

AUGUST SPEAKER

Our August Speaker is Caroline Roberts. She is a Leicester Guide Blue Badge holder and has visited us before. Last time she enthralled us with tales of 'Haunted Leicester' and this time it will be: -

"There's more to Leicester than just cheese"

Everyone has heard of Leicester cheese and more recently the discovery of Richard III but many think there is nothing else of note in our county town. However, if you know where to look you can still find amazing buildings and historic tales going back to the Romans and beyond. Do you where to look for a wyvern, a holy relic or a turkey? Where were sewing machines, Geoffrey Chaucer or a building where you could book to go anywhere?

Andrea

NOTICE

WALKING HOLIDAY CONISTON 9-13TH OCTOBER 2023

There are still a few places left on next year's walking holiday.

If anyone would like to go then please contact the organiser Hamish Paterson at the monthly meeting or call him on 07584993350

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Bulletin Reports

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Please bring them along and give them to Sue Creeden at the monthly meeting. Alternatively, you can pop them through her door – 25 Holly Drive, Lutterworth. Sue will then pass them on to Liz.



Sue

LIVELY DISCUSSION

Co-ordinator: Dot

Lively Discussion 11th July 2022

Is there a time or need to review our exam system?

Testing from primary through to secondary education includes SATS at ages 7 and 10, GCSEs at 16, and AS and A Levels in the 6th Form.

SATS are simply a measure of how the school is doing even though the children are the ones being tested. It is well known that pupils develop at different rates so it appears to us that unnecessary stress is put on very young children and leaves less time for real education, development and learning.

GCSEs, and previously O Levels and Matriculation, were required as many children left school at 16 and it was necessary to record their levels as school life finished. Surely exams at 16 are no longer necessary as pupils are expected to stay in full time education until they are 18?

The person leading our discussion referred mainly to GCSE exams, but many of the comments also apply to reforms at A-level as well.

Introduced in 2013, for introduction in 2015 and first examination in 2017, significant changes to the examination system for GCSE, AS and A levels were made by the then Education Secretary, Michael Gove. The changes, to both what was being taught and what was assessed, were designed to cure what he considered to be ‘structural problems’ in end-of-course exams and also in the content of what was being taught.

He argued that by making courses more fulfilling and more stretching we can give our young people the broad, deep and balanced education which will equip them to win the global race.

In many ways there is no problem with the changes to course content and the move away from ‘dumbing down’ that had crept into many courses. The main

issue is with the changes to the scope and nature of the end-of-course examinations.

Michael Gove felt that the old-style GCSEs and their reliance on coursework as a component part of the assessment had been open to abuse. In addition, there was concern about grade inflation, which saw examination passes in the highest grades increase from year to year. There was also concern from employers about the quality and validity of the content being taught at examination level in some subjects.

As a consequence of these concerns Gove replaced the existing end of course examination regime with a final examination element that was to be the sole measure of a pupil's success. Science had a small practical element that counted towards the final result, and in GCSE Computer Science, students were expected to complete a practical programming task, taking up no more than 20 hours, but this was not counted towards their final exam, although they would fail the course if they did not complete it.

In a survey carried out in 2020 by the Children's Commissioner for England, two-thirds of children ranked homework and exams as their greatest cause of stress.

Responding to a poll by members of the National Education Union on the reformed GCSE examination system, which put more weight on final exams and less on coursework and other forms of assessment:

- **73% of respondents believe that student mental health has worsened since the introduction of reformed GCSEs;**
- **54% believe that students' ability is less accurately recorded by GCSEs than before; and**
- **61% have seen a worsening of student engagement in education as a result of the reforms.**

The examination reforms, imposed on schools by Michael Gove, *against expert advice*, may have contributed to the OECD's* findings in 2019 that, of the 72 nations in which the life satisfaction of 15-year-olds was assessed, the UK came 69th.

***(Organisation for Economic Cooperation and Development using PISA, their Programme for International Student Assessment - an international study that evaluates educational systems in different countries by measuring the scholastic performance of 15-year-old school students in mathematics, science and reading.)**

Our children's joy of living suffered the greatest decline of any country since 2015, the year in which the GCSE reforms became effective.

A justification for the examination reforms was made by the then Education Secretary, Damian Hinds, who wrote in a Sunday Times article in 2019 that while he accepted that exams were stressful and had **“a disproportionate effect on young people's wellbeing”**, he claimed, *without any supporting evidence*, that this stress was important in **“building character”** and **“developing the resilience and coping mechanisms to deal with challenging experiences”**.

On the other hand Simon Lebus, Interim Head of OfQual, (the exams and qualifications watchdog) from January to September 2021, says that: **“Exams are a bit like a snapshot, a photograph – you capture an instant, it's a form of sampling – whereas teacher assessment allows teachers to observe student performance over a much longer period, in a rather more complex way, taking into account lots of different pieces of work and arriving at a holistic judgement. We can feel satisfied that it is likely to give a much more accurate and substantial reflection of what their students are capable.”**

In February 2022 the Independent Assessment Commission (IAC) - which is made up of **academics, teachers and students** – undertook its review of the GCSE examination system during the COVID pandemic when full public examinations were cancelled for two years in a row (2020 and 2021), prompting major changes to the system. The IAC called for fundamental changes to England's examination system in the wake of the COVID pandemic, which heavily impacted existing assessment and grading methodologies, forcing the Government to place a greater emphasis on teacher assessments.

The IAC recommendations included **scrapping GCSEs** at a fixed point around the age of 16 and replacing it with opportunities to demonstrate achievements when ready, throughout their schooling from 16 to 19.

They felt that what exams measure is aptitude in exams. While they might rank certain skills, such as the retention of facts and the performance of linear tasks

under pressure, these represent just a small part of the equipment a person needs to navigate the world. Many of the challenges we face are complex, long-lasting and multi-layered. They might demand social and emotional intelligence rather than the ability to marshal facts, and might best be overcome by collaboration instead of competition.

The IAC felt that one possible answer would be to look at Finland, where there are no exams before school leaving age and no league tables. All assessment is teacher-based, geared to guiding further learning. Teachers enjoy high professional autonomy, grounded in their own education to Master's level. The Finnish system is avowedly egalitarian, with the aim of minimising social inequalities. All students receive free school meals, not just a disadvantaged group. And guess what? Finland outperforms the UK not only in terms of wellbeing and life satisfaction of 15-year-olds, but also in their performance in the OECD Pisa tests, based on reading, mathematics and science.

One answer posed by a group member was to offer the Baccalaureate instead of the current system of GCSEs and A levels. This consists of 3 core subjects, English Maths and Science and 3 minor subjects, but differs from our system because it is much broader and features assessment as well as exams. It is easy to compare with A levels but not GCSEs and so has been discounted by the British Government despite being the standard used in 150 countries.

Another concern of ours is that memorising large chunks of facts is not necessary since historical dates etc. can be Googled. Much more important is the ability to understand how things develop. Once at degree level any good degree leads to a job, often in a different discipline than that of the degree. Achieving a good degree demonstrates that you are a logical thinker, hard worker and good at analysis.

There was much concern over Tony Blair's figure/target of getting 50% of students into university. This emerged during an interview when he was proposing increasing the numbers going to university and when asked by the interviewer he suggested 50% which was picked up with enthusiasm by universities and the press.

There is concern about grade inflation, some of which has been put down to teacher assessments during COVID. Firstly the standards of teaching now are very much better than they used to be. Teaching techniques have improved, and pupils are encouraged to think for themselves and develop ideas within the

guidelines set, it is no surprise that their levels have improved. This is such a difference from learning by rote and being able to spew out facts. Secondly parents often arrange out of school tuition and even mindfulness sessions to help their offspring cope with the stress of exams. University lecturers recognise that children are much savvier nowadays and work out what they need to do to be accepted onto a course. One group member described how his son worked out exactly what he had to do to get a first at Oxford – which he achieved. Since universities need to recruit far more students than before they must not only look for a more accomplished intake, but must also produce good results for marketing purposes.

We are also worried about the Government's strong focus on the academic when many pupils are suited to technical careers - and then we wouldn't need so many Polish plumbers, builders etc.!

Most of all we want the Government, no matter who is Education Secretary, to base its policy on education professional advice and not political policies.

Turning to future employment here are some comments from well-known employers:

A poll of companies by a trust set up by the London Chamber of Commerce and Industry reported that profitability had suffered because new recruits were lacking in basic workplace skills. A report from the Times Education Commission suggested that the British economy would gain an estimated annual boost of £124.6 billion if greater focus was placed on commercial skills such as time-keeping, resilience, self-motivation, and common sense.

Sir James Dyson commented on how ill-equipped the UK is to train engineers. He puts part of the blame in the downgrading of design technology lessons. He believes that children are creative and love building and making things, but as they get closer to GCSEs and A-levels, creativity fizzles out. From then on it is all about rote learning and how much you can remember of other people's facts.

Other major employers complain about a narrow, limited and box-ticking system and the fact that many young graduates are simply not ready for work. Employers feel that there is a general lack of real-world understanding.

Richard Branson expressed a strong belief that less emphasis on exams and more emphasis on employment skills would be better for the economy and for the individual. Countries that have already done this, he said, have already seen an economic boost.

Should exams be scrapped completely?

Here are two competing views on this debate.

Robert Halfon, MP for Harlow and Chair of the House of Commons Education Committee says:

“In normal times, I visit schools from Harlow to Hull. Most students I meet want examinations. It is not hard to understand why. As Ofsted said to our Education Committee, exams provide structure and a sense of achievement. Ofsted are right: they give students something to aspire to. Exams are valued by employers as vital methods of assessment. My worry is that centre-assessed grades, adopted by the Government, without any serious standardised tests (even in core subjects) may devalue the currency of exams to employers because of increased grade inflation.

The debate should not be about scrapping exams – but what kind of exams?

Perhaps we should get rid of A-Levels and move to an International Baccalaureate (already successfully offered in over 150 countries) encompassing vocational and technical education, as well as a knowledge-rich curriculum, all the while helping to narrow our skills deficit.”

Leon Hady, a former head teacher and founder of an organisation called Guide Education

“Most pupils are being failed by a system that rewards memory and cramming – rather than real learning.

Exams are the result of the failed scaling of the Victorian “answer and response” assessments between master and student.

Modern assessments should be a way to understand a pupil’s development, encourage self-learning, and provide feedback for teachers.

Most importantly, they must prepare children for the kind of ‘assessments’ that await them throughout their lives and careers. Those depend on the soft skills that exams ignore. All that is achieved by sitting stressed sleep-deprived children in a cold hall in silence for two hours is to test children’s stress response and support networks.

Research has shown that learning consistently over a long period of time is preferable to the one off, “binge-learning” sessions that exams incentivise.

Let’s trust children to want to learn, and trust teachers to assess them flexibly and fairly – while focusing on real learning, not artificial “exam prep”.

Dot

Visitors welcome, please contact Dot Barnard dot.barnard@uwclub.net 01455 208190

We meet on the second Monday morning of each month at 10.30am.

2022 TOPICS

- July – Is there a time to review the exam system?
- August – Is the NHS fit for purpose now?
- September – Should we be aiming for Net Zero?

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GARDEN GROUP

September Outing

A visit has been arranged to **The Old Barn, Stretton en le Fields on Tuesday 13th September**. This is a 2-acre NGS garden which has many colourful shrubs and tree-lined cobbled paths. It also features a walled garden, fishpond, pergola with climbers, orchard and open views.

The minibus will leave Lutterworth Leisure Centre at 1.15 p.m. The cost will be £11.00 (£6.50 for the minibus and £4.50 for entry). Refreshments can be purchased on the day.

If you would like to come, please contact Sue Creeden by email: sueandpeter.creeden@talktalk.net or phone 01455 557888.

August Outing

A visit has been arranged to an NGS Garden at Oak Tree House, North Road, South Kilworth LE17 6DU on Tuesday 30th August.

2/3 acre of beautiful country garden, formal design but softened by cottage style planting. Also features modern sculptures, herbaceous borders, pond, vegetable garden and an extensive collection of pots.

Own transport. Cost will be £7.50 per head to include entrance and homemade refreshments.

If you would like to come along please ring or e-mail

Val Ridley 01455 209920/07932 863818; val.ridley@btinternet.com OR

Dot Barnard 01455 208190/07969 798095; dot.barnard@uwclub.net

NOTE

for report on visit to Kelmarsh Hall and Gardens, please see [HISTORY GROUP](#) report.

GENTLE CYCLING GROUP

Co-ordinator: Sue

After the extremely hot couple of days in July, the Wednesday was a bit cooler for our ride. For various reasons just three of us were able to meet at the Elms and we did debate whether to just grab a coffee and go home! However, off we set across the M1 and down the lane to Misterton. We took the little path to Walcote, crossed over the A4304 and headed to South Kilworth. From here we pedalled down, up and down again to Stanford on Avon. I think I have mentioned before, the views across to the reservoir and beyond at this point are stunning. We turned right by Stanford Hall and made our way through Swinford and up to Swinford Corner. From here it is another quiet lane back to Walcote. Crossing back over the main road we retraced our wheels back to the Elms. A very pleasant morning.

Our next ride will be on **Wednesday, 17th August at 10.00 am**. The starting point and route to be confirmed. If you fancy joining us, we will be very pleased to see you. Electric bikes welcome. Just email me - sueandpeter.creeden@taltalk.net or call me on the above number.

Also, Lutterworth Rotary's Big Bike Ride will take place on **Sunday 21st August** starting from Misterton Hall. Why not pump up your tyres and join in, it's a very friendly and sociable event. There are several options on distance but I can confirm the shorter 11-mile circuit is fairly easy. What's more there is a free hog roast at the finish. The cost of entry is £13 if you book on-line or £15.00 on the day.

Sue

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HISTORY GROUP

Co-ordinator: Viv

Visit to Kelmarsh Hall and Gardens - July 2022

Our July meeting was a joint visit with the Garden Group to Kelmarsh Hall and Gardens, which was organised by Viv Weller. We were lucky to have nice weather and it was a delightful afternoon. The extensive gardens were at their best and full of summer colour. These gardens are listed as place of national significance, and it was easy to see why. They were designed by Nancy Tree/Lancaster in the late 1920s and again in the 1940s with the help of Norah Lindsay and Geoffrey Jellicoe and the areas are divided into different sections, each with its own character. The walled garden was particularly lovely, but it was all stunning. The house and gardens overlook a beautiful rural landscape, part of which was the site of a deserted medieval village and there is also a tranquil lake and many pleasant woodland walks. In the distance we could glimpse Kelmarsh's prize herd of white cows grazing. It was like a scene from the Gainsborough painting.

The hall itself is an elegant 18th C Palladian mansion, built by Mr John Hanbury in 1732. The estate changed hands several times over the next two centuries, often being used as a hunting box rather than a main residence and each resident family had interesting back stories which were well explained in the house information boards. It is worth highlighting the design role played by Mrs Nancy Tree, later Mrs Nancy Lancaster, in both the house and garden. She transformed the place in the 1920s with her second husband, the MP Ronald Tree, who leased the house. Later after the war she remarried and lived there with her third husband, Claude Lancaster, the house's owner. Nancy was a wealthy social influencer and celebrity in the 1920s and '30s and a well-known member of the social elite of the early/mid 20thC. Her taste in interior design was extremely influential on the nobility and gentry at the time and, as the founder of the famous design firm, Colefax and Fowler, Nancy created what became known as the 'English Country House Look'. Her taste is very evident in the house today.

There were many antiques and works of art to admire in the tour of the house. One outstanding feature was a room decorated with gorgeous 18th C painted wallpaper panels, which had been brought to the house by the owners in the 19th C from another mansion. One bedroom suite has been redesigned with a modern take on early 20th C styles, in restful neutrals. We all agreed it would be a pleasure to stay there.

The staff at Kelmarsh gave us a warm welcome and we were very well looked after, from the introductory talk to the tasty refreshments. It was a lovely afternoon out.

Viv







FOURTH WEDNESDAY WALKING GROUP

Co-ordinators:- Sue and Peter Creeden (Please use your U3A website if you need to contact us)

Wednesday 24 August 2022

Walk Organisers:- Mike and Lesley Chapman

Meeting Point and Time (for car sharing):- Lutterworth Recreation Ground car park at 9.20am to leave at 09.25am

Start Point and Time:- The Red Lion, Huncote (LE9 3AU). Round trip 16 miles. Toilets will be available. Start of walk 10:00am. Lunch to be ordered before we start the walk. Good selection of home-cooked food. Main meals approx. £7.

Directions to start:- Take the road to Bitteswell, turn right to Ashby Parva then through Frolesworth to the B4114 Narborough Road. Turn right, go past the Shell garage and through the traffic lights. At the dual carriageway take the left turn to Croft. Go through Croft, but at The Heathcote Arms junction, turn left to Huncote. The Red Lion is on the right as you enter Huncote. There is a large car park.

Route and Distance:- We leave the Red Lion and head over the old sports ground, along field paths to a bridle path that takes us over the M69. From here we head towards Thurleston, and then through Normanton Park, where we stop for a coffee break, before returning to Huncote via quiet country lanes and field paths. There are eight stiles. Approx 5.2 miles.

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POETRY GROUP

Co-ordinator: Sylvie

July's topic was "Heat and Coldness".

Heat was featured in poems of summer sun, picnics, tomatoes and ripe strawberries, but also fever.

Coldness was mainly represented by winter landscapes, snow, Christmas and by death.

Featured poets included Robert Frost , Thomas Hardy, Spike Milligan, Gillian Clarke, Emily Dickinson and several others . Three of us had picked the same poem to read - Wilfred Gibson's "The Ice Cart" , which is well worth looking up for an icy experience. For heat, I suggest Edward Thomas's "Adlestrop", a famous and atmospheric poem which pulls the reader into a hot afternoon in June.

The next meeting will be on 25th August and the topic is "Memories and Nostalgia".

Sylvie

FRENCH GROUP

28 July 2022

After a general discussion in French, we tackled a crossword puzzle and looked at an article about Emmanuel Macron. The next meeting will be on 25 August, when we may watch a French film, so keep an eye on your emails.

Sue

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ESTG Energy Forum

July's ESTG Event was slightly different to our normal meeting in that we had 3 presentations each describing an alternative source of energy or power to the normal power generation methods currently in use.

Michael Bates presented '**Small Modular Reactors** as currently used to power the Nations Nuclear Submarines but land based', **Alan Bilton** put forwards a process that combines 3 different manufacturing practises to produce **Clean Energy from coal** and I reviewed a Company that are using **Radioisotope Batteries** linked together to form a large energy module.

Derek Briginshaw also brought along a process he had picked up on, that being **Synthetic fuel** which meant that existing transport could use this without any significant changes, *more on this subject at a later date.*

After reviewing the advantages and dis-advantages of the current forms of Energy production methods, the speakers presented the alternatives and opened it up for discussion as to feasibility and practicalities also whether it was cost effective....

This format proved to a really good platform for comments and queries by the audience on what was being presented and made for good interesting listening/ comment raising some questions that where taken away to be possible answered in the next meeting.

Shown below Graphics 1 & 2 are slides listing the current forms of power generation showing pro's and con's of the methods followed by a slide on each of the 3 alternatives presented at the meeting.

Our thanks to the members that attended and to all those that participated in the discussions giving the meeting a lively atmosphere,

and showing the level of professional talent and intellect that exists within the group.

Next Meeting is at Ullesthorpe Village Hall on Thursday 18th August

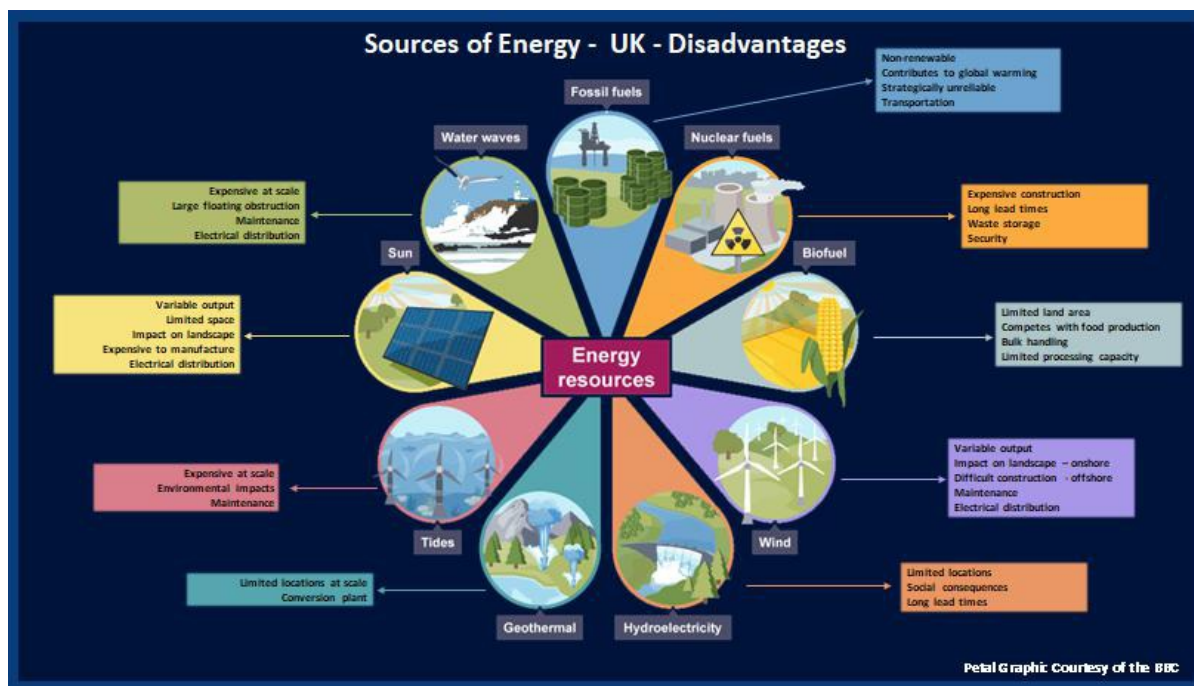
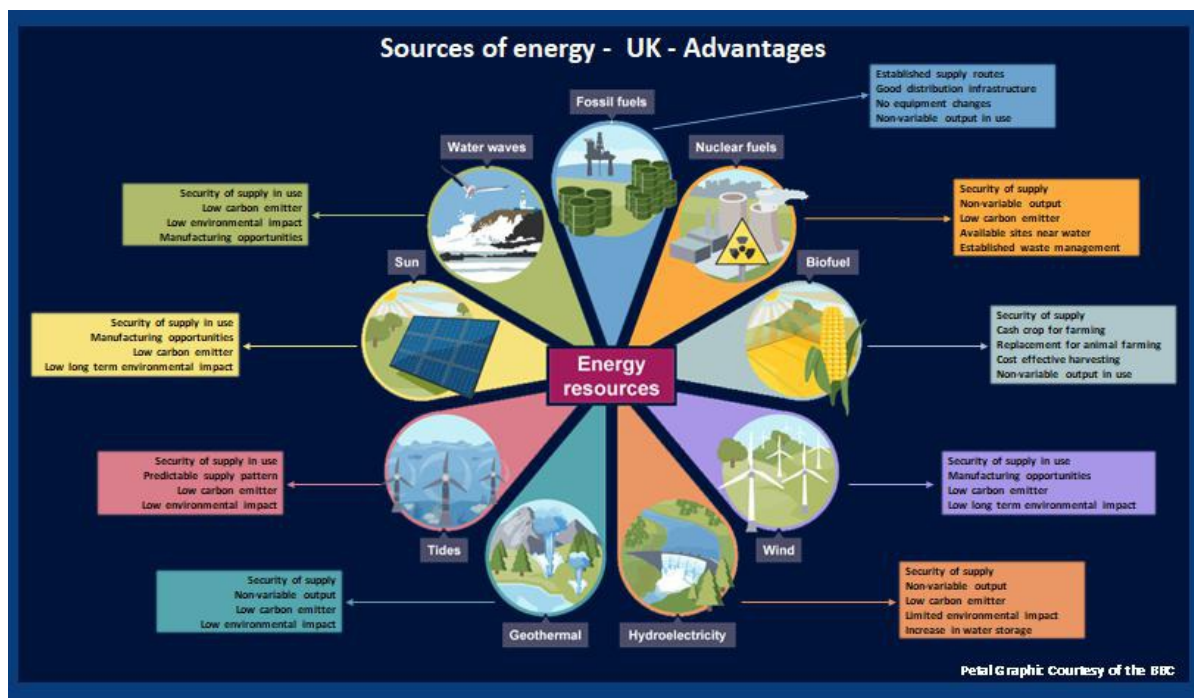
This will be a meeting to look at suggestions for future ESTG events for next year, so please have a think and bring along suggestions of what you think the group would like to see or have a talk on so we can work to try and make it happen.....

Chris

Wycliffe ESTG Energy Forum – July 2022

Thinking About Energy

To provide a backdrop to discussions about the future of Energy in the UK we looked at a Petal Graphic (Courtesy of the BBC) of current UK energy sources. We added comments on the advantages (Graphic 1) and disadvantages (Graphic 2)



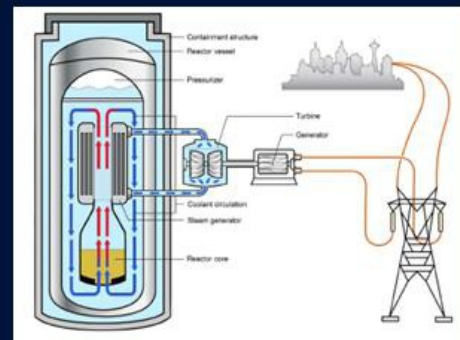
Wycliffe ESTG Energy Forum – July 2022

Small Modular Reactors (SMRs)

The generation of electricity in the UK was traditionally based on large coal burning power stations strategically located around the UK often close to large sources of coal. As the coal powered stations neared the end of their operational life they were replaced by “cleaner” natural gas fired plants. Cleaner did not however, relate to their emissions which had high levels of CO₂ as natural gas is a “fossil” fuel. In 2019 gas fired powered generator plants were generating approximately 45% of all UK electricity. This contribution is slowly being replaced by “greener” sources such as wind and solar but obviously these are variable depending on climate conditions. With existing technology, nuclear power is probably the only “green” (in terms of CO₂ emissions) constant source of energy and in 2019 it contributed about 20% to the overall UK generated electricity output.

A number of existing nuclear power stations are in the process of being decommissioned and it will take some time to replace and increase generating capacity with large nuclear plants. This has increased interest in Small Modular Reactors (SMRs) and in the UK, Rolls Royce have formed a consortium to build SMRs upscaling their experience of building nuclear power plants for the UK submarine fleet. Typically, a submarine reactor, in addition to providing propulsion generates about 66 MWe and Rolls Royce hope to build, initially, 16 SMRs each with an output of 470 MWe. When complete these SMR's will increase nuclear power generating capacity by 53%. It is hoped that as the main components are factory manufactured the project time will be much shorter, and less expensive, than equivalent large-scale plants.

Unfortunately, the time scale for the project start to in-production is quite extended. Rolls Royce have identified six possible factory locations in the UK and expect to have the first SMR operating in the early 2030's with ten of the sixteen operating by 2035. Once in production the build to in-service period will be much reduced. The hope is that future governments will continue to provide support for SMR's until Rolls Royce have established the project as commercially viable.



A Typical SMR Layout

Radioisotope Batteries (Power cells)

Infinite Power Ltd based in Cumbria are producing power cells which form a base load of power using an isotope to excite a PN junction.

The Infinite Power Cell works in a similar way to solar cells, but instead of using the sun we use a radioisotope as the energy source to create an electrical current.

This allows us to produce low-cost, green, **baseload power 24-hours a day for decades, no matter the weather, anywhere in the world.**

**We have captured the sun in a box,
and we can power anything with it**

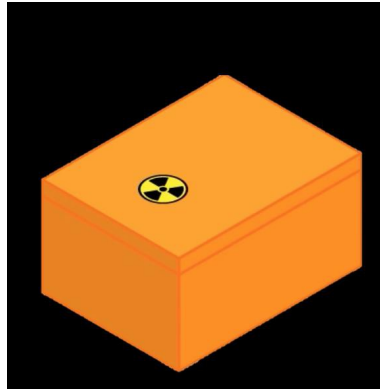


Infinite Power Ltd has invented a new P+/N- junction which uses a radioisotope as the energy source instead of the sun.

The radioisotope stimulates the PN junction producing green, baseload power 24 hours a day for decades, and produces 6 times the power of a solar cell. (In addition, more powerful isotopes are being developed which would give greater cell power energy)

Scaling this small power cell up by stacking them together and creating modules, cells can be inter-connected to give a total of 1GW although this could be further modularised.

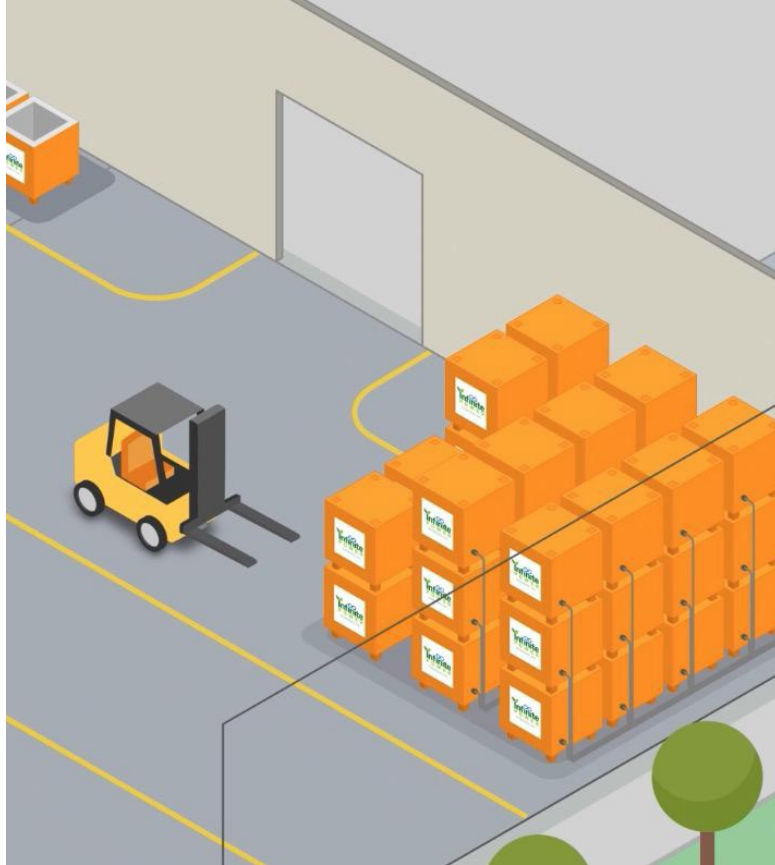
A Green Power Station like this illustration could be sited at any location and would only need an infrastructure for power take off.



1kW model



10kW model



1 GW Station built up of stacks of 10KW module

Green Hydrogen Plant Programme using Infinite Power Cells

Along with Power generation, Infinite Power are currently involved in production of green Hydrogen, which can be produced using the power cells green energy.

A new facility for the Development Programme is located at a city in the United Arab Emirates which will demonstrate this concept by Constructing a 10 MW Infinite Power station with a 100 tonne/day desalination facility.

Construct a 10 MW green hydrogen facility to produce approximately 100 tonnes of green hydrogen per month with

Storage capacity of 100 tonnes of compressed hydrogen.



Above: The showcase 10 MW demonstration green hydrogen modular facility in [Ras Al Khaimah](#) clearly demonstrates Infinite Power's breakthrough technology producing low cost and abundant green power and green hydrogen.

A Green Carbon Engine?

by Alan Bilton

The chain of thought was inspired by the need to power a coal mine needing a 2500 kW electric supply but only having a 1500 kW incoming supply

The bill for upgrading the power supply was BIG but 3 x 1000kW diesel generating sets were available at a good price.....

The following information has developed since the design of the dual supply system was chosen.

The system has evolved, trying to use the following developments

- 1- Direct Injection Coal Engine
- 2- Allam Combustion Cycle
- 3- Liquid Gallium CO₂ Conversion

1. D.I.C.E. Direct Injection Coal Engine

Rudolf Diesel originally designed his engine to run on coal dust

The dust was difficult to handle, contaminated the engine leading to wear problems and is an explosive - he found it easier and safer to use petroleum fuels

Firing an engine with coal slurry is safer than using coal dust and causes less wear than dust

During the 1978 to 2004 period trials involving Gas turbines, Steam turbines and Diesel engines using <10 micron 0,5-1% ash and <1% sulphur coals took place

It was found that the turbine trials were unsuccessful due to severe erosion, corrosion and fouling.

The Diesel engine trials proved more successful - leading to further trials

which found that wear is still caused but can be reduced by using fine coal slurry approx 2 micron particle size

Dewatering fine coal below around 40% is difficult and usually not worth the effort for conventional coal use, but a DICE engine can use the fine coal from the mine, and using an ISA mill large sizes of coal can be reduced to the required size (An ISA mill uses water in the reduction process)

DICE fuel using 50% water and 50% < 2 micron <0,5% ash coal can replace diesel; fuel

D.I.C.E engines are now in use

The mines fine coal can now be used to generate electricity.

2. Allam Cycle Power Plant

The Allam Cycle uses recycled exhaust gas with Oxygen added to the flow from an Air Separation Unit

The surplus air flow is bled off for storage or disposal and the remainder returned to the engine with added oxygen to burn the fuel and then repeat the cycle

The cycle is reported to be more efficient than a combined cycle gas turbine fitted with CO2 capture

There is a working power plant using this process at

Net Power Co.

Allam Cycle Power Plant,

La Porte, Houston, Texas

If the system is primed with CO₂ there would be no Nitrogen in the system.

With only Oxygen and CO₂ being fed to the engine there would be no nitro oxides produced by the engine

Conclusion,

A D.I.C.E. engine can be used with the Allam cycle to burn coal and capture the CO₂ at the same time

3. Gallium CO₂ to CO

(From researchers in Australia and the USA in the paper from Advanced Materials

Liquid-Metal-Enabled-Mechanical-Energy Induced CO₂ Conversion)

“Gallium”

.Ga- (No 31 on the periodic table discovered 1875)

.Melting Point 29.76 deg C

.Boiling Point 2204 deg C

.Specific Gravity 5.91

Small Scale Trials have produced the following results;

Produces carbonaceous solids and O₂ at near room temperature with no loss of the operating medium.

Using Silver Fluoride rods ensures a cyclic sustainable process,

the silver rods prevent the carbon clogging up the Gallium

and a solvent DMF-ETA is used to ease the movement of the CO₂ – Carbon and Oxygen through the process.

When a Gallium/Silver Fluoride mix at 7:1 mass ratio is used

92% efficiency has been reported at an energy input of 230 kWh for the capture and conversion of 1 ton of CO₂.

If this can be scaled up to the suggested ton size.

Applying D.I.C.E. + Allam Cycle + Gallium cleaning to the original colliery 1000kW diesel engine.

Typical diesel consumption at full load 270l/hr

Replace with 50% coal slurry 50% water = 135l/hr of coal

135l/hr of coal at sg 2.26 = 305 kg

CO₂ ratio 305kg coal needs 915kg oxygen == 1120kg CO₂

At 90% Gallium separation efficiency, it needs to process approx 1245kg CO₂

At 230kWh /ton processed approx 290kWh are required for 1245kgCO₂

This would give 305kg Carbon and 915kg Oxygen

This would provide the oxygen required for the next hours running time (eliminating the use of the Allam cycle air separation unit) and produce 305kg of saleable Carbon

Or

Return the 305kg carbon to the engine

in a 50% Carbon –50% Water slurry

As most wear in the engine is caused by ash and other gang minerals/elements the pure carbon should remove or at least reduce the wear problem (also removing the wear problem for gas turbines !)

Output from 1000kW generator

290 kW system req plus 710kW power supply

The numbers used here are those reported for the various developments. Putting them all together gives an interesting result.

Is it too good to be true?

Alan Bilton

MOTOR CYCLE INTEREST GROUP

Co-ordinator: Colin

A motorcycle ride to the Super Sausage Café.

On July the seventh at 9.30 a.m. a group of five Motorcyclists from the U3a assembled at the car park near the leisure centre in Lutterworth ready to boldly go. One lady rider, Sharon on her Moto Guzzi, Kevin on his B.M.W. GS Peter on his Honda , Andy mounted on a Harley Davidson and myself, Mark on another B.M.W. our goal was to bumble down to Potterspury just south of Towcester on the A5. I had tried to scout a “pretty” way down a day or so before (the A5 being pretty bland on a bike) but had been thwarted by road works and traffic jams. It was decided to take up Kevin’s promise that passing through Preston Capes would enrich our lives immensely! Coordinates entered into Kevin’s new and expensive SatNav we set off..... For Monmouth in Wales! Kevin or the SatNav was re-calibrated and we had a short tour of Daventry thrown in for free before settling in to a really pleasant ride, Preston Capes it turns out takes longer to type than to ride through but we did see some smashing villages and some very pleasant scenery. The Super Sausage Café at Potterspury is a well known haunt for Motorcyclists and the car park had an interesting array of bikes and scooters and a BSA three wheeled car that sounded lovely. We enjoyed our refreshments in the Café, Andy manfully getting himself outside of the enormous “Super Sausage special” a sort of Hot Dog concoction that took up a table on its own! We were met at the Café by my good friend John who arrived on his 1920’s Brough Superior and kindly offered to take us to his house to show us his other bikes. A short time later we were treated to a look round his various garages and sheds. John owns nine Brough Superiors the “Rolls Royce of motorcycles” these 1920/30s machines are some of the most exotic and desirable bikes in the world, the Broughs are famous amongst other thing for being T.E. Lawrence’s (Lawrence of Arabia) favourite motorcycles. Lawrence was actually killed after crashing one, and his death spurred a Doctor who treated him to begin work on a motorcycle specific crash helmet. We were treated to a number of the bikes being started and run, we also got to see some of John’s other bikes including his Norton big 4 a couple of Triumphs and a New Knight a Bedford built motorbike and one of only two in

the world. Sonia John's long suffering and lovely wife brought out refreshments and both she and John made us most welcome. John then leapt aboard his modern Honda and led us on a an interesting and attractive ride to the A5 just north of Towcester where we waved goodbye to a true Gentleman and we turned for home.

We returned to our starting place before separating to go home a total ride of around 110 miles and an interesting day out in good company.

Colin

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U3A – SNAIL'S PACE WALKING GROUP

Co-ordinator: Mandy

July Walk: Braunston, Northamptonshire



On a warm, breezy Friday 15th July, thirteen of us enjoyed a stroll along the canal towpath, a footpath across a couple of fields and around the delightful village of Braunston, passing All Saints Church known locally as 'The Boater's Cathedral'.



Thanks to Anne for all her help on this walk.

After this, some of us decided to continue and visit the remote medieval St Peter's Church, in the lost village of Wolfhampcote. We walked along the clear track across the field which is sandwiched between two abandoned railways and the flourishing canal.



August Walk: On Friday 19th August, in Blaby



Denise and Geoff are leading this walk, starting from Glen Parva Manor, Glen Parva, LE2 9TL. The pub opens at 11.00 am so we will meet at this time – a comfort break is possible before setting off!

The pub has been recently refurbished.



The walk is just over 2 miles.

We will start at the car park, walk towards the ford, but turning right into Alison's Acre. We join a footpath into Blaby, it is narrow and overgrown, but certainly passable even with meeting other walkers coming from the other direction. Crossing a very quiet road, we walk through a field, which leads to Bouskell Park.



Following the wide path right around the park, we emerge to walk through woodland. This is a wide easy path, leading to another easy wide footpath which takes us past the cemetery and the memorial garden. We end back on the road, which leads to the Ford and Glen Parva Manor.

Lunch

We will have lunch at Glen Parva Manor, Glen Parva, LE2 9TL.

If you would like to come along, please let Denise know by **Tuesday 16th August** – as well as your lunch choices by this date. Click on the following link to see the menu:

<https://www.glenparvamanorpub.co.uk/menus/>

You can email Denise at denisetaylor551@gmail.com.

Or you can phone Mandy on **01455 251809**.

(Staff have asked that we pay individually on leaving the pub after eating.)

Directions from Lutterworth to Glen Parva Manor LE2 9TL

Journey time under 20 minutes.

- Take A426 Leicester Rd, North towards Whetstone/Blaby bypass. (9 miles).
- Stay on the A426 as though heading to Leicester and go over the roundabouts near Whetstone/Blaby.
- At the final Blaby roundabout, you will go left and under the Hinckley/Leics rail line. After the tunnel, turn right at the **main** traffic lights and into the B582 LITTLE GLEN ROAD. Signposted for WIGSTON.

(Glenhills Court Retirement flats will now be on your left).

- Continue on this road for 900 yards and **before** the next mini roundabout, turn right into THE FORD. (There may be a small sign pointing right to a DAY NURSERY follow that). N.B. The traffic sign says **no big lorries, not no cars!**
- Pub is just 100 yds further on and car park is just to the right of the pub.

ETHNIC DINING GROUP

Coordinators : Peter and Penny Ross

We choose restaurants serving food from around the world, some familiar, some more unusual. Everyone is welcome to join us, regularly or occasionally.
In September we will be visiting an Indian restaurant.

The details are as follows:

Wednesday September 21st 2022 at 7.30pm

Bangla Spice

77 Main Street

Cosby

LE9 1UW

If you wish to join us please contact us by 15th September at the latest.

Penny and Peter Ross email: penelopeross.ross@gmail.com Tel : 01455 272797

* * * * *

PUB LUNCHES GROUP

Coordinators : Peter and Penny Ross

Meeting friends, old and new, to enjoy lunch at a variety of pubs in local villages, many of which we are visiting for the first time. Everyone is welcome to join us, regularly or occasionally.

In September we will be visiting The Tuning Fork near Rugby

The details are as follows:

Wednesday 7th September 2022 at 12.30pm

The Tuning Fork

Dollman Farm

Dollman Road

Houlton Way

Rugby

CV23 1AL

If you wish to join us please contact us by 1st September at the latest.

Penny & Peter Ross email: penelopeross.ross@gmail.com Tel: 01455 272797

PHOTOGRAPHY GROUP

Co-ordinator: Michael

July 2022 report

The July meeting was held at our new venue, the village hall in Ullesthorpe, the facilities were excellent, and we hope to make this our regular meeting place for the foreseeable future. At the meeting we looked at our July topic pictures, “Unusual Transport”, followed by a short presentation on the work of Albert “Jock” McCabe a Daily Express staff photographer in the 1960’s.

July’s topic, “Unusual Transport” provided a lot of pictures, and the interpretation of the subject was very wide. Many of the pictures were from our archives and it showed how well travelled U3A members are. We had pirate ships from Japan to the northeast coast of the UK, railway trains around the world and even sledges in hot and cold climes. Such a wide variety that you should look at our gallery pictures on the U3A website in August.

Our August project is “Red” where we are looking for pictures where the predominant colour is red either as the main subject or as the main background colour. We are hoping that members will keep the archives closed this month and submit recently taken pictures.

For our presentation this month we returned to looking at a single photographer’s work. Albert McCabe was one of many staff photographers employed by the Daily Express and we looked at a range of his pictures mainly in the 1960’s before he emigrated to New Zealand in the early 1970’s. As a press photographer he was required to photograph any subject that the journalists required to support their stories. Pictures had to be taken at speed and often in a very confined space. The skill was to interpret what was required, take the picture, and get it back to the office for processing, quickly. In the 1960’s roll film was the predominant media, you could not review the picture immediately, and had to have the experience to know it was “right” straight out of the camera. We saw a wide range of pictures from personalities to lifestyles and social history such as the Glasgow Gorbals urban renewable project.

We know that Jock was a larger-than-life character, and this probably helped when he was trying to get the best from his subjects.

Our next meeting will be on Friday 26th July 2022, 10.00 am, in the Ullesthorpe Village Hall.

As usual, our meetings are open to all U3A members as regulars or as a guest. If you would like more information e-mail us at the address below.

wlu3acamera@outlook.com.

Michael





Ursula Kanetis



Sally Wood





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1st WEDNESDAY WALKING GROUP

Joint Co-ordinators :- Peter Moore and Kay Bliss. Tel.- Mob:- 07711882510

Date of Walk :- Wednesday 31st August 2022. email.- peter79moore@gmail.com

Driving distance:- 6 Miles each way.

Walk leaders :- Peter Moore. email.- peter79moore@gmail.com Tel. 07711882510

Meeting Point and Time : Lutterworth Recreation Ground car park at 9.25am to leave at 9.30am.

Start Point : Pig in Muck, Claybrooke Magna, Nr. Ullesthorpe. Leave 10.00am.

Order lunch after returning from Walk.

Toilets available.

Directions to Start :- Head into Bitteswell, continue through Ullesthorpe onto Claybrooke Parva, continue onto Claybrooke Magna. Pub at edge of village on right. **Please park on the road as, the car park needs to be as clear as possible for local visitors to the pub.**

Route and distance

Exit the car park, turn left and cross the road to join the footpath, continue on to exit near the timber company, cross the road to enter the footpath at the bottom of the road. On through the Mill and continue on field paths heading to Fosse Meadows. Turn left onto Fosse way and return to the Pig in Muck for lunch

Distance. 5 Miles 1 stile.

Good and varied choice of Food , extensive lunch time menu. Gluten Free Food available.

Order on return from Walk.

Summary. Varied Walk , mostly field paths, passing the Mills along the way, some quiet road walking , Fairly flat walk.

* * * * *

Next Walk: 5 Miles. 2 Stiles. (barriers) Wednesday 5th October 2022. 10.00am start.

The Copt Oak, Hardwicke Rd, Narborough. LE19 3LZ. Via Enderby. Fairly flat walk.

Good varied menu at a fair price. Order after returning from Walk.

Peter Moore and Kay Bliss.

Committee Members

<u>Office</u>	<u>Name</u>
Chairperson	Chris Brady
Vice Chairman	Colin Beadle
Treasurer.....	Ruth Bones
Secretary	Nigel Burt
Membership Secretary.....	Ann Hetherington
Minutes Secretary.....	Anne Dean
Speaker Finder.....	Andrea Nichol
Interest Group Co-ordinator.....	Colin Beadle
Membership Records.....	Andy Hetherington
Committee Member.....	Nigel Bones
Committee Member.....	Peter Ross
Committee Member.....	Sue Poulter
Committee Member	Hamish Paterson

Note: Any committee member can be contacted via our email address:

thewycliffelutterworthu3a@gmail.com

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