**Prisoner's Dilemma** (Poundstone, 1992)

6 G.T. = **Conflict between thoughtful/deceitful opponents**
   - Assumed perfectly rational: logic vs

13 **Bach & stored program model**

30 Hilbert & criterion: Whitehead/Russell's total axiom approach

Q. **Genius: men who = 2 great ideas** (Bronowski)

38 Chess - *Kriegspiel*: use in 1866 - ± W.W.I.
   - G.T.: brainchild of Cynic

40 Poker: bluffing = ½ more probability
   - deception / action messages
   - Borel / poker + bluffing (1921)
   - 1928: parlor games paper

43 Self-interest: ± fair play
   - Perfectly logical players interested only in winning (care)
   - Know all ramifications

49 Strategy (G.T.): complete way to play game
   - Challenge: strategy choice

51 Zero-sum: loss/gain
   - Utility: preferences

53 Minimax: maximize minimum - best realistic outcome
   - Irrational behavior prevention: greed + distrust

62 Conservative prescriptions: ± best possible outcome

121 **Prisoner's Dilemma** (1950): no complete, ultimate answer

123 ± cooperation ± rational
   - Precedents: Aristotle, Bible, Kant, Hobbes

144 Decisions ± as simple as they appear

158 **Anti-game theory**: Bateson (cybernetics): Ngaraia 'Redbrick' loop
   - Preoccupation with conflict
   - Hobbesian picture

Q. ± 170 ± abstraction: applies to real world only to extent rigorous requirements met.
   - G.T. reflects implementers' value system
   - G.T. poor predictor

47 ± 187 Sci. tech.: must be neutral.
Chicken - Nuclear War: Scenario depends upon assumptions

Axelrod: Fit-for-Fat Strategy: "Nice"
- "Forgiveness" - reacts to cooperation / creates incentive
- Simple
- Non-secretive

Can't beat - but still wins

Works poorly w/ "mindless" players / strategies

Civilization + cooperation

Shubik: No Prisoner's Dilemma: Rational players = Effect
Rationality & Fixed
- only solution = avoid prisoner's dilemmas
- Cooperation