

Science and Innovation Banquet

Egyptian Hall, Mansion House

Wednesday 5th June 2024

The Rt Hon The Lord Mayor of London

Alderman Professor Michael Mainelli

My Lords, fellow Aldermen, Sheriff, Chief Commoner, ladies and gentlemen...

On behalf of the City of London Corporation, a very warm welcome to Mansion House for tonight's Science and Innovation Banquet.

We are honoured to be joined by Professor Manahel Thabet, the Commonwealth Special Envoy for Science and Technology, and by Baroness Scotland, the Secretary-General of the Commonwealth.

The City of London Corporation is the world's oldest democratic workers' and residents' cooperative, dating back almost 14 centuries, with elections held continuously since the 7th century.

Today we are home to 200,000 professional and financial workers working alongside 200,000 scientists and technicians - speaking over 300 languages.

Which reminds me; they say there are 10 sorts of people:
those that understand binary numbers and those that don't.

The City's strength is bringing people together, the purpose of tonight's celebration.

New Learning

Since the 15th century, the City of London has been a centre for science as much as a centre for commerce – and throughout our history, the two have reinforced each other.

When Erasmus came to London in the 1490s, he helped light the fire of the 'New Learning' in England – at the heart of the New Learning was the scientific method.

And when the City financier Sir Thomas Gresham - founder of the Royal Exchange - died in 1579, his wealth accounted for around 2% of England's GDP - and he left virtually all of that money to New Learning, most notably Gresham College - the first institution of higher education in London.

It's as if Warren Buffet left all his money to String Theory.

200 years later, Samuel Johnson said, with a little exaggeration, *“there is more learning and science within the circumference of ten miles from where we now sit, than in all the rest of the world.”*

Exaggeration because, within not 10 but 2 miles of where we are now sit, there are over 40 learned societies, 70 universities, and 130 research institutes surrounding our City.

As the world's most productive concentration of connected knowledge networks, it is our connectivity, as much as our ability, that matters.

In a gathering of scientists like this, one of my favourite dad jokes is:

If H₂O is water, then what is H₂O₄?

It's for drinking, of course!

Connect to Prosper

The theme of this year's mayoralty is *Connect to Prosper* – celebrating the many knowledge miles that flow through our Square Mile and out around the world.

I like to call the City of London the world's coffee house, the place where people come to solve problems.

We have launched a series of *Connect to Prosper* initiatives:

First, our Ethical AI Initiative.

The City of London Corporation today launched a new report with KPMG: 'Financial & Professional Services: The future of AI & the workforce' – predicting we could see as much as a 50% increase in productivity in the next five years through the responsible adoption of AI.

The City's AI Innovation Challenge, launched by our Policy Chairman Chris Hayward, invites tech companies to propose solutions to tackle online fraud, while our Taskforce, Women Pivoting to Digital, supports more women into technical roles.

The Ethical AI Initiative provides a syllabus for institutions to provide Ethical AI courses, which in the past 6 months have been taken by 5000 participants, from more than 500 organisations, across 50 countries.

In Brussels, three weeks ago, our Walbrook AI Accord secured commitments from 30 nations to Quality Infrastructure for AI assurance, based around ISO 42000.

Second, the Smart Economy Networks Initiative, using international X-Road standards.

Third, the Constructing Science Initiative - promoting the international standard for converting vacant offices to life sciences facilities, worldwide.

Fourth, our Green Finance Initiative, reinforcing carbon markets to support the transition to Net Zero – the subject of a recent paper to the Royal Society of Chemistry which I co-authored: *What happens if we 'burn all the carbon'? carbon reserves, carbon budgets, and policy options for governments.*

Two months ago, we launched the City Carbon Credit Cancellation Service, which gives businesses and individuals the ability to purchase carbon emission allowances from systems that meet the high standards of the UK Emissions Trading Scheme.

Fifth, GALENOS, to accelerate and improve the quality of global mental health research – working with Oxford University, MQ Mental Health, and the Wellcome Trust.

And finally, the Space Protection Initiative.

Which reminds me, why did Mickey Mouse go to outer space?

Oh, he was looking for Pluto!

Well, it was actually Suneel Bakhshi of Mizuho who first alerted me to the financial problems of space junk, and introduced me to space debris removal companies such as Astroscale.

There is no way we will reach Net Zero with the current rate of increase of space junk.

Mobilising our financial and insurance knowledge miles, the City of London has proposed the use of Space Debris Removal Insurance Bonds to keep space clutter-free.

And I am delighted that we will be hearing more from Professor Manahel Thabet later about the Commonwealth space strategy, support for space protection from the 56 nations of the Commonwealth, and a giant leap for spacekind.

Common themes

There are three strands connecting all our initiatives.

One, the importance of a multidisciplinary approach.

Which is why we not only need to support learning in STEM subjects, but in STEAM – including the arts and creative subjects as well as science, technology, engineering and mathematics.

Second, the importance of international standards.

In a fiercely competitive world, we know people are not looking for the best British technology, but simply the best technology.

We are not promoting innovation for innovation's sake.

Indeed, too much innovation is wasteful – we need to get the balance right.

And third, solving global problems.

The City of London's biggest client, modestly, the world, set out 17 Sustainable Development Goals a decade ago.

London should be the problem-solving centre for all of them.

The Wonder of Doubt

Tonight, we scientists and innovators share a profound connection – the wonder of doubt.

When people such as Escher looked at tessellation, they all assumed tiling would be periodic – with repeated patterns.

Gresham College Professor Sir Roger Penrose and his father doubted this, and discovered an aperiodic tiling with just two shapes.

Last year, David Smith doubted that two shapes were required and discovered the monotile – known as the Einstein, the ‘one stone’ in German – for aperiodic tiling with just one shape.

We hope you have enjoyed connecting with your neighbour over these aperiodic tiles – a reminder of the wonder of doubt.

Danish philosopher Søren Kierkegaard wrote that without doubt, you cannot have faith.

This spirit of “I am not totally sure, so I’m listening” runs through all our Connect To Prosper initiatives – with the guiding principle that we don’t just need to agree to disagree, but to disagree agreeably – which is essential to nurturing a spirit of creativity, and enabling progress by testing the latest ideas.

Speaking of great doubters, why was Isaac Newton unable to dodge the apple that landed on his head?

Because he doubted the gravity of the situation.

We need to bring polymaths and specialists together to find solutions - for our planet, and for space - in the spirit of scientific enquiry, with robust international

standards, in a global solutions centre – London - while retaining a tincture of the wonder of doubt.

To paraphrase the father of computer science, Alan Turing: *“we can only see a short distance ahead, but I do not doubt there is plenty that needs to be done.”*

Thank you.