

24th January

Memory Verse:

God is light
and in him is no darkness at all. 1 John 1:5b



Some weather history to read¹

A great frost held the country in its grip at this time of year in 1684. The eye-witness account that follows describes the scene in London with the Thames frozen over, as you can see in the picture, and is taken from the diary of John Evelyn.

¹ Adapted from Owen, Evan, *What Happened Today?* Book 1 available on the *Mothers' Companion* flashdrive <https://motherscompanion.weebly.com/>

Jan. 24th.

The frost continuing more and more severe, The Thames before London was planted with booths in formal streets, as in a city, all sorts of trades and shops furnished, and full of commodities, even to a printing press, where people took a fancy to have their names printed, and the day and year set down when printed on the Thames. This **humour** took so universally that it was estimated the printer gained £5 a day, for printing a line only, at sixpence a name, besides what he got for ballads, etc.

Coaches plied from Westminster to the Temple, and from several other stairs [steps leading down to the water where boats could be hired – when the river was not frozen] to and fro, as in the streets; also on sleds sliding with skates. There was also bull-baiting, horse and coach races, puppet plays and interludes, so that it seemed to be a carnival on the water, whilst a severe judgement on the land, the trees not only splitting as if lightning struck, but men and cattle perishing in many places, and the very sea so locked up with ice that no vessel could stir out or come in, the fowls, fish and birds, and all our exotic plants universally perishing. Many parks of deer were destroyed, and all sorts of fuel so dear that there were great contributions to keep the poor alive. Nor was this weather much less intense in most parts of Europe even as far as Spain.

London, by reason of excessive coldness of the air hindering the ascent of smoke, was so filled with **fuliginous** steam of the sea-coal, [coal transported by boat from Newcastle] that hardly could one see across the street; and this filling the lungs with its gross particles exceedingly obstructed the breast, so that one could scarce breathe.

There was no water to be had from the pipes and engines [pumps], nor could the brewers and many other tradesmen work; and every moment was full of disastrous accidents.

On February 5th it began to thaw, but froze again, and John Evelyn crossed the Thames by coach for the last time before the real thaw set in.

The booths were almost taken down, but there was a map or landscape cut in copper representing all the manner of the camp, and the **several** actions, sports and pastimes thereon, in memory of so signal a frost.

There are a number of words in Evelyn's diary entry that we use in a different way (or not at all) now. I have **highlighted** them so that you can use your dictionary to find the meanings. Can you use “fuliginous” in a sentence of your own?!

The last London Frost Fair was held on the frozen Thames in 1814. Why did the Thames freeze over? One reason is to do with London Bridge. If you look at the picture on the first page you will see the old bridge, topped with tall buildings. You can also see how small the spans of the bridge are. These small spans restricted the flow of water. They were further narrowed inside the arches by timber casings which protected the piers of the bridge themselves. The restricted flow made the river more liable to freeze. Often in winter a piece of ice would flow into one of these narrowed arches and jam, restricting the flow of water still further. In 1824 a new bridge was begun and the old one was finally demolished in 1831.² The new bridge had much wider spans, enabling the water to flow more freely. Another contributing factor was the building of embankments along much of the course of the river through London during the nineteenth century. All this meant that the Thames became a deeper, faster flowing river than it had been in 1684 and so less liable to freeze. But of course, there is more to it than that.

2 See the lesson for March 15th.

The climate of the earth, both as a whole and in particular regions, is not static. There were massive changes after the flood of Noah's time, for instance, which led to an Ice Age. In the Middle Ages there was a warm period of several hundred years when the climate in Europe was warmer than it is now. The period from about 1400 saw a gradual cooling that lasted until the middle of the nineteenth century. The period is known as the Little Ice Age, although there is not much agreement as to exactly when it began and when it ended. The years of the Frost Fairs on the Thames coincide with the very coldest period of the Little Ice Age. We know very little about what affects the earth's climate. Sun spots are one factor. The number of sunspots goes up and down in an eleven year cycle with the colder weather on earth being associated with periods of fewer sunspots. During the years 1645-1715 observers noticed a drastic reduction in the overall number of sunspots. This period is called the Maunder Minimum, after Mr and Mrs Maunder, the nineteenth century astronomers who first pointed it out. Some people think this is connected with the Little Ice Age, although there were probably other factors as well.³

The most recent time that the Thames froze over was the Great Freeze of 1962-63 when people again walked (and cycled) over the Thames. There was no Frost Fair though! Although I did not live near enough the Thames to see it frozen, I do remember how very cold that winter was and how we children enjoyed the sledging, snowballing, ice sliding (we made ice slides in the school playground) and making snow men. The snowy weather seemed to go on for ever!

Mini maths spot

John Evelyn mentions the printer, Mr George Croom, who charged sixpence for printing a name on a little slip of paper. There were 20 shillings in a pound and 12 pence in a shilling. He earned £5 per day, according to Evelyn. How many of these little mementos did he sell every day?

One writer said that the frost began on Monday 20th December and lasted until until 6th February. Assume the printer closed his booth on Sundays. At £5 per day, what were the printer's total earnings from these souvenirs? How many people bought them in total?

One of the printer's customers was the king himself, Charles II. The entire royal family seem to have visited the printer's booth for the ticket, now in the Museum of London,⁴ says in rather wobbly letters:

CHARLES KING
JAMES DUKE
KATHERINE, QUEEN
MARY, DUTCHESS
ANN PRINCESS
GEORGE PRINCE
HANS IN KELDER

*London: Printed by G. Croom on the ICE, on
the River of Thames, January 31. 1684.*

James was Duke of York and Mary of Modena was his wife. The Princess Ann was his daughter and Prince George of Denmark was her husband. And *Hans in Kelder*? Those are German words and they are used in an expression of good wishes or a toast to an unborn child. The Princess Ann was expecting a baby. And why was this written in German? I wonder if the printer was German. Would an Englishman write "River of Thames"? Or perhaps it was the suggestion of Prince George who had family connections with Hamburg and probably spoke good German.

³ More on sunspots tomorrow and on 9th March.

⁴ You can see it here: <https://www.museumoflondon.org.uk/discover/frost-fairs>

Something to do

A weather chart is a good thing to start, especially in January. There are instructions for making one in the lesson for March 30th. If you are already making one perhaps you could derive some statistics from your chart today. Which month had the most rainy days for instance? I wonder if you will ever live to see a frozen Thames?

Something to write

We have come across John Evelyn's diaries before in these lessons and we will meet them again.⁵ January is a good time to start your own diary or journal. If you already keep one, don't forget to carry on making entries. If your diary has lapsed, don't worry. You can still restart it. Any kind of notebook will be fine for a diary. In fact, one that does not have the dates ready printed is often best. That way it does not matter if there are gaps or irregular entries or if some entries are much longer than others. You do not need to write in it every day (although you may if you wish, of course) but try to write something at least once a week. Even the weather and the changing seasons are good to write about. It is only because of diarists such as John Evelyn and Samuel Pepys⁶ that we have such valuable information about life in the past. What sort of things do you think someone in the future would like to know about the kind of life you live in the 21st century? Make sure you include them in your diary!

Something to think about

Evelyn mentions the bad things that happened because of the frost as well as the fun that people had at the Frost Fair. People, birds and animals died of the cold. Trees can split when the sap inside them freezes and turns to ice, expanding as it does so. This does not happen in normal sub-zero temperatures. The sap inside the tree is designed to become a super-cooled liquid at sub-zero temperatures. That means that it remains liquid beyond its normal freezing point because there are no seed crystals around which a crystal structure can form. However, when the temperature of the sap reaches a certain point below its nominal freezing point it will freeze anyway and the tree will be liable to burst open. This is what Evelyn is describing. As the bitter cold weather continued in 1684, fuel for heating and cooking ran short and became too expensive for poor people. Evelyn calls all this a “severe judgement” – and he was right. England at this time had called back Charles II from exile to be king. Charles was an immoral, extravagant king. He wanted power. He did not want to lose it as his father Charles I had done. He played a clever political game, bowing to pressure from parliament to persecute Christians who could not in good conscience worship in the Church of England and yet dismissing parliament when it brought forward an Exclusion Bill that would prevent a Roman Catholic from becoming king. His brother, James, the heir to the throne, was a Roman Catholic (as Charles probably was himself in secret) and Charles was determined that James would succeed him as king. London suffered plague and fire in Charles's reign as well as the terrible frost. These further “severe judgements” did not bring Charles in particular or the nation in general to repentance.

God is gracious. He still sends us warnings. As a nation we are legalising many things that the Bible identifies as unspeakable sins. Are there any specific warnings like the “severe judgement” on our nation we can see at the moment?

⁵ See the lessons for January 18th, June 3rd and June 16th.

⁶ See the lessons for December 28th, 4th May.