

BMC History of Mathematics Splinter Group, Swansea, 17 April 2007

14:30 **Ivor Grattan-Guinness**

Title: On the influence of mechanics upon neo-classical economics, 1860-1910

Abstract:

It is well known that mathematical economics took much positive influence from classical mechanics, especially between the 1860s until the 1920s, and that equilibrium was a prime target for imitation. In this paper I consider the history of its effect upon economics by considering the place of mechanical principles, especially equilibrium, in the work of some major neo-classical economists. The merits of the analogies will be considered, and a rather ironic conclusion drawn.

15:00 **Eleanor Sheppard**, Lincoln College, Oxford

Title: Courtly mathematics in Sixteenth Century Florence

Abstract:

In sixteenth century Italy, alongside those mathematicians who debated and developed their theories in the Renaissance universities, a perhaps larger body of "practical mathematicians" was to be found mostly outside the universities. This body included the civil and military architects and engineers who built the great Palazzi and Fortresses; the painters and sculptors perfecting the art of perspective; the surveyors and mapmakers who measure the earth; and the astronomers, astrologers and instrument makers who measured the heavens. These men often found employment at papal, ducal or royal courts, and in my research I will be focusing on the Florentine court at the time of Cosimo I, Francesco I and Ferdinando I de' Medici, the first three Grand Dukes of Tuscany. In this paper, I wish to give some indication of the extent of the practical mathematical community in Tuscany at this time, and to single out some particular mathematics as examples of the range and diversity of this community.

15:30 **Benjamin Wardhaugh**, Hertford College, Oxford (from September 2007, All Souls College, Oxford)

Title: Poor Robin and Merry Andrew: mathematical humour in Restoration England

Abstract:

'A well-willer to the mathematicks...'; 'a plain and mathematical method...'. Quite a number of writers in Restoration England used these and similar phrases on the title pages of their books, most of them intending to bolster their more or less hyperbolic claims to a particular kind of authority, whether or not their books were really concerned with mathematical topics. Some of these works were sincere attempts to bring the perceived certainty of mathematical demonstration to another subject, like John Craig's 'Mathematical principles of Christian theology'. Others were boisterous satires, like the series of spoof astronomical almanacs produced in the 1660s and 70s by 'Poor Robin, Knight of the Burnt Island', or they mixed humour with serious

instruction. As well as providing occasionally entertaining reading, these books provide a rare window onto popular perceptions of mathematics in a period when its usefulness and even its meaning provoked learned discussion.

16:30 **Edmund Robertson**, St Andrews

Title: P G Tait's Scrapbook

Abstract:

I will look briefly at the range of materials contained in Tait's Scrapbook which is kept in 14 India Street, Edinburgh, the birthplace of James Clerk Maxwell, and now owned by the James Clerk Maxwell Foundation.

17:00 **R. B. Mallion**, The King's School, Canterbury

Title: The Six (or Seven) Bridges of Kaliningrad: a Personal Eulerian Walk, 2006

Abstract:

The 18th-century problem of the Bridges of Königsberg was solved in a memoir dated 1736 and written by the Swiss mathematician Leonard Euler (1707–1783) soon after he had been appointed to the senior Chair of Mathematics at the St. Petersburg Academy of Sciences. Not long after the Conferences of Yalta and Potsdam had assigned the region to the Soviet Union after World War II, Königsberg came to be known as the city of Kaliningrad [Калининград], capital of the Kaliningrad Oblast, which, since the early 1990s, has found itself as an exclave of the present-day Russian Federation, isolated from mainland Russia by the newly independent republic of Lithuania (and, beyond that, Latvia and Belarus). Furthermore, the Kaliningrad Oblast's only other adjoining neighbour is Poland which, like Lithuania, has been a Member of the European Union since May 1st, 2004. This state of affairs thus determines that the Kaliningrad Oblast is, these days, *doubly* anomalous, in that it is not only an *exclave* of the Russian Federation but (simultaneously) it is also a foreign *enclave* within the European Union. It was into this intriguing and unique area that I ventured, last February, in order to investigate what the current situation is with regard to 'Eulerian Walks' in the Kaliningrad of 2006, precisely 270 years after Euler considered the problem as it applied to the Königsberg of 1736. This talk will evaluate how the disposition of the Bridges has varied over the years. Until 1875, the configuration of the Bridges was precisely what it was in Euler's time, and an Eulerian Walk was thus still not then feasible; by the 1930s, however, the original seven Bridges had increased in number to ten, and careful examination shows that an Eulerian Walk *was* at that time possible. It will be demonstrated that, only a few years ago — at the beginning of the present millennium — an Eulerian Walk was again *not* feasible. In fact, though, thanks to the rebuilding, only in 2005, of the (1905) *Kaiserbrücke* — which was reconstructed in order to commemorate the 750th anniversary of the founding of the city (in 1255) — an Eulerian Walk *is* once again now possible in present-day Kaliningrad. This claim will be demonstrated both by use of the conventional Graph-Theoretical equivalent of Euler's original algorithm and by describing the specific Eulerian Walk that I (and my intrepid Polish travelling companion, Paweł Skrzyński) actually executed in practice, on Sunday, February 26th, 2006.