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PSc 586  
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## Topics in Positive Political Theory

*Description.* This course will cover several important topics in positive theory — acyclic social choice, non-cooperative equilibria of voting mechanisms, tournaments and agendas, and equilibria in spatial models — and is intended to continue the curriculum of PEC 580, taught by Jeff Banks last fall. His course is by no means a prerequisite for mine, but some background in social choice and game theory will be needed by those taking it for a grade.

*Requirements.* Participation, including presentation of papers (and/or parts of papers), is of primary importance. I haven't yet read a paper that didn't leave *some* small problem unsolved or raise *some* related questions, so we should be able to find interesting problems to think about each week, i.e., exercises will be assigned weakly (theory typo).

*Outline.* I've organized the course by the four topics mentioned above, with possible readings listed below. Note that *I list many more papers than we can go through in a semester*, so the list should be viewed as a menu of options. Real bullets indicate the readings of primary interest to me, while the blanks indicate papers of historical importance or separate interest.

### I. Acyclic Social Choice

#### 1. Majority Rule

- K. May (1952) "A Set of Independent Necessary and Sufficient Conditions for Simple Majority Decision," *Econometrica*, 20:680-684.
- D. McGarvey (1953) "A Theorem on the Construction of Voting Paradoxes," *Econometrica*, 21:608-610.

#### 2. The Structure of Acyclic Social Choice Rules

- D. Austen-Smith and J. Banks, Ch.3.
- J. Banks (1995) "Acyclic Social Choice from Finite Sets," *Social Choice and Welfare*, 12:293-310.
- T. Schwartz (1996) "From Arrow to Chaos by Untying Alternatives," mimeo.
- A. Mas-Colell and H. Sonnenschein (1972) "General Possibility Theorems for Group Decisions," *Review of Economic Studies*, 39:185-192.

- D. Brown (1975) “Aggregation of Preferences,” *Quarterly Journal of Economics*, 89:456-469.
- D. Blair, G. Bordes, J. Kelly, and K. Suzumura (1976) “Impossibility Theorems without Collective Rationality,” *Journal of Economic Theory*, 13:361-379.
- K. Nakamura (1979) “The Vetoers in a Simple Game with Ordinal Preferences,” *International Journal of Game Theory*, 8:55-61.
- J. Ferejohn and P. Fishburn (1979) “Representations of Binary Decision Rules by Generalized Decisiveness Structures,” *Journal of Economic Theory*, 21:28-45.

## *II. Equilibria of Voting Mechanisms*

### 1. Dominant Strategy Equilibrium

- A. Gibbard (1973) “Manipulation of Voting Schemes: A General Result,” *Econometrica*, 41:587-602.
- M. Satterthwaite (1975) “Strategy-proofness and Arrow’s Conditions: Existence and Correspondence Theorems for Voting Procedures and Social Welfare Functions,” *Journal of Economic Theory*, 10:187-217.

### 2. Nash Equilibrium

- T. Saijo (1987) “On Constant Maskin Monotonic Social Choice Functions,” *Journal of Economic Theory*, 42:382-386.
- E. Muller and M. Satterthwaite (1977) “The Equivalence of Strong Positive Association and Strategy-proofness,” *Journal of Economic Theory*, 14:412-418.
- L. Hurwicz and D. Schmeidler (1978) “Construction of Outcome Functions Guaranteeing Existence and Pareto Optimality of Nash Equilibria,” *Journal of Economic Theory*, 46:1447-1474.
- J. Ferejohn, D. Grether, and R. McKelvey (1982) “Implementation of Democratic Social Choice Functions,” *Review of Economic Studies*, 49:439-446.
- J. Duggan and T. Schwartz (1995) “Maskin Monotonic Social Choice Rules,” mimeo.
- T. Palfrey (1996) “Implementation Theory,” working paper, California Institute of Technology.

### 3. Undominated Nash Equilibrium

- M. Jackson (1992) “Implementation in Undominated Strategies: A Look at Bounded Mechanisms,” *Review of Economic Studies*, 59:757-775.

- T. Palfrey and S. Srivastava (1991) “Nash Implementation Using Undominated Strategies,” *Econometrica*, 59:479-502.

#### 4. Dominance-solvability

- B. Dutta and K. Pattanaik (1985) “On Enforcing Socially Best Alternatives of Binary Group Decision Rules,” *Social Choice and Welfare*, 1:283-293.
- R. McKelvey and R. Niemi (1977) “A Multi-stage Game Representation of Sophisticated Voting for Binary Procedures,” *Journal of Economic Theory*, 18:1-22.
- H. Moulin (1979) “Dominance-solvable Voting Schemes,” *Econometrica*, 47:1337-1351.

### *III. Tournaments and Agendas*

#### 1. Surveys

- H. Moulin (1986) “Choosing from a Tournament,” *Social Choice and Welfare*, 3:271-291.
- G. Laffond, J. Laslier, and M. Le Breton (1995) “Condorcet Choice Correspondences: A Set-theoretical Comparison,” *Mathematical Social Sciences*, 30:23-35.

#### 2. “Solutions” for Tournaments

- N. Miller (1977) “Graph-theoretical Approaches to the Theory of Voting,” *American Journal of Political Science*, 21:769-803.
- N. Miller (1980) “A New Solution Set for Tournaments and Majority Voting: Further Graph-theoretical Approaches to the Theory of Voting,” *American Journal of Political Science*, 24:68-96.
- T. Schwartz (1996) *The Logic of Collective Choice*, Chapter 6, New York: Columbia University Press.
- R. Deb (1977) “On Schwartz’s Rule,” *Journal of Economic Theory*, 16:103-110.
- B. Dutta (1988) “Covering Sets and a New Condorcet Choice Correspondence,” *Journal of Economic Theory*, 44:63-80.

#### 3. Mixed Strategy Equilibria of Tournament Games

- G. Laffond, J. Laslier, and M. Le Breton (1993) “The Bipartisan Set of a Tournament,” *Games and Economic Behavior*, 5:182-201.

- M. Le Breton (1996) “On the Uniqueness of Equilibrium in Symmetric Two-player Zero-sum Games with Integer Payoffs,” mimeo, California Institute of Technology.
4. Weak Tournaments
- B. Dutta and J.-F. Laslier (1996) “Comparison Functions and Choice Correspondences,” mimeo.
  - B. Subiza and J. Peris (1996) “Condorcet Choice Correspondences for Weak Tournaments,” mimeo.
5. Applications to Social Choice
- P. Fishburn (1977) “Condorcet Social Choice Functions,” *SIAM Journal of Applied Mathematics*, 33:469-489.
  - H. Moulin (1988) “Condorcet’s Principle Implies the No Show Paradox,” *Journal of Economic Theory*, 45:53-64.
6. Agenda Outcomes
- K. Shepsle and B. Weingast (1984) “Uncovered Sets and Sophisticated Voting Outcomes with Implications for Agenda Institutions,” *American Journal of Political Science*, 28:49-74.
  - J. Banks (1985) “Sophisticated Voting Outcomes and Agenda Control,” *Social Choice and Welfare*, 1:295-306.
  - P. Ordeshook and T. Schwartz (1987) “Agendas and the Control of Political Outcomes,” *American Political Science Review*, 81:179-199.

#### *IV. Equilibria in Spatial Models*

1. Bounds on Equilibria
- R. McKelvey and P. Ordeshook (1976) “Symmetric Spatial Games without Majority Rule Equilibria,” *American Political Science Review*, 70:1171-1184.
  - R. McKelvey (1986) “Covering, Dominance, and Institution-free Properties of Social Choice,” *American Journal of Political Science*, 30:283-314.
  - G. Cox (1987) “The Uncovered Set and the Core,” *American Journal of Political Science*, 31:408-422.
  - G. Bordes, M. Le Breton, and M. Salles (1992) “Gillies and Miller’s Subrelations of a Relation over an Infinite Set of Alternatives: General Results and Applications to Voting Games,” *Mathematics of Operations Research*, 17:509-518.

- S. Feld and B. Grofman (1987?) “Necessary and Sufficient Conditions for a Majority Winner in  $n$ -Dimensional Spatial Voting Games: An Intuitive Geometric Approach,” *American Journal of Political Science*?, ??.

## 2. Equilibrium Existence

- R. Ball (1996) “Discontinuity and Non-existence of Equilibrium in the Spatial Voting Model,” mimeo.
- M. Hinich, J. Ledyard, and P. Ordeshook (1972) “Non-voting and Existence of Equilibrium under Majority Rule,” *Journal of Economic Theory*, 4:144-153.
- G. Kramer (1978) “Existence of Electoral Equilibrium,” in *Game Theory and Political Science*, ed. P. Ordeshook, New York: New York University Press.
- P. Dasgupta and E. Maskin (1986) “The Existence of Equilibrium in Discontinuous Games, I: Theory,” *Review of Economic Studies*, 53:1-26.
- P. Dasgupta and E. Maskin (1986) “The Existence of Equilibrium in Discontinuous Games, II: Applications,” *Review of Economic Studies*, 53:27-42.