AND INTERACTION IN CRISIS: A MODEL OF INTERNATIONAL CRISIS BEHAVIOR. Praeger, 1993.

Moulin, Hervé J. FAIR DIVISION AND COLLECTIVE WELFARE. MIT Press, 2003

Mueller, Dennis C. (ed.). PERSPECTIVES ON PUBLIC CHOICE: A HANDBOOK. Cambridge University Press, 1997.

Mueller, Dennis C. PUBLIC CHOICE III. Cambridge University Press, 2003.

Muzzio, Douglas. WATERGATE GAMES: STRATEGIES, CHOICES, OUTCOMES. New York University Press, 1982.

Myerson, Michael I. POLITICAL NUMERACY: MATHEMATICAL PERSPECTIVES ON OUR CHAOTIC CONSTITUTION. W.W. Norton, 2002.

Nasar, Sylvia. A BEAUTIFUL MIND. Simon and Schuster, 1998.

Nisan, Noam, *et al.* ALGORITHMIC GAME THEORY. Cambridge University Press, 2007.

Nurmi, Hannu. VOTING PARADOXES AND HOW TO DEAL WITH THEM. Springer-Verlag, 1999.

Nurmi, Hannu. MODELS OF POLITICAL ECONOMY. Routledge, 2006.

O'Neill, Barry. HONOR, SYMBOLS, AND WAR. University of Michigan Press, 1999.

Ostrom, Elinor. GOVERNING THE COMMONS: THE EVOLUTION OF INSTITUTIONS FOR COLLECTIVE ACTION. Cambridge University Press, 1990.

Parsons, Simon, Piotr Gmytrasiewicz, and Michael Wooldridge (eds.). GAME THEORY AND DECISION THEORY IN AGENT-BASED SYSTEMS. Kluwer, 2002.

Poundstone, William. PRISONER'S DILEMMA: JOHN VON NEUMANN, GAME THEORY, AND THE PUZZLE OF THE BOMB. Doubleday, 1992.

Ray, Debraj. A GAME-THEORETIC PERSPECTIVE ON COALITION FORMATION. Oxford University Press, 2007.

Regenwetter, Michel, *et al.* BEHAVIORAL SOCIAL CHOICE: PROBABILISTIC MODELS, STATISTICAL INFERENCE, AND APLICATIONS. Cambridge University Press, 2006.

Riker, William H. THE THEORY OF POLITICAL COALITIONS. Yale University Press, 1962.

Riker, William H. LIBERALISM AGAINST POPULISM: A CONFRONTATION BETWEEN THE THEORY OF DEMOCRACY AND THE THEORY OF SOCIAL CHOICE. Freeman, 1982.

Riker, William H. THE ART OF POLITICAL MANIPULATION. Yale University Press, 1986.

Riker, William H. THE STRATEGY OF RHETORIC. Yale University Press, 1996.

Robertson, Jack, and William Webb. CAKE-CUTTING ALGORITHMS: BE FAIR IF YOU CAN. A K Peters, 1998.

Robinson, David, and David Goforth. THE TOPOLOGY OF THE 2 X 2 GAME: A NEW PERIODIC TABLE. Routledge, 2005.

Rubinstein, Ariel. MODELING BOUNDED RATIONALITY. MIT Press, 1998.

Saari, Donald G. DECISIONS AND ELECIONS: EXPLAINING THE UNEXPECTED. Cambridge University Press, 2001.

Sandler, Todd. COLLECTIVE ACTION: THEORY AND APPLICATIONS. University of Michigan Press, 1992.

Schelling, Thomas C. MICROMOTIVES AND MACROBEHAVIOR. Norton, 1978.

Schelling, Thomas C. THE STRATEGY OF CONFLICT. Harvard University Press, 1960.

Schofield, Norman. ARCHITECTS OF POLITICAL CHANGE: CONSTITUTIONAL QUANDRIES AND SOCIAL CHOIC THEORY. Cambridge University Press, 2006.

Schofield, Norman, and Itai Sened. MULTIPARTY DEMOCRACY: ELECTIONS AND LEGISLATIVE POLITICS. Cambridge University Press, 2006.

Shepsle, Kenneth A., and Mark S. Bonchek. ANALYZING POLITICS: RATIONALITY, BEHAVIOR, AND INSTITUTIONS. W. W. Norton, 1997.

Sigmund, Karl. GAMES OF LIFE: EXPLORATIONS IN ECOLOGY, EVOLUTION, AND BEHAVIOR. Oxford University Press, 1993.

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Taylor, Alan D. SOCIAL CHOICE AND THE MATHEMATICS OF MANIPULATION. Cambridge University Press, 2005.

Taylor, Alan D., and William S. Zwicker. SIMPLE GAMES: DESIRABILITY RELATIONS, TRADING, PSEUDOWEIGHTINGS. Princeton University Press, 1999.

Tsebelis, George. NESTED GAMES: RATIONAL CHOICE IN COMPARATIVE POLITICS. University of California Press, 1990.

Vajda, Steven. MATHEMATICAL GAMES AND HOW TO PLAY THEM. Ellis Horwood, 1992.

Weintraub, E. Roy (ed.). TOWARD A HISTORY OF GAME THEORY. Duke University Press, 1992.

Wittman, Donald. THE MYTH OF DEMOCRATIC FAILURE: WHY POLITICAL INSTITUTIONS ARE EFFICIENT. University of Chicago Press, 1995.

Wydick, Bruce. GAMES IN ECONONMIC DEVELOPMENT. Cambridge University Press, 2008.

Young, Peyton. EQUITY IN THEORY AND PRACTICE. Princeton University Press, 1994.

Zagare, Frank C., and D. Marc Kilgour. PERFECT DETERRENCE. Cambridge University Press, 2000.