Two Astronomical Anniversaries

View from the Pennines: Falling Leaves

Psychologists Look at Mathematicians
Evolution / Intelligent Design Response

I write in response to M J Cookson who takes me to task for writing approvingly in my guest editorial about the interview with Professor Wickramasinghe in Mathematics Today, April 2008. I offer no apology for this.

Many advocates of Darwinism would like us to believe that it is an established fact whereas of course its status is that of a theory; a remarkable and important theory, but a theory nevertheless.

Evolution has much to commend it but that should not prevent us from considering other mechanisms by which life may have appeared on earth. Dr Cookson is scathing in his criticism because Wickramasinghe and Hoyle suggested that Archaeopteryx might be a hoax. Surely they were right to be suspicious - the track record of the evolutionists is not without fault and zealots have always wished to join up the dots. In the period from the 1920s until the 1950s school children were routinely taught that Piltdown man was the 'missing link'.

Wickramasinghe refuses to subscribe to current orthodoxy and such people risk error but far from castigating them, we should celebrate their ingenuity and inspiration, particularly when (as in this case) evidence comes to light to suggest that there may be something in what they are saying.

The curious logic that Dr Cookson would wish us to follow also needs to be emended.

Meteorites come from space, Meteorites often contain iron
Motor cars contain iron
Therefore
Some motor cars may contain material from space.

This conclusion is entirely consistent with the one that Professor Wickramasinghe offers us for consideration.

Surely few scientists these days subscribe to earth-centred thinking. The earth is a planet, part of the solar system and whether life originated entirely within the earth's atmosphere or came from outside remains an open question. It is something legitimately to consider because it is a matter of scientific interest.

Charles Evans CMath FIMA

Insights Into Game Theory: An Alternative Mathematical Experience

Ein-Ya Gura, Michael B. Maschler
CAMBRIDGE UNIVERSITY PRESS 2008, 250 PAGES
PRICE (HARDBACK) £40.00 ISBN 9780521874229

Insights Into Game Theory is an introductory popular book on game theory. The book is composed of four main chapters. Chapter one concerns the stable marriage problem which comes up in kidney-exchange applications and doctor-residence matching. The authors explain the Gale-Shapley matching algorithm with the help of examples. Chapter two introduces desirable properties of voting systems and gives a non-technical overview of Arrow's impossibility theorem. The chapter is a gentle introduction to basics of social choice theory. Chapter three makes cooperative game theory accessible to the general reader. It covers Shapley value in cooperative games and voting games and outlines the use of game theory in the analysis of political organizations. Chapter four describes a startling discovery where a puzzling inheritance rule in the Talmud coincides to a modern game theory solution (nucleolus). The problem is known as the Bankruptcy Problem and was first understood by Aumann and Maschler.

The book is an outcome of a project by Maschler with his student Ein-Ya Gura to introduce mathematical ideas from game theory to high school students. The ideas are aided with useful examples. There are well chosen question exercises after different sections and also review exercises at the end of each chapter. The book meets its aim of giving a flavour of interesting problems from game theory in a non-technical fashion. The effort is similar to some of the introductory books written by Steven Brams who is a political scientist at New York University. Due to the interesting problems and easy to understand style, Insights Into Game Theory could well be put in the category of recreational mathematics. However, while describing enjoyable problems, the authors also give insight into the important aspects of game theory. The book is suitable for any one wanting to understand why game theory is so influential and relevant even to daily life activities such as match-making, elections, politics, fair allocations and inheritance.

Although Michael Maschler passed away in 2008, in writing this book, it appears that he made one last contribution to game theory.

Since the seminal work of von Neumann and Morgenstern, game theory has come a long way. It has had and is still having a deep and long lasting influence in social sciences, operations research and computer science.

One of the stalwarts in the development of game theory has been Michael Maschler (22 July 1927 – 20 July 2008). He was a professor at the Center for the Study of Rationality at the Hebrew University of Jerusalem. He was long standing collaborator of Nobel Prize Winner Robert J. Aumann. His important contributions include devising cooperative solutions such as the bargaining set and kernel. He is famous for his work on repeated games with incomplete information. Maschler also researched on the applications of cooperative game theory to games on networks and different aspects of voting systems.

Haris Aziz
University of Warwick