Cotgrave and District U3A

Keeping in Touch 54

Spring

Amazingly, we have enjoyed a beautifully sunny Easter. It could possibly have been a little warmer but surely it was truly satisfying to sit in the garden with friends (wrapped up in thick sweaters) and enjoy the sun. The spring blossom looks absolutely wonderful in bright sunshine so I make no apology for giving you a brief tour of our garden in the shape of cherry blossom and primrose attractions, while not wishing to hide the intrusion of one of our most common interlopers – the dandelion, taken at its peak of perfection! I'm also throwing in an excellent example of the sort of thing the amateur photographer should be mindful of when taking photographs in bright sunlight! In fact, it makes quite a good kind of 'abstract', don't you think?

While Talking about gardens, I am proud to say that I have very recently planted ten new rose bushes and, as those in the know will recognise, this is no mean achievement. They came in a large paper bag from David Austin with a whole booklet of instructions for their initial planting and subsequent lifelong care. Firstly, of course, one must dig over and compost the bed, then dig ten holes, each sixteen inches square and (much, much worse!) sixteen inches *deep*. The first ten inches are not too bad but then the soil starts to get seriously compacted and, in any case, as the hole gets deeper, the angle of spade and hole makes it more and more difficult to lift the soil out of the hole. In spite of the chilly weather, I sweated buckets full – but, sadly, sweat wasn't allowed as a suitable component of rose feed! Then again, two or even three such holes may well be acceptable as necessary exercise but ten was rather more than my back had bargained for! Fortunately, a short wait for necessary further ingredients to arrive from Amazon granted it a welcome respite before the actual planting could take place. That involved sprinkling the bare roots with mycorrhizal fungi (no, I had never heard of it either!) to empower them for future productivity, adding compost and food to the base of the hole, delicately balancing the rose so that its stems were just two inches below ground level (though there was no ground level, of course, because of the hole!), then filling in the hole with a mixture of soil and compost, firming it down with the sole of one's foot, giving the plant a good watering and retiring to the warmth of one's kitchen for a well-earned pint of something comforting. And there they all sit, all ten of them, looking quite innocent and, needless to say, doing absolutely nothing! They had jolly well better do something pretty impressive this summer or I shall wish to know the reason why!

I won't bore you with the details of all the essential watering, feeding, anti-fungus, anti-pest treatments, not to mention dead-heading (assuming they actually flower!) that will be appropriate to the summer months ahead but, no doubt, I shall have scarcely a moment to myself until the beginning of October. I can only hope that the editing of this wretched (sorry – worthy) Weekly Letter may be lifted from my fast-ageing person by the hoped-for lifting of Covid restrictions, in time to avoid internecine strife in the Orton garden this summer. I'll let you know how we get on>


Planted with love, hope and a lot of sweat

……………………………………………………………………………..

Sundials

I mentioned some time ago that I have a love of the sundials sometimes to be found on mediaeval churches, on the south-facing wall close to the south porch. And I wrote one of my articles for the Cotgrave Church Magazine, back in 2011, following the discovery that my previous boss also had an interest in sundials, to the extent that he had already written a learned article about them, dealing with the complexities of their three-dimensional mathematics. I make no attempt to delve into these esoteric details but thought you might be interested to read the seriously moderated account here attached.

As an introduction, I might simply use an illustration of the geometry of the earth's orbit of the sun and its orientation with respect to this ellipse which make the whole business of understanding sundials so difficult. This indicates that, as the earth rotates on its north-south axis, the sun appears to rotate round the earth but in a plane which makes funny angles with the equator and the poles. It may just help to explain why the 'style' should be kept parallel to the polar axis in order that the measured time remains independent of the month.
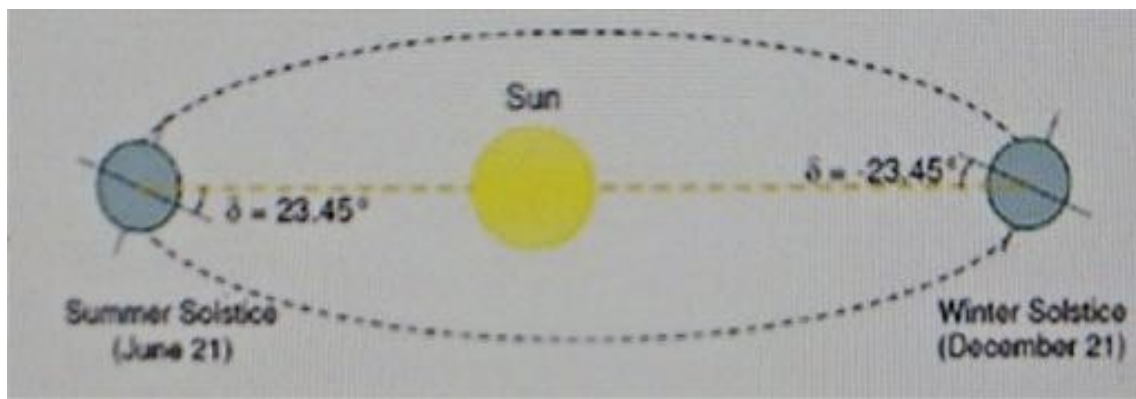
I recently exchanged some correspondence with an ex- colleague of mine (he used to be my boss!) on the sad occasion of his wife's death. Our relationship has always been special because he was Project Leader of the first programme with which I was involved, on arriving, in September 1960, at what was then called the Mullard Research Laboratory. Our task was to develop a highly sensitive microwave amplifier for the detection of the first trans-Atlantic telephone and television signals to be transmitted by satellite. Largely due to John's leadership, it was a huge success and John was rightly awarded an MBE for his efforts. He went on to become head of the so-called Solid State Division and later took up an important role as co-ordinator of the SERC (Science and Engineering Research Council) programme concerned with what is now known as 'Nano-technology'. He remained in the South, while I moved to Nottingham so our relationship slipped into that well-known annual exchange of Christmas cards and it was only his recent bereavement that led to my discovering he had, during his retirement, written a splendid essay on the subject of sundials. He generously sent me a copy and I'm now picking my way through the maze of esoteric three-dimensional geometry which describes the relationship between sun and gnomon in the truly ancient domain of the sundial.

I have always been intrigued by the scratch dials which can be found on the walls of many mediaeval churches, usually close to the south porch, though very few are ever found complete with the vital gnomon which throws its shadow across the faintly inscribed calibration lines on the church wall. Not surprisingly, they have rather fallen out of use but for several centuries they may well have represented the only reliable indicator of the sun's progress through the heavens, thus enabling priest and people to come together at appropriate service times. Most of us have also seen the standard horizontal dial in someone else's garden but I had no idea just how many different types of dial exist. John's account discusses no less than ten distinct varieties and a quick peek into Google-land seems to suggest there are even more. Did you realise that there exist horizontal and vertical dials with axial gnomons, reclining dials, declining vertical dials with axial gnomons, reclining declining dials, analemmatic dials, shepherd's dials, hemispherical, scapheal, conical and cylindrical dials, pocket dials, equatorial dials and probably yet others. I certainly didn't but now I am faced with trying to understand them all. I'm not sure that I ever will!

Needless to say, the sundial has a long history – it could hardly have escaped the notice of ancient peoples that the sun's shadow moved in regular fashion from sunrise to sunset and that this could be utilised as a means of dividing the day for numerous practical purposes. As many early civilisations were established in regions of the earth which see a great deal more of the sun than we do, it is no surprise that they made use of it – though one may wonder, of course, how familiar they were with the essential mathematics. (Here I am probably showing my personal prejudices – if I find it so difficult, those ancients must surely have found it impossible!) Anyway, the Babylonians and the Egyptians certainly had sundials round about 2000 BC and a detailed description of a dial exists from 300 BC. The Romans had them too, of course – in 290 BC they set up their first specimen, captured from the Samnites, then in 164 BC they actually built their own model. So did the Greeks, who were rather good at geometry and used it to develop various complex designs. Then, in 150 AD, they were responsible for introducing trigonometry into the design problem, as an improvement over the purely geometrical approach adopted previously. They were also responsible for the important discovery that, if the gnomon is aligned parallel to the earth's axis of rotation (the north-south axis), rather than vertically or horizontally, the direction of its shadow at any particular time of day does not depend on the time of year. This is a major advantage in so far as, once programmed (as it were) for a particular latitude, a dial could be left to its own devices and would always be correct. Other designs required the gnomon to be adjusted in some manner according to the time of year, an unfortunate chore for some poor serf, though no more arduous, perhaps, than that of the church sexton who bore responsibility for winding the church clock in later years. No matter; now, at last, I understand why so many dials in this country have gnomons which make an angle of about 50 degrees with the horizontal – this angle corresponds to the angle of latitude, hereabouts. At the equator, of course, the gnomon would be horizontal, ideal for a vertical dial, a little more difficult for one with a horizontal faceplate.

All this supposes that the dial remains fixed in its location but, before the pocket watch became widely available, there was a need for small, portable dials and this introduced the difficulty of alignment. How, on extracting his 'fob dial' from its handy pocket, was the owner to know which was north or south, in order to obtain a meaningful reading of the hour?

To this particular problem there emerged an ingenious solution, the multiple dial. If two dials which work on different principles are combined in a single unit and the device is rotated until both dials tell the same time, it can be shown that this implies the alignment is correct. It is not necessary to note the alignment, only read off the common time from both dials. Pure genius!

Unfortunately, I haven't been able to find out who the genius was. Maybe I eventually will – I'll let you all know. Or maybe someone of you will tell me. There's a challenge.

John Orton

••

The Art Group

This week it is Bernie Besnard's turn to entertain us. Thanks Bernie.

…………………………………………………………………………………………

Quiz Corner

Firstly, we have the answers to Peter Shreyhane's quiz about British place names.

1. Which town is most associated with the gemstone jet? Whitby
2. On which motorway are the Ferrybridge services? M62
3. Which city is known as Auld Reekie? Edinburgh
4. Where is known as "The City of Dreaming Spires" Oxford
5. If you were shopping in the Bull Ring, where? Birmingham
6. What is the UK's smallest city? St Davids
7. In which county is the source of the River Trent? Staffs – Bidulph Moor
8. Which football club plays at St James Park? Exeter FC
    (Newcastle United play at St James' Park)
9. Which railway town has 6 routes converging? Crewe
    (also used to make Rolls Royce, now Bentleys)
10. In which County is the Eden Project? Cornwall
11. Walking through the Shambles – where? York
12. Sydney Harbour Bridge – based on UK bridge - where? Newcastle-on-Tyne
13. After London, which is largest UK City? Birmingham
14. What is the name of the fictitious 'Archers' village? Ambridge
15. In which UK County would you find Stonehenge? Wiltshire

Then we come to the Sue Hillyard question of last week! Just how many flowers did the young lady have in her original bunch? You will remember that she gave away, first one flower, then half of the number she then had left to each passer-by. After five such events, she had only one flower left.

The answer you have all been waiting for is 63. This can be arrived at by careful trial and error but there is also a method of working it out algebraically. Now pay attention:

Firstly, we need to define two quantities: let the number of flowers in her original bunch be N. Then let the number of passers-by be n.

It is easy to see that after the first event the number of flowers she will have left is:

$$(N - 1) - \tfrac{1}{2}(N - 1) = \tfrac{1}{2}(N - 1)$$

After two events she will have:

$$\tfrac{1}{2}[1/2(N - 1) - 1] = \tfrac{1}{4}(N - 3)$$

and we can go on repeating this process until five passers-by have received their share. The result is that she will have this number of flowers left:

$$(1/32)(N - 31) = 1$$

Therefore: $N = 32 + 31 = 63$ [QED]

In fact, it is possible to describe the process in terms of a single general expression:

The number of flowers left after n passers-by is:

$$\frac{1}{2^n}[N + 1 - 2^n]$$

(Note that 2^n means 2 raised to the power of n – so if n = 1, $2^n = 2^1 = 2$ and if n = 2, $2^n = 2^2 = 4$ and if n = 3, $2^n = 2^3 = 8$ and so on.)

So, if, after n passers-by, only one flower is left, we can write:

$$\frac{1}{2^n}[N + 1 - 2^n] = 1$$

Multiplying through by 2^n gives us:

$$N + 1 - 2^n = 2^n$$

So, finally, we have an expression for N, the original number of flowers:

$$N = 2^{(n + 1)} - 1$$

Suppose, then, that n = 5 gives a result that only one flower is left: We can write this as:

$$N = 2^6 - 1 = 64 - 1 = 63$$

Clearly, there is a sequence of pairs of values of N and n which satisfy the relationship:

n = 1	n = 2	n = 3	n = 4	n = 5	n = 6	etc.
N = 3	N = 7	N = 15	N = 31	N = 63	N = 127	etc.

....

Now we can all relax, feeling thoroughly satisfied (confused?) and ready to meet (avoid?) the next challenge – and here it is – also courtesy of Sue:

Three horses are lined up together at the starting line of a circular track. Horse A can run two laps in one minute, horse B three laps in one minute and horse C four laps in one minute. Off they go, together. How long will it be before they all cross the same line together?
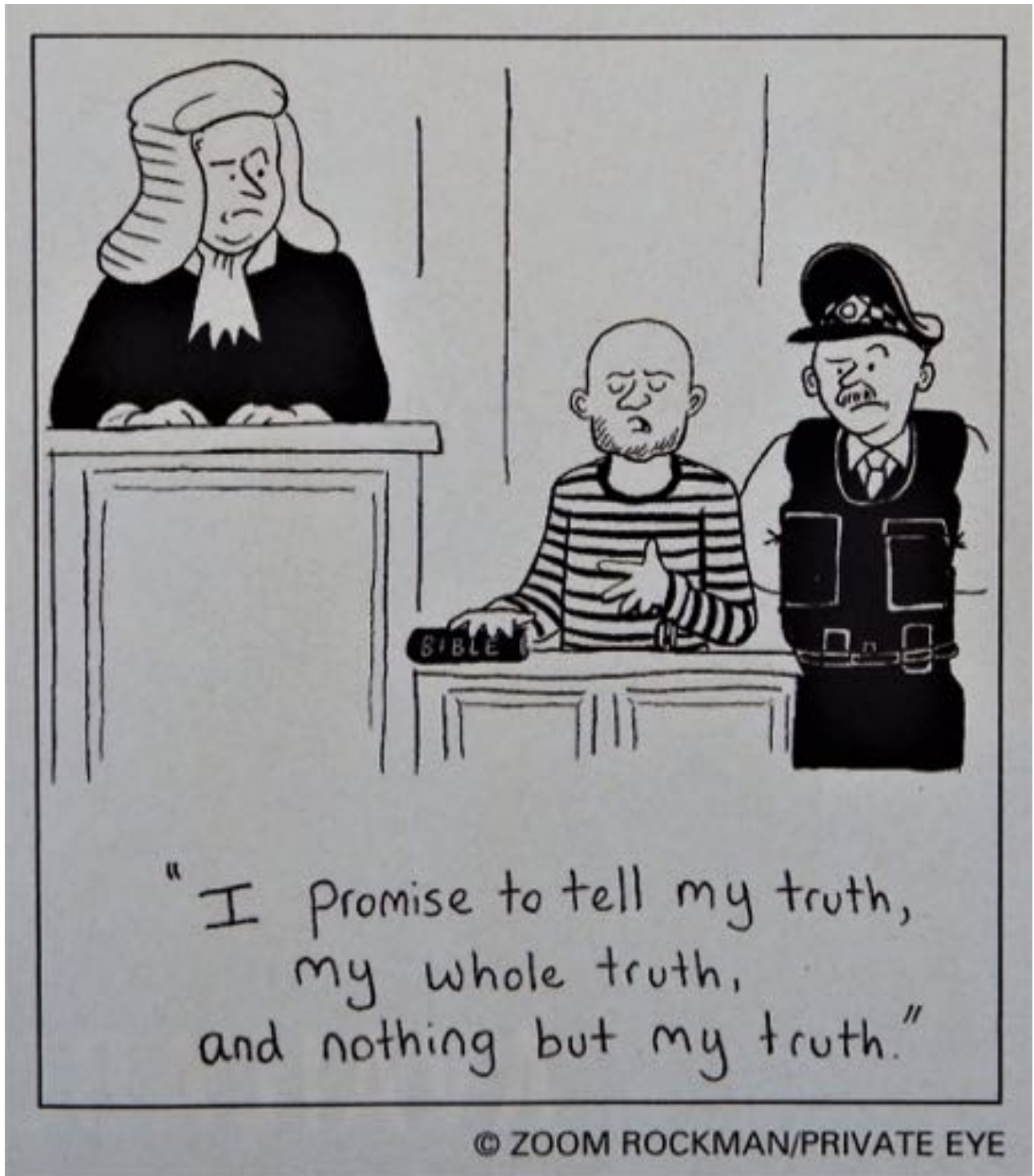
Answer next week, of course – I have to hold something back to make sure you read next week's Letter! But, for a modest fee, I might be persuaded to give the answer to personal enquirers – let me know if you are that keen.

....

Cartoon Corner

This week's cartoon comes from Private Eye. Look carefully at the expressions on the various participants' faces – all created by just a very few lines. It really is a wonderful skill. I'm terribly envious but I know I could never do it myself – so I have to show off with my (very modest) algebraic skill, instead!

"I promise to tell my truth, my whole truth, and nothing but my truth."

© ZOOM ROCKMAN/PRIVATE EYE

....

The Creative Writing Group

This week we have a contribution from Heather Whatnall – another creation under the title 'The House'.

The House
by
Heather Lea /Whatnall

I told him I was in love with him the first time I saw the house.

I can still feel the wonder, excitement, and amazement I felt that day.

Barry had said we were going to Pettswood to see the house he was buying. I had no idea what type of house it was. To be honest, I expected it to be fairly new, garish and probably oversized for the plot of land it was on. I'd seen so many beautiful houses demolished to make way for ugly, flash, characterless properties. I was very surprised when Barry drove into an avenue lined with spectacular elm trees. For a change he drove slowly. This gave me a chance to view the majestic houses all set back from the road with long, sweeping driveways and manicures lawns.

As we approached the fourth house on the left-hand side of the avenue Barry slowed down further, indicated, and turned into the entrance of number 4 Rydal Avenue. The drive swept round, sheltered by trees and shrubs on either side, until it brought us to the house the most beautiful house. My dream house. It was exactly how it had always been in my imagination. It was a 1930s build; I knew it was a Noel Rees property. Mock Tudor with so many fabulous windows, including huge bay windows and the most spectacular front door.

I didn't speak for several minutes as I absorbed it all. When Barry switched off the engine and looked over at me I threw my arms round him "I love, love, love it and I love you", I announced. I was like a child who had been given the present she had always wanted but never really expected to get.

Whilst we were waiting for the Estate Agent to arrive and show us round the house, Barry explained that his offer for the property had already been accepted and that it would only be a matter of weeks before the property would be ours. Even though it was only eight weeks since we had met, I interpreted him saying "our" house as a further indication that we were "meant to be together forever". I felt that Barry was the man I'd been searching for all my life (despite me having reservations about his name. Barry wasn't a name that had ever featured in my daydreams!).

I was besotted - the man I had met on a beach in Majorca two months ago was buying a house, this house, my dream house, for US. The love I felt for him and the house was overwhelming.

It was an absolutely incredible day.

What happened next?

Barry bought the house and, within ten weeks of the day I first saw it, we moved in. We spent all our weekends at auctions and antiques fairs, we restored the house to its original style and filled it full of love. Within a year we were married and within two years we had our beautiful baby girl, Florence. When Florence was two her baby brother Harry was born, and our family was complete.

We then lived happily ever after.

If only the above paragraph was true! Here is the reality.

A week after viewing the house Barry announced that he was short of money for the deposit on the property. He said he had a cash flow problem with his business (waste disposal!) and without the deposit we would lose our dream house. He told me he was devastated, that all he wanted was to make me happy, to buy me the house and fill it with love and babies. He said the business would soon pick up. At this time I "knew" Barry was my "forever" man and the house was my "forever" home. Barry loved me and I loved him. What was mine was his. The next day I made a bank transfer for £20,000 into his account.

Barry told me that he would have to buy the house in his name as it was already going through. He said he would transfer it into joint names as soon as the purchase was complete. This did ring some alarm bells with me but I silenced them - nothing was getting in the way of my dream coming true. However, Barry's business didn't pick up and soon he was saying he needed another £10,000 to complete on the property. The alarm bells were not as easy to silence this time. I wanted to discuss it with friends, but they already thought I was crazy to move to London to be with someone I'd only known for two months. I reasoned that if I didn't give Barry the money to complete on the house, we would lose it and my £20,000 would be lost too. Off I went to the Bank and drew out £10,000 - in cash this time. It was in the days before they asked any questions about why you wanted so much cash from your account. I wish they had asked me as it might have shocked me into realising what I was doing!

It will come as no surprise to you that once the house purchase was complete Barry did not transfer the house into joint names, nor did we fill the house with love and babies. Instead, he filled the house with his ex-girlfriend, and they went on to have two children (Princess and Barry Jnr. rather than my Florence and Harry). The house certainly wasn't filled with love. I heard they argued constantly and, after a few years, Barry went off with a woman he met in a bar in Benidorm.

I was devastated at first and it took me several years before I realised that I'd had a lucky escape. It had been an extremely costly mistake, but I did get some of the money back. Can you guess how much?!

I still love that house - my dream house but I can assure you I don't still love Barry!!!

....

Once again, that's all for this week. Keep well and enjoy the sun – if it is still here on Friday!

John

P.S.   Don't forget the Monthly Meeting Talk on Tuesday 13th April at 10am, it's by Alison Mees who is talking about her life in Africa. It is being held on Zoom so if you are interested in 'attending', and have not already do so, please let John Haskell know on

Cotgraveu3a@hotmail.com

and he will send you the login details.