Announcement

Seminar on Scientific Theory of Go 1979

A II.nd Seminar will be held at the European Go-Congress 1979 near Bonn – Germany on the 27. – 29th. July 1979 at:

5330 Königswinter, Jugendhof Rheinland.

The following topics will be observed:

- The rules, –understanding and classifications.
- Mathematical principles of Go.
- Advances in computer programming of Go.
- Psychological and pedagogic aspects of Go.

Papers wanted to 1. July 79. Please contact for enquiries:

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Stable Sets for Symmetric, n-Person Cooperative Games

Shigeo Muto (School of Operations Research and Industrial Engineering, College of Engineering, Cornell University, Ithaca, New York)

Abstract

This study is devoted to an analysis of stable sets and subsolutions for symmetric games. In Chapters II and III several results which have been obtained previously and which are closely related to this work are reviewed. In Chapters IV and V several types of games and their stable sets are presented and analyzed. In Chapter VI, some production game defined by S. Hart are further investigated. Finally, we deal with subsolutions in Chapter VII.

The Geometry of the Arms Race

Steven J. Brams (Dep. of Politics, New York University, New York, N.Y. 10003)
Morton D. Davis (Department of Mathematics, City College of New York, N.Y. 10031)
Philip D. Straffin Jr. (Department of Mathematics, Beloit College, Beloit, Wis. 53511)

Prepared for delivery at the Fifteenth North American Conference of the Peace Science Society (International), 14–16 November, 1977, Philadelphia.

Abstract

A new methodology is developed for analyzing the arms race between the two superpowers, based on extending the classic Prisoners' Dilemma game to allow for *sequences* of moves. The sequence formally analyzed depends on a scenario in which each side (i) possesses an ability to detect what the other side is doing with a specified probability and (ii) pursues a "tit-fortat" policy of conditional cooperation – cooperates if it detects the other side cooperates, otherwise does not. Given the detection probabilities and the reciprocity norm, it is demonstrated, geometrically, when conditional cooperation between the superpowers is rational and, therefore, likely to occur.

Policy implications of this analysis for SALT are discussed, and a qualified suggestion for the sharing of intelligence data is advanced. Suggestions are also made for applying the methodology to other games and multi-stage game scenarios that mirror the dynamics of plausible sequences of moves.

An Entrepreneurial Theory of Games

S.C. Littelchild (Department of Industrial Economics and Business Studies, University of Birmingham, England).

Paper presented at the International Symposium on External Methods and Systems Analysis in honour of A. Charnes, University of Texas at Austin, September 13–15, 1977, and issued as Discussion Paper Series A No. 212, Faculty of Commerce and Social Science, University of Birmingham.

Abstract

It is argued that certain inadequacies of game theory stem from its failure to incorporate an explicit account of the bargaining process, a process which necessarily takes place over time. To study this process requires emphasis on how each player perceives the game, and on how these perceptions change over time. These properties are related to the ideas of some Austrian economists about entrepreneurial competition. A theory is developed in the context of a classroom bargaining situation, showing how the outcome ist likely to depend upon various characteristics of the game and the players. The approach leads naturally to the emergence of various real-world phenomena such as unions and long-term contracts.