

March 17th

Memory verse

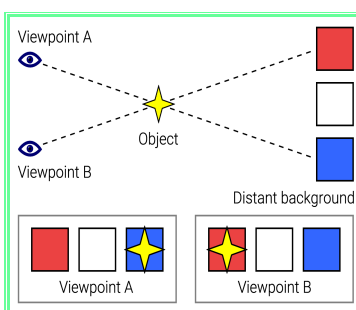
There is no God like thee, in heaven above
or on earth beneath. I Kings 8:23

Some Physics¹

If you have ever been to Staffordshire and passed along the Leek to Buxton road (A53) you may have noticed this unusual rock formation which is part of an outcrop known as Ramshaw Rocks. If you have a good imagination the rock looks rather like the face of a slightly grump old man. But it is even better than that!

If you are travelling in the Leek to Buxton direction, watch closely: the man will wink at you! In fact, his wink has become so famous that a nearby inn is now named after him, “The Winking Man”.

This delightful phenomenon is the result of parallax. The “eye” only appears to wink due to a pinnacle of rock passing behind the face as you travel up the road.



What is parallax? It is the perceived change of position of an object seen from two different places. A diagram will help to make it clear. As you pass along the A53 you move from viewpoint A to viewpoint B in the diagram. The yellow star marked “object” is the hole in the rock that forms the “eye”. The blue square represents the sky which you see from viewpoint A through the hole. As you move to viewpoint B you see the red square through the hole which represents a pinnacle of rock behind the “eye”. As you move further on your relationship to the two objects changes again and the sky beyond the pinnacle of rock become visible

through the hole. All this happens quickly as you pass – in the wink of an eye! You can demonstrate the same phenomenon just using the fact that you have two eyes that are a short distance apart. Hold one finger at arm's length in front of your face and close each eye in turn. You will see that your finger seems to move compared to more distant objects behind it.



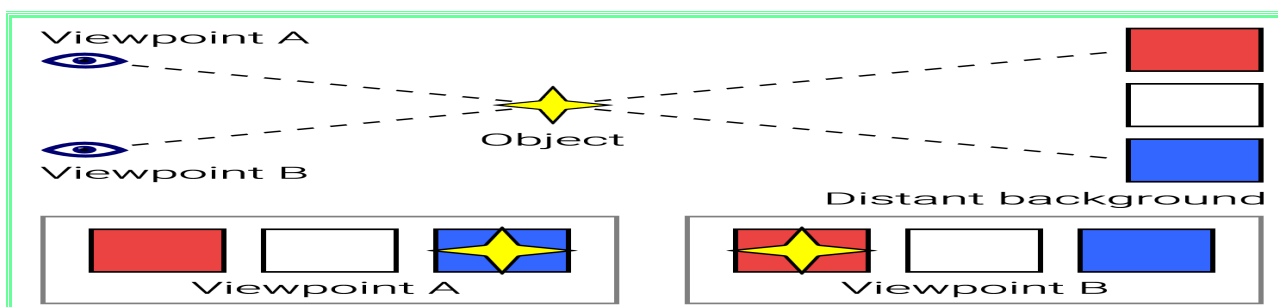
Friedrich Bessel (1784-1846), who died on 17th March, was first person to use the phenomenon of parallax to measure the distance from our solar system to a star. He measured the distance to a star known as 61 Cygni. Because the earth orbits the sun, we can view an object in space, such as a star, from different points in the earth's orbit. We are moving in relation to the star just as you might move along the A53 in relation to the Winking Man.

Friedrich Bessel measured the angle of 61 Cygni at the horizon at two different times of the year. The Earth's orbit is known quite exactly so he knew the distance from the first to the second

¹ Image of the Winking Man: Richard Law / Ramshaw Rocks - The Winking Man. Diagram: By JustinWick at English Wikipedia - Own work, CC BY-SA 3.0, <https://commons.wiki.org/wiki/index.php?curid=315718>

viewpoint. This gave him a triangle where he knew both the length of the base line and the degree of the angles. From this triangle, he calculated the distance by means of **trigonometry**. He found that 61 Cygni is 10.3 **light years** away.

Friedrich Bessel had demonstrated an excellent method of measuring distances in space. However, it is a method that only works *up to a certain distance from earth*. The parallax angles get smaller and smaller as you try to measure distances further and further away. I have distorted the diagram below, increasing the distance, so that you can see this.



Eventually the angle becomes so small that accurate measurement is not possible. Therefore stellar distances for stars further than just over 325 light years cannot be measured from Earth by this method. Astronomers do try to measure objects further away such as distant galaxies. However the methods they use are much less reliable than the parallax method. You sometimes see the claim made, even by quite respectable scientists, that the distance to galaxies *much further away* than 325 light years has been reliably measured *by parallax*: this is not possible – another method has to be used.

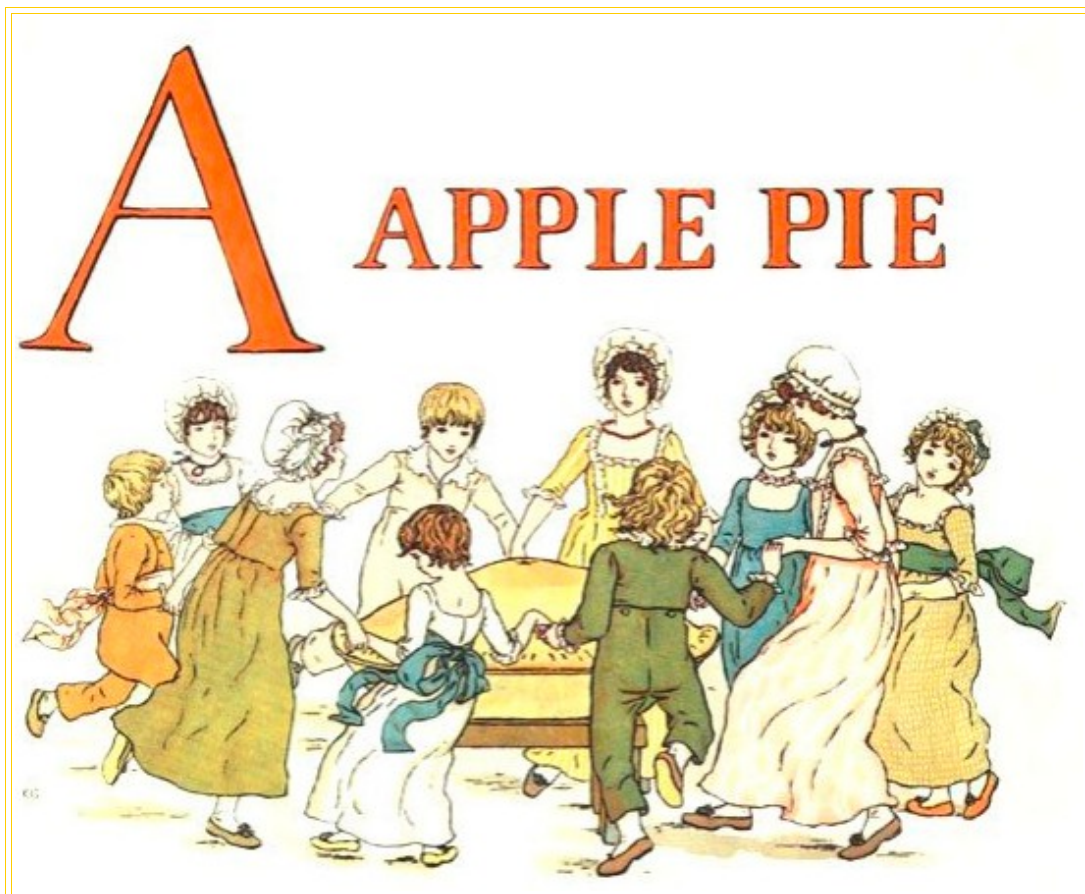
You may want to explore further the terms I have highlighted in **purple**. Do you know what a light year is?

Something to look at and something to make



The artist and illustrator Kate Greenaway (1846-1901) was born on **March 17th**. Her charming illustrations or traditional rhymes and poems have delighted children of all ages for over a hundred years. We will be seeing her work again in the lessons for 15th May and 26th June. Her *A Apple Pie* alphabet book has never been out of print! It is a rhyme any child learning to read and write would enjoy – as children have done since at least the 1600s although until the nineteenth century they had to do without Miss Greenaway's enchanting pictures.²

² You can find it here: <https://www.gutenberg.org/ebooks/15809>



Kate Greenaway began her artistic career with greetings cards, you can see one of her designs below. Such cards were just beginning to become popular at the time. From this she moved into illustrating books. I am sure you have made your own cards, perhaps many times, but below are some ideas that you may not have thought of. Why not make yourself a stock of cards so that you always have one to hand when a birthday comes up?

- Pressed flowers can be mounted on plain card and covered with clear adhesive film.
- Design a word search that includes the words “happy”, “birthday”, “to”, “you” and the recipient's name and paste it onto the front of your card. A cross word is another possibility.
- Buttons can be glued onto card to make pleasing designs. Choose a stiff card to work on and then raid the button jar. If the card is to be sent by post this might not be a suitable idea as the resulting card can be too thick for the standard postage rate.
- Make a card with something to cut out for a young child. For instance a little girl might like a paper doll design.
- Rubber stamps if you have them can help you create a pleasing birthday card.
- Story cards are always popular with small children. These are larger format cards with an illustration on the front and a simple tale inside to amuse the recipient. If you can get hold of some large sheets of paper these cards are a good option. A4 with a single fold is also a possibility.
- Design a puzzle such as a maze for the front of the card. You could head it “Have an a-MAZE-ing Birthday!”



To make your own picture envelopes for your cards use an old calendar. You need the sort that has a large picture printed on one side of the paper only. Carefully take apart a (used) envelope of the correct size. You can hold the gummed parts over a steaming kettle to get them apart. Now use this as a template by drawing round it on the picture side of your calendar page. Cut out the shape. Using the dismembered envelope as a guide, score the folds on the picture side. Then fold and gum your envelope so that the picture is inside, forming a lining. Double sided calendar pages can also be used to make picture envelopes. These will need to have an address label stuck on them for posting.

A famous quotation³



“I am just going outside and may be some time.” Do you know who said these now famous words and why?

These are the last known words of Captain Lawrence Oates (1880-1912) who was born and died on 17th March. Oates, who sacrificed his life in a vain effort to allow his companions to reach safety unencumbered, is justly famous.

In the years 1910-12 Captain Scott led an expedition of sixty-five men to Antarctica. Motor sledges were to be used as well as ponies and dogs. The idea of the expedition was to explore this unknown region and to do scientific work in an area that had been visited by very few men. In addition the intention was to reach the South Pole.

Among the sixty-five were two men who were Christians. One was “Birdie” Bowers who was in charge of stores. His life has been well documented in Peter Master's book *Men of Destiny*. Bowers was a sailor and had been converted while at sea. In his own words:

One night on deck, when things were at their blackest, it seemed to me that Christ came to me and showed me why we are here, and what the purpose of life really is. It is to make a great decision – to choose between the material and the spiritual.... Beside him, the world at its best was nothing, not even life itself. He filled my whole horizon ... who could refuse to stick up for such a Friend?

Also on the polar expedition was a medical doctor, Edward Wilson. Wilson's mother was a Christian and he himself seems to have been converted while at Cambridge. As a young man he had devoted himself to mission work in the slums of Bermondsey. He was a skilled artist with a great love of wildlife. “As long as I have stuck to Nature and the New Testament I have only got happier and happier every day,” he wrote.

After Scott had set sail for the Antarctic he heard that the Norwegian explorer, Amundsen, was also making an attempt to reach the South Pole. Amundsen's expedition was not a scientific one. His objective was purely to reach the South Pole. Now the race was on: who would get there first?

Scott's polar attempt was carefully planned.⁴ He made what has been described as a “pyramid style” assault on the pole, starting with a considerable number of men and reducing the size of the polar party as they neared the objective. By January 1912 they were within 150 miles of the Pole. The expedition's ponies had proved unsuitable and the dogs were not used to pull sledges for the final assault. The men pulled the sledges themselves. Scott discovered that using five men to pull a sledge rather than the usual four enabled faster progress overall despite the need to haul additional rations for the fifth man. To reach the pole therefore he selected four other members of the

³ Adapted from Owen, Evan, *What Happened Today?* Book 1 available on the *Mothers' Companion* flashdrive <https://motherscompanion.weebly.com/>

⁴ Some dispute this but polar explorer Sir Ranulph Fiennes (who ought to know) takes the view that this was the case.

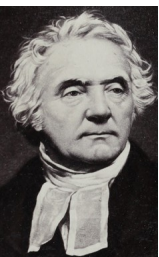
expedition. Wilson, Bowers and Oates were all in the party as was Edgar Evans, included because he was hard working and could fix anything that broke – especially sledges. They set off set of with a month’s provisions to make the final part of the journey to the pole.

When Scott and his party arrived at the pole after a gruelling journey, it was only to find that the Norwegian Amundsen had been there first. By now they were not in good physical condition and the disappointment must have hit them hard. Now they faced “800 hours of solid dragging”.

The return journey began. They suffered blizzards and food and fuel shortages. Edgar Evans died after a fall that gave him a blow to the head. As the four remaining men weakened, they made less and less progress. In his diary Scott wrote:

We *must* go on, but now the making of every camp must be more difficult and more dangerous. It must be near the end, but a pretty merciful end.... Tragedy all along the line. At lunch the day before yesterday, poor Titus Oates [Titus was his nickname] said he couldn't go on... At night he was worse and we knew the end had come.... It was blowing a blizzard. He said, “I am just going outside and may be some time.” He went out into the blizzard and we have not seen him since. We knew that it was the act of a brave man and an English gentleman. We all hope to meet the end with a similar spirit, and assuredly the end is not far.

Wilson and Bowers died in the tent along with their leader Captain Scott. Scott's last diary entry is dated 29th March 1912. I often wonder what happened in that little tent. I am sure in my own mind that the two Christian men, as death approached, must have witnessed to their dying fellow explorer – as no doubt they had also done as the opportunity arose in happier times. I wonder, how I wonder whether Scott listened. Whether perhaps...



A sad mistake!

“My own opinion, as published in 1814, is that it [Genesis 1:1] forms no part of the first day, but refers to a period of indefinite antiquity when God created the worlds out of nothing. The commencement of the first day's work I hold to be the moving of God's Spirit upon the face of the waters. We can allow geology the amplest time for its various revolutions without infringing even on the literalities of the Mosaic record.”

Thus wrote the Scottish minister and theologian, Thomas Chalmers, (1780-1847) founder of the Free Church of Scotland, who was born on 17th March. Why did he come to this strange conclusion? This answer is that the geologists of his day were saying that they thought the earth was much older than the Bible says it is. Thomas Chalmers therefore opened up a gap, as it were, between the verses into which he proposed the time needed by the geologists could be squeezed. But the problem with this attempt to reconcile the Scripture with the mistaken ideas of Victorian geologists is that the fossils which the geologists found and claimed as evidence for their long ages had, according to this “gap” theory, to be dated to a period *before* the second verse of Genesis. This contradicts the rest of the chapter since animals were not created until day six of the creation week.

Subsequent exponents developed the theory further claiming there had been a race of men before Adam who had no souls who were destroyed in what they called “Lucifer's Flood”. All this, they claimed happened in the “Gap”. There is no evidence for any of this in the Bible. Nor is there any evidence in the fossil record either. Any flood that left the earth “without form and void” would surely have destroyed the fossils in any case!

Following on from Thomas Chalmers a whole host of other Christians adopted this wrong idea. One

of the most popular reference Bibles of the last century, the Scofield Reference Bible, incorporated it into the notes it included on Genesis. Many people were led astray by this strange idea. Why ever did Thomas Chalmers adopt it?

Thomas Chalmers wanted to be respected by the academic world of his day. He was a Freemason as were many of the leading men of the Scotland of his time and his idea of trying to harmonise evolution with the Bible has something in common with the masonic idea of the harmony of all religions.⁵

The Bible never changes. The ideas of fallible scientists are changing all the time. Thomas Chalmers thought the scientists had proved something which they had not proved at all. Rather than trusting the plain words of the Bible and facing boldly the fact that these scientists must therefore be mistaken, he tried to fit something into the Bible which is simply not there. What should we do when we find a conflict between what the Bible says and what scientists, philosophers or any other clever people of our own day say? We should calmly believe the plain words of God's Word, sure in the knowledge that what he says is right. "Truth will out" is an old saying. Eventually scientists may even catch up with the Bible!

The attack on the Bible in the area of creation is ongoing today but now there are many scientists who believe God's Word and can show us how the facts fit the Bible better than they fit evolutionary theories. Take time yourself to keep abreast of all the exciting developments in this area by looking out for books from Creation Ministries International,⁶ Answers in Genesis⁷ and Creation Research UK⁸ when you go to a Christian bookshop or conference.

5 See the lesson for 24th June for more information about Freemasonry.

6 <https://creation.com>

7 <https://answersingenesis.org/>

8 <https://creationresearchuk.com/>