

The History of Recreational Mathematics

18th May 2019, Birkbeck

Thank you for participating in this conference on the History of Recreational Mathematics. It has been organised by the British Society for the History of Mathematics (BSHM), with support from the Department of Economics, Mathematics and Statistics at Birkbeck College, University of London. Our Birkbeck events are now a regular fixture in the BSHM calendar and one of our most popular annual events. We have an exciting programme for the day with six excellent speakers covering a range of topics. We hope you enjoy it. If you are not already a member of the BSHM, we encourage you to consider joining. You can go to the website www.bshm.ac.uk for more information.

On Arrival

- The conference will be in the main Birkbeck Building on Torrington Square (building number 1 on the map on page 5). For journey planning, the postcode is WC1E 7HX. Nearby stations include Euston, Russell Square and Warren Street.
- Registration and all tea/coffee breaks through the day will be in room **B04**; this is on the basement level near the main lecture room. It will be clearly signposted.
- All lectures will be in room **B35**, again on the basement level and clearly signposted.
- The full programme with abstracts is on pages 2 and 3.
- To keep registration fees to a minimum, lunch is **not** provided. There are numerous cafes, restaurants and shops nearby; a few suggestions are given on page 4.
- Taylor and Francis, publishers of the BSHM journals, will have a display stand on the day with some relevant books and journal copies for you to look at.

Programme

9:30 Registration and Coffee/Tea

10.00 Opening remarks

10.10 Prof. David Singmaster

The 17 camels and the 13 camels

The problem of the 17 camels to be divided as $1/2$, $1/3$, $1/9$ is one of the older paradoxical puzzles. There are numerous versions of it, but hardly any careful analysis of it. I will explain the general problem and its solutions - there are 14 versions, including two pseudo versions. One author attributes the problem to Tartaglia, but no one has found it in his work. Numerous modern works claim it is of Islamic origin, but there is no definite evidence. Islamic Shi-ite tradition attributes it to the first Caliph, Imam 'Ali (601-664), but there is no documentation of this until the 18th century. In 1971, a variation, of dividing 13 camels as $1/2$, $1/3$, $1/4$ was posed. This had never been analysed. I find many more versions than for the 17 camels.

10:55 Dr Albrecht Heeffer (Ghent University)

Récréations Mathématiques (1624): history and influence

This anonymous little book, published at the Jesuit university of Pont-à-Mousson in 1624 was the first to bear 'recreational mathematics' in its title. It went through more than eighty French editions, was translated into several other languages and had a profound influence, not only within the domain of mathematical games and puzzles but also for early-modern natural philosophy. This talk gives an overview of the history in the context of Jesuit education, discusses some of the problems and proposes an alternative thesis about its author.

11.40 Tea/Coffee

12:10 Mark Bolitho (www.creaselighting.co.uk)

Unfolding possibilities; Origami and Mathematics

Origami and Paperfolding have had a long association with Mathematics, from exploring Mathematical ideas inherent in folding to developing Mathematics to explain the folding process. The talk will look at some of Mathematical ideas that have been explored, from T. Sundara Row's book "Geometric exercises in paper folding" published in 1917, to the papers published at the 7th International meeting of Origami Science Mathematics and Education (7OSME) in 2018. The talk will be interactive with some practical folding demonstrations. Mark Bolitho has worked full time as an Origami Artist and communicator for the last 15 years through his company Creaselighting Ltd. He was formerly Chairman of the British Origami Society.

12:55 – 14:15 Lunch

(See page 4 for lunch suggestions.)

14:15 Dr Katie Chicot (Open University/MathsworldUK)

MathsWorldUK - A National Mathematics Discovery Centre

The aim of MathsWorldUK is to establish the UK's first Mathematics Discovery Centre. The Centre will re-invent the image of mathematics in the UK, showing that mathematics is vital for our society. Maths is to be enjoyed and explored. It will be a challenging and stimulating, interactive experience, which will be informative and visually arresting. We will offer visitors the opportunity to tackle mathematical challenges, building their maths interest, confidence and resilience. In this talk we will give a summary of the progress of the project to date and discuss what makes a good recreational maths activity and a good exhibit.

15:00 Dr Andrew Bowler (Birkbeck, University of London)

Euler's Officers, MOLS and a little bit of magic!

In 1782, motivated by a puzzle about arranging 36 officers in a square formation, Euler produced the first significant work on latin squares, and stated a conjecture that took over 100 years to resolve. In this talk, I shall consider what was known about latin squares before Euler's work, look at how Euler's conjecture was finally settled and discuss the relationship between latin squares and magic squares.

15:45 Coffee/Tea

16:15 Prof. Robin Wilson (Open University/ London School of Economics)

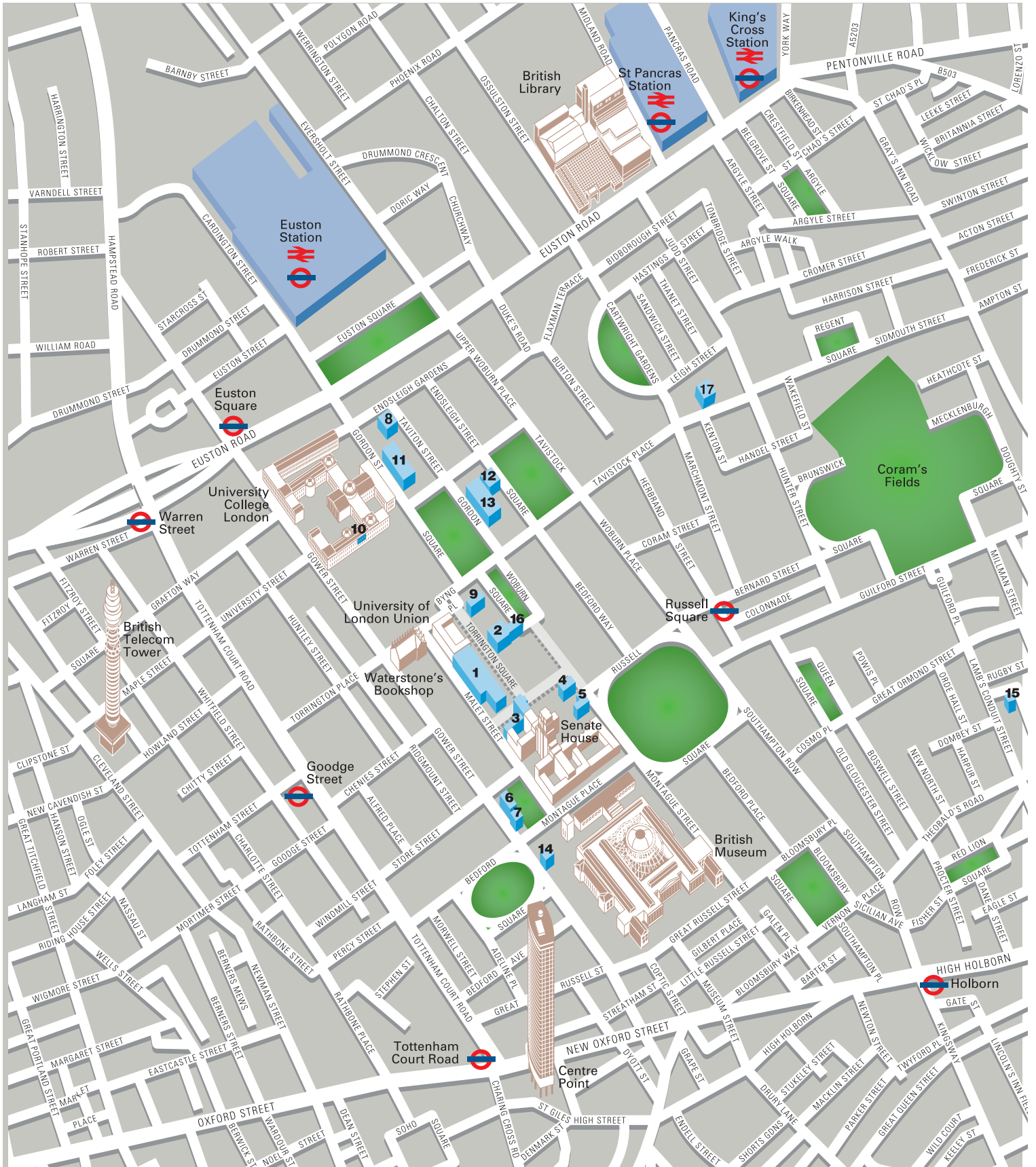
Lewis Carroll's Recreational Mathematics





Charles Dodgson (Lewis Carroll) was a mathematics lecturer at Christ Church, Oxford, who made contributions to geometry, algebra, logic, and the theory of voting. He was also a strong believer in the use of recreational puzzles to introduce serious mathematical ideas to adults and children alike. In this talk I shall present a varied selection of his mathematical puzzles, with particular reference to some that appeared in his book 'A Tangled Tale'.

17:00 Close

Places to Eat near Birkbeck

- We have **an hour and twenty minutes** for lunch.
- Within Birkbeck (building 1 on the map), on the ground floor by the foyer, there is a **Costa Coffee** open from 9am which has a range of hot and cold sandwiches and snacks.
- Externally there are several shops where you can buy sandwiches and snacks - you can bring these back and have them in the room where we have tea and coffee if you wish. The nearest are the Life Goddess Deli and the Co-op Local on **Store Street**, (South-West of Birkbeck on the map on page 5) or the Pret-a-Manger and Tesco Metro opposite Russell Square Tube. Store Street and Russell Square are marked on the map.
- The **Marlborough Arms** (36 Torrington Place – turn left out of the main building, then head left along Torrington Place, passing Waterstones on your left) is the nearest pub; it serves standard pub food. The **College Arms** on Store Street is an alternative. It's also where we will likely go for a post-conference drink.
- **Planet Organic** on Torrington Place (turn left out of the main building, then head left along Torrington Place, passing Waterstones and the Marlborough Arms on your left, and crossing Gower Street) sells vegetarian and vegan food to eat in or take away.
- **Olivelli** on Store Street has a cheapish set lunch.
- The **Russell Square Café** in Russell Square is also reasonable and close at hand.



-  Birkbeck buildings
-  Stations (rail/tube)
-  Stations (tube)
-  Major landmarks and other buildings of interest

- 1 Birkbeck main building, Torrington Square
- 2 Clore Management Centre
- 3 Senate House (North Block)
- 4 25-26 Russell Square
- 5 30 Russell Square
- 6 10-16 Gower Street
- 7 4 Gower Street
- 8 Evening Nursery
- 9 32 Torrington Square
- 10 South Wing UCL (access via Gower Street)
- 11 Gordon House
- 12 32 Tavistock Square
- 13 39-47 Gordon Square
- 14 7 Bedford Square

- 15 Knowledge Lab, 23-29 Emerald Street
- 16 The Wolfson Institute for Brain Development and Function in the Henry Wellcome Building
- 17 Egmont House

