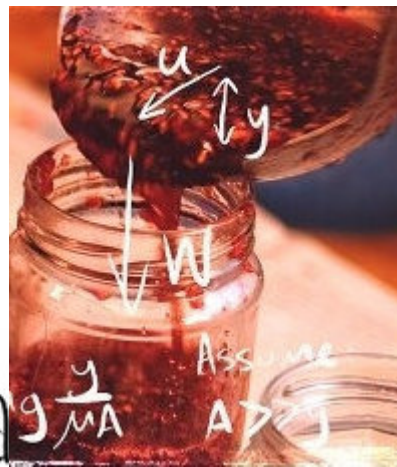


*Will you join in?*

# World Maths Year 2020

*Or maybe 2025? - a possible legacy for this conference*

**John Bibby:** [jb43@York.ac.uk](mailto:jb43@York.ac.uk)

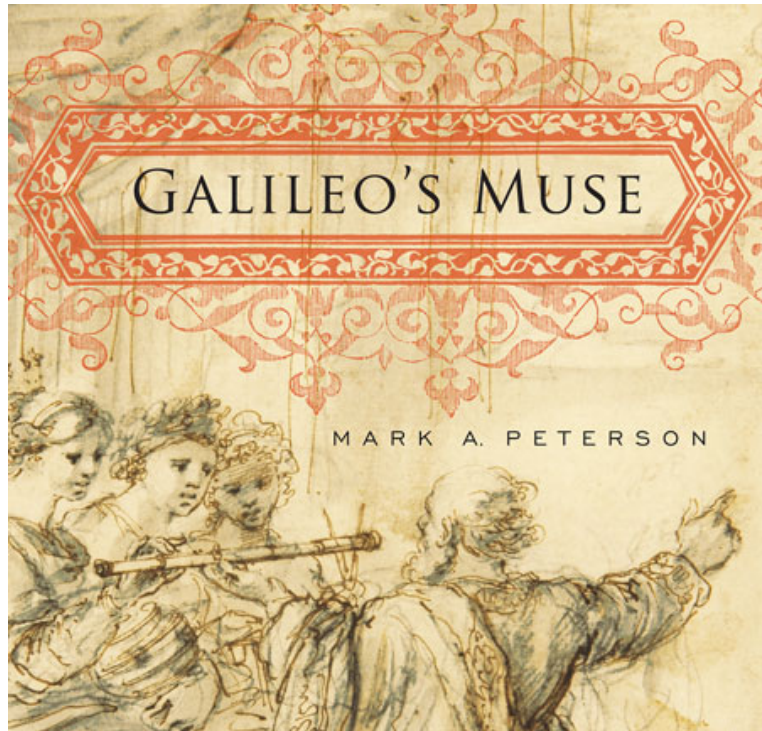


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MathsJam

England   Rest of UK & Ireland   North America   Rest of World   Annual Conference





**Galileo's Muses:** Poetry,  
Painting, Music, Architecture  
(including Dante's "*Dimensions of Hell*"!)



Mark Peterson (2011) *Galileo's Muse*.  
Harvard University Press.

## Contents:

### Poetry

3. The Plan of Heaven 69
4. The Vision of God 81

### Painting

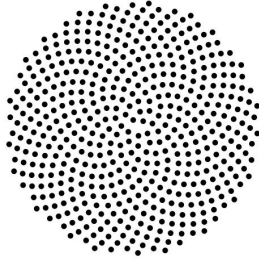
5. The Power of the Lines 99
6. The Skin of the Lion 125

### Music

7. The Orphic Mystery 153
8. Kepler and the Music of the Spheres 174

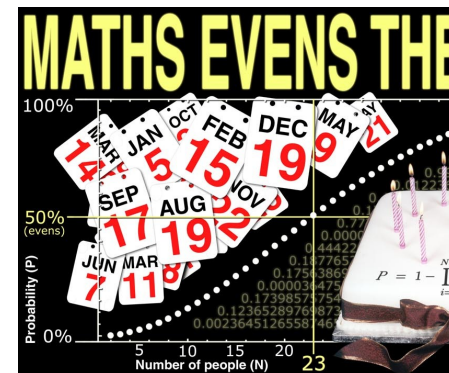
### Architecture

9. Figure and Form 203
10. The Dimensions of Hell 214



## Out of the silo (1): Physical silos (Get out of the building: build bridges to “Non-standard learning environments”)

- On the buses / On the train (and stations and stops)
- In the home (care-homes, Arlight, Hebden Rise)
- On the street (youngsters, offenders, homeless people)
- Cafes & pubs: beermat(h)s, quizzes, napkins, tablecloths incl. origami
- Sports arenas: MathFests at Leeds United & Manchester City
- Shopping malls
- Car boot sales



WORLD MATHEMATICAL YEAR 2000  
Posters in the London Underground  
Supported by EPSRC

How many people are in this tube carriage? Would you be surprised if two or more have the same birthday?

Simple probability theory tells us that if there are 23 people or more, then the odds on this coincidence are better than 50-50. Maths helps us understand random events, enabling us to assess risk in dangerous situations - and to give the odds on winning the lottery!

Isaac Newton Institute for Mathematical Sciences  
www.newton.cam.ac.uk  
University of Cambridge, U.K.  
The Isaac Newton Institute exists to promote Mathematics

Design: Copyright (C) 2000 Andrew D. Burbanks  
Concept and text: H.K. Moffatt, R.E. Hunt & A.D. Burbanks  
Photograph: K. Drummond



GOOD NEWS!

The deadline for *MathFest NorthWest* ticket applications has now been extended to **26 May**

We now have 300,000 colourful lapel-stickers.

Please let us know how many you would like.

(Contact Mike Franks or Shazne Rawlings on 0161-610-3319 Fax: 610-3385)

Please note the following dates for your diary: (Details from 0800-1100-900 or from info-point given)

31 May: Maths @ Leeds United FC  
Info: [steve.smith@lfc-community-trust.co.uk](mailto:steve.smith@lfc-community-trust.co.uk)

8 July: Calderdale MathFest  
Harlitix Fleece Hall

**MathFest  
NorthWest**

SATURDAY 1 JULY 2000 @ MANCHESTER CITY FOOTBALL CLUB

## HEBDEN RISE

Hebden Rise is a day care centre for people with severe learning disabilities they may have low mathematical skills, but their enthusiasm for learning can be very strong.

Our aim is to develop functional skills for use in everyday life. We visit weekly

## RED ROOVES

Red Rooves is a half way house for the long term mentally ill who are in the process of changing from institutional care to care in the community.



Welcome to the Leeds United MathsFest



We hope you enjoy your visit today. We have planned lots of interesting activities which will take place in the South Stand and on the track around the pitch area. Your access and exit point for the Stadium is in the South West corner, by the giant screen. Please remember .....

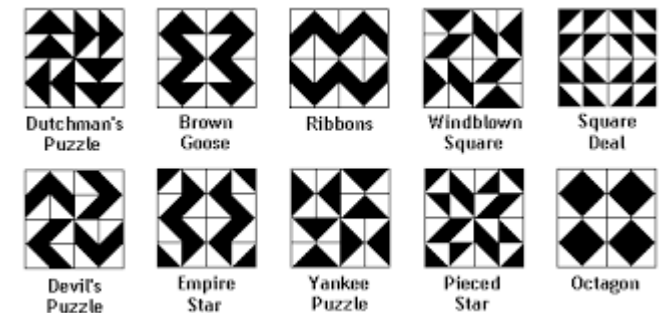
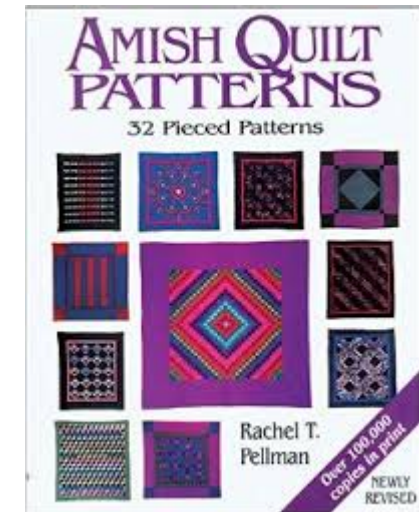
**DO NOT GO  
ONTO THE  
PITCH.**

Leeds United thank you for your

## Out of the silo (2): Intellectual silos

(Get out of the box: build bridges to other disciplines & non-disciplines)

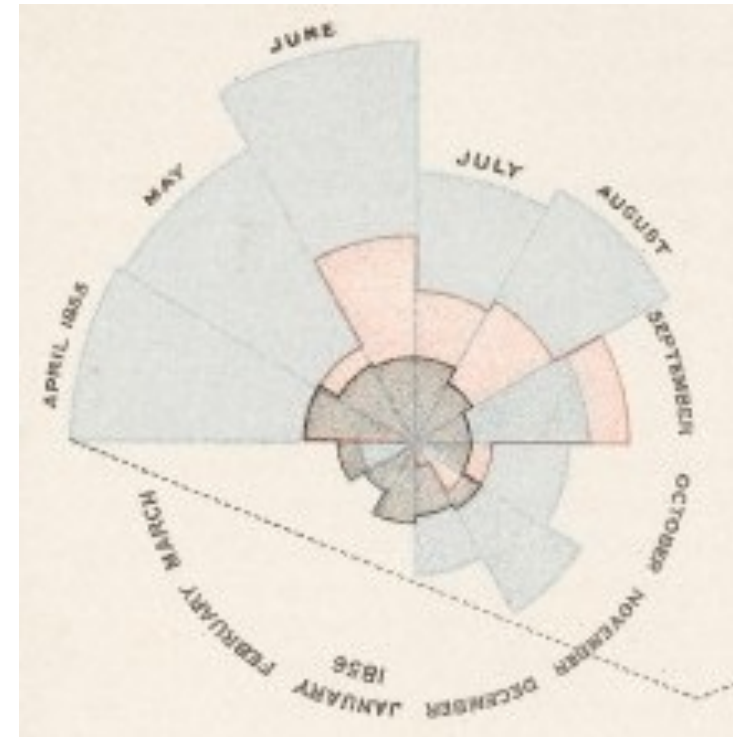
- **“Maths and X”**:  $x$  member of {{accounting, *acupuncture*, archaeology, art, ... youth development, *zoology*, zymology, ...}}
- **Hobbies & everyday activities** too: (archery, *beer*, chess, *drama*, ...gardening, ... *knitting*, ... quilts, ... *sport*, ... war, *xylophones*, youth, *zebras*)
- **Health & Risk**
- **Joint activities** e.g. suitable for both numeracy *and* literacy curriculums



# An ideal icon for 2020?



Florence Nightingale  
(1820-1910)



## Amy Johnson – a better icon?

- Less remote for today's target groups – in time and in social class
- More “mathematical” (engineer/navigation)
- A better role-model? (Hull swimming baths – she stood up for ‘women's rights’ against her headmaster who called swimming ‘unladylike’)



Gender equity or  
Social class equity?



- **Beat the drum!**
- **Beat the bigger drum !!!**



## William Farr - part of the “bigger drum” !

- Son of an agricultural labour
- Contrast to Nightingale who was massively privileged
- A greater statistician than Nightingale – and far more than her “statistical assistant”
- He probably saved more lives too – via public health



William Farr  
(1807-1883)

## WMY2020 legacy - this is important!

- Ideas from Radical Statistics, Full Fact, and MWUK

**MathsJam + Radical Statistics = MathsJam World .... ???**

**RADICAL STATISTICS**

**MATHSWORLDUK**



MathsJam

## MathsJam Centres - Data World

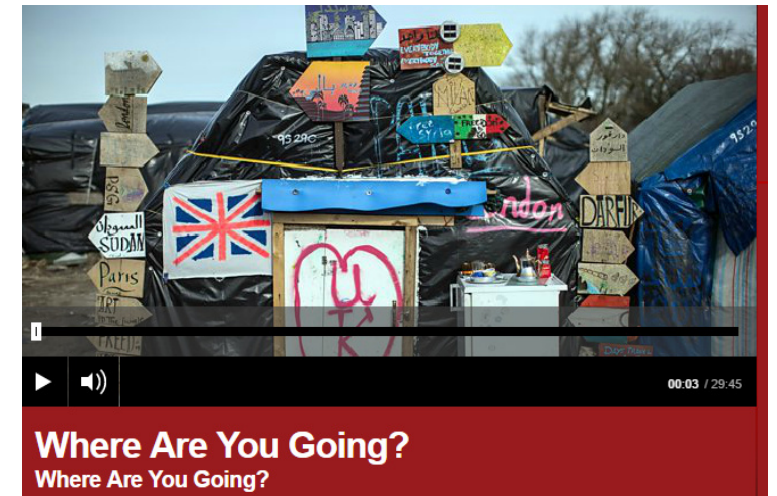
National network of local “Discovery Centres” (with outreach):

1. **Hands-on data exploratory/museum:** 'edutainment' from the worlds of science, technology, mathematics, art, music, colour, fun, history, philosophy, politics etc., etc. – all relating to data and information
2. **Social venue and meeting-place** for events with a science or technology flavour
3. **Community resource centre** for local community groups and others who use data in their activities.

**Lastly – on BBC World Service yesterday:**  
From ‘The Jungle’ migrant camp in Calais

Young maths teacher: “I want to go to UK so I can teach mathematics. It’s what I do. It’s beautiful.”

*An impossible dream?*



Catherine Carr: “*Where are you going?*” BBC World Service

# Do we have a critical mass here at MATRIX QED

along with partners

## to turn an "impossible dream"

# into WMY 2020 ??



**MOMATH**  
NATIONAL MUSEUM  
OF MATHEMATICS  
momath.org

the activities  
with 2000  
Topic No. 1  
The Thematic Activity Centres  
1. Land the problem of points that started  
for other theorems  
2. Line that  
3. How many vertices, edges and cubes  
(graphs, generalizations) - Coe's theorem  
4. 12 problems  
5. The relationships to the number  
6. 1. Euler (Euler's mu-invariance centre,  
and recursion  
- (COPPE)  
7. Vertices and coordinate graphs  
on (one-sided) surfaces  
23. Powers of 10 (Large and small numbers representation)  
24. No. of real number and prime number distribution, Goldbach's conjecture  
25. Cryptography (Diagrams), codes and ciphers  
26. The fundamental theorem of algebra  
27. Traveling salesman problem, Tournament problems  
28. Linear programming - G. G. Gungor



**Maths in a Van**

THE GARDEN OF ARCHIMEDES  
a museum for [mathematics]

**mathematikum**  
Mathematik zum Anfassen.

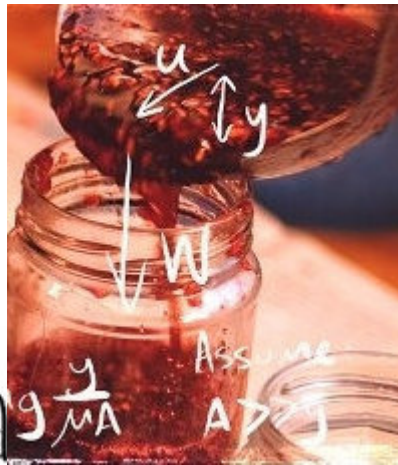
**MATHSWORLDDUK**  
The Museum of Mathematics in the UK

*Will you join in?*

# World Maths Year 2020

*(and the need for lots more maths t-shirts)*

John Bibby: [jb43@York.ac.uk](mailto:jb43@York.ac.uk)



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