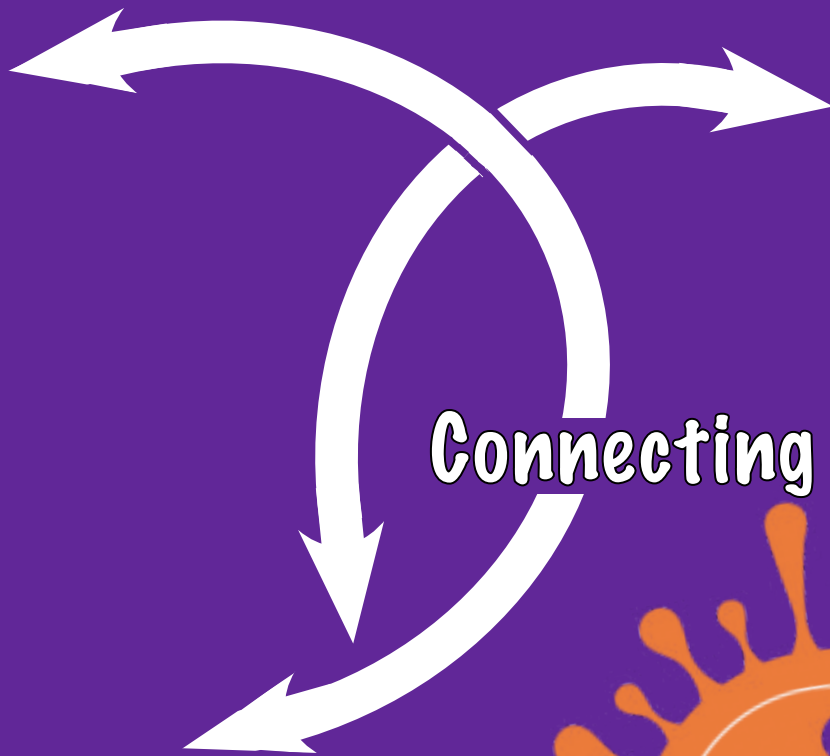
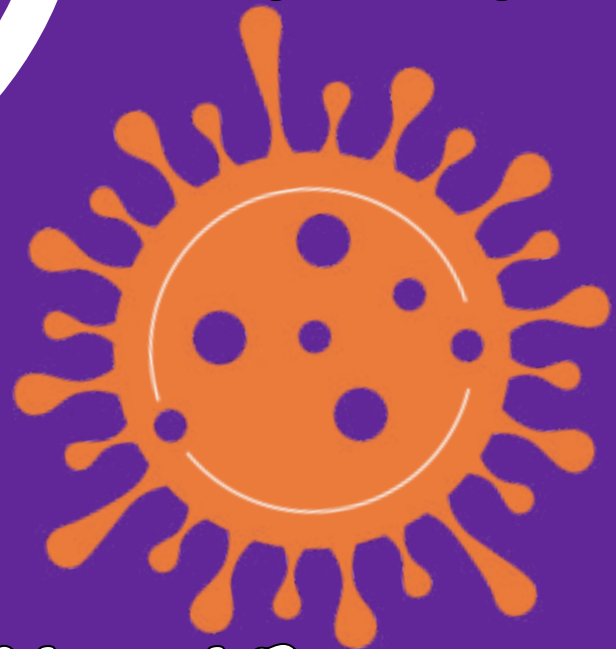




Connecting Dialogues



The Global Pandemic

The Elephant Times

Tide~ on-line magazine

Issue 2.1 : December 2021

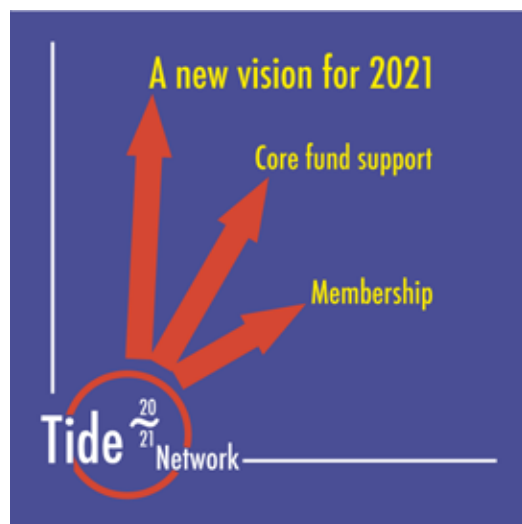


Tide~ publications are now available for free

You are welcome to adapt them for your teaching.

They represent the contribution of thousands of teachers over the years and hundreds of teachers that have taken lead roles in both curriculum projects and study visits.

Note: Copyright remains with Tide~ and should be acknowledged.



The pamphlet '**A new vision for 2021**' outlines the plan to revitalise Tide~ creating a sustainable **Network Hub** to facilitate the voluntary work of Trustees, those co-opted to take lead roles in co-ordinating and a growing number of new members.

The Elephant Times is edited by Jeff Serf and Scott Sinclair.

We have taken on this voluntary role as Tide~ Trustees.

The views expressed in this magazine are not necessarily those of Tide~.

On each page:

< Click on The Elephant Times to go to the Tide~ website for back issues.

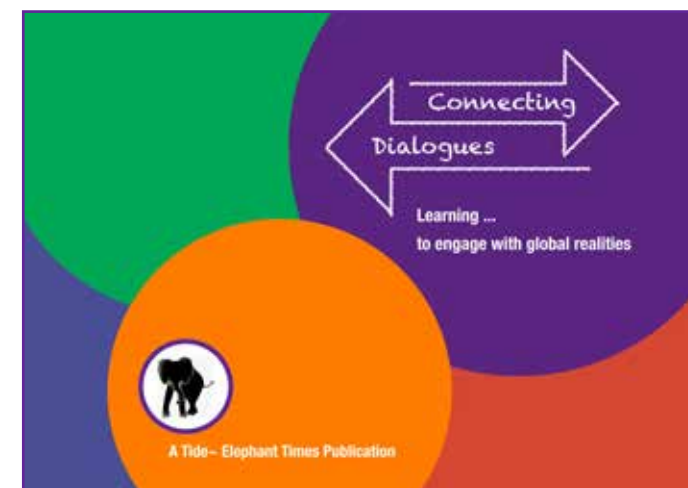


Elephant Times 2.1

Connecting Dialogues ... The global pandemic

This is the first edition of the second series of the Elephant Times Magazine

This ET magazine is the first contributing to the 'Connecting Dialogues' project. It shares some ideas and raises questions. It seeks to set up a new network initiative ... in particular to support learning about the global dynamic of pandemic issues.



We seek a group of school practitioners, with members from different parts of the country, to take a lead in the creative work needed. See page 14.

Please let us know if you are interested.

This ET has been written by Dorit Braun, Darius Jackson, Jeff Serf and Scott Sinclair.

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The document introducing 'Connecting Dialogues' will be published by the end of 2021.



This Logo offers links to documents on the website: www.tidegloballearning.net

Click on underlined text to go to other websites.

On each page:

To go to Contents Click on: 'Tide~ on-line magazine' >

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Tide~ on line magazine

Introduction ... ET 2.1

The Covid-19 pandemic has introduced us to a range of new experiences. Some of them are relatively insignificant, but are contested, such as remembering to wear a face mask in shops. We have experienced lockdowns, limits on social gatherings and restrictions on holiday travel.

As you will discover in this ET, the Florentine Giovanni Boccaccio would have predicted that some obeyed the rules to the letter, others sought ways around the rules and others treated them with contempt.

We have learnt to use the terms zoonotic and 'R-rate', we compare a range of statistical indicators and observe "it's getting a bit worse, 1,191 [of our fellow humans and citizens] died last week".

However, the most important point is, a pandemic was predicted, it was planned for and described as the biggest threat facing us, but it was also unimaginable. This is a feature it shares with climate change, the other existential threat facing humanity.

This Elephant Times sets out to discuss this 'unimaginable' event by looking at it in three ways:

- ❑ What can we learn from studying the course of past pandemics - about their spread, how people reacted, how the disease was treated and the impact on society? The time-line activities highlight patterns that have been repeated over thousands of years.
- ❑ How can we facilitate discussions about present events, most importantly about 'Vaccines - a Global Matter'.
- ❑ What would we like our post-Covid world to look like? The 'Implications' article introduces such priorities for the future. Here the global and local truly intertwine.



Photo: Henn Coleron - The national Covid Memorial Wall by the Thames

Covid-19 Pandemic issues are global issues ...

They are important to us personally in many ways
They are important in our communities
They are important to the choices made nationally
This is true for most countries in the world.

International cooperation is vital ...

It has, for example, enabled the development of vaccines
It is key to the possibility of containing the virus

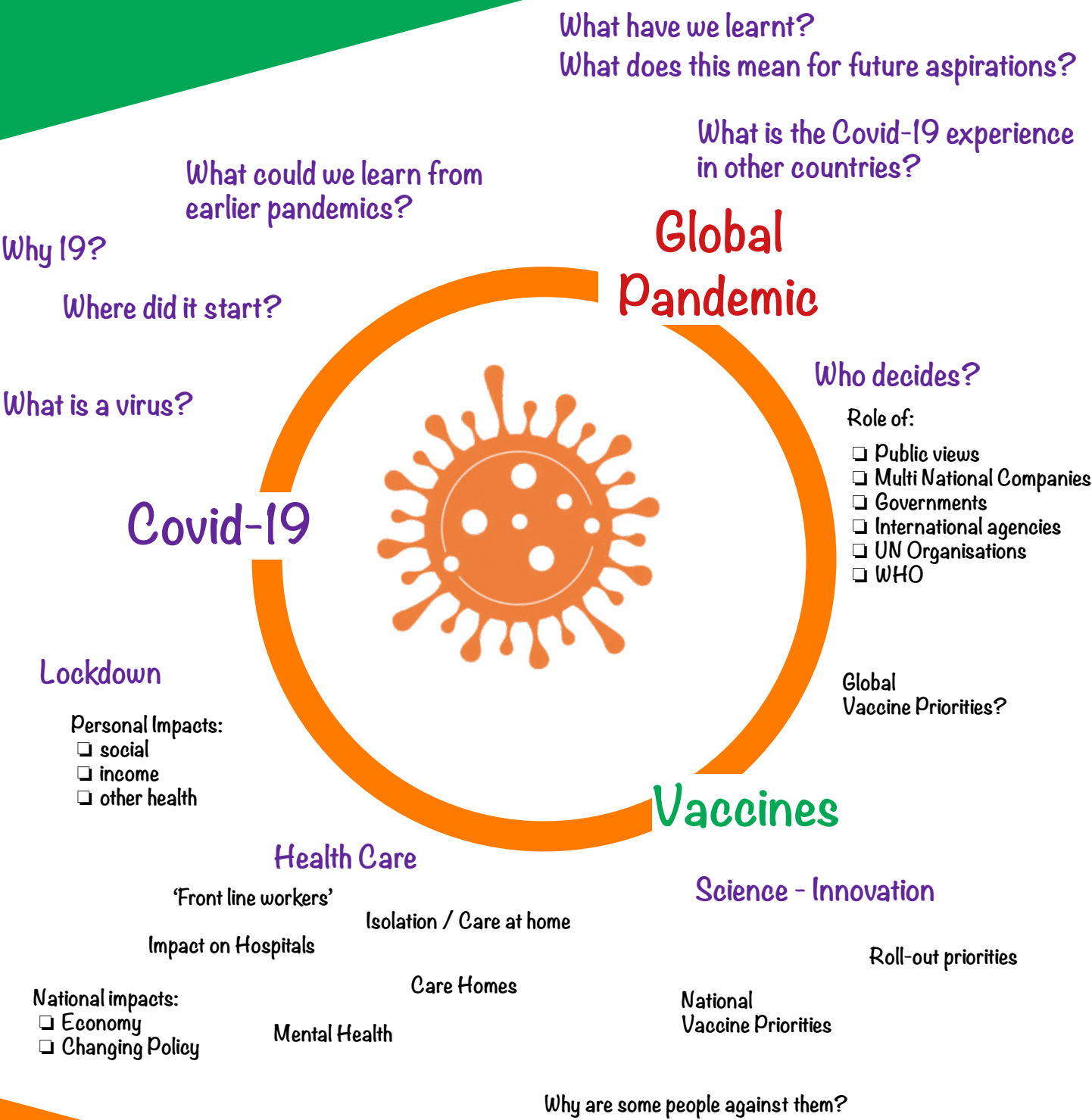
The distribution of vaccines highlights challenging justice questions
How we see these issues and how we as a nation respond is crucial.

Lynn Davies, writing a blog in September 2020, sets the scene. She offers "three imperatives, relating to racism, inequality and social action – based mostly on not making things any worse, while possibly sharpening up educational responses to turmoil."
Plague, prejudice and protest: what are the educational responses in a pandemic world?



Global Pandemic ...

many starting points



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Click on title to go to page



Implications ...

The impact of the global pandemic is still uncertain. We are living through it and we cannot know when or even if it will be over. The expression 'get back to normal' has been used. Is that even possible? The experience is changing for us all.

Perhaps more than ever it is now obvious that uncertainty is a constant: the only thing that is certain is that there will be uncertainty.

Our interconnectedness with the rest of the world is beyond dispute.

What are the implications?

- ❑ **How should we help young people think about the pandemic, talk about it, express feelings about it, make some sense of it?**
- ❑ **How do we enable and encourage learners to have some optimism about their futures in a time of uncertainty?**
- ❑ **How, at a time when we have become more isolated, do we enable learners to be outward looking and engage with experiences of the pandemic in other parts of the world?**

In Generation Lockdown Toni Pyke of 80:20 has brought together 18 short video clips of young people from different countries across the world sharing their experiences about the implications of Covid-19.

These statements are designed to be controversial in order to tease out views and priorities.

We suggest ranking them, either personally or with colleagues.

Which do you feel are most important?

What are the implications for you?



Borders

Given all the debates we have had about migration, asylum seekers and refugees, has the pandemic given a new focus to concern about borders? Has it changed control priorities? Has it changed our views of travel? Has it influenced a notion that we can be separate from the world?

Connectedness

Has using technology affected our sense of connectedness? We haven't been able to make eye contact, we see people in their mirror image, and not the whole person. Has this affected our mental health? Are there things we need to re-learn? Has it opened our eyes to new ways of doing things?

Social injustice & inequalities

Those most likely to die from Covid-19 were from poor countries and from poor households in our own country. It has highlighted inequalities between and within countries. Is the priority to enable young people to engage in social activism to end social injustice?

Risk

A key theme of the pandemic is our approach to risk. The priorities to safeguard (individuals, the NHS, the economy) have been contested. How do you see the line between individual and collective responsibility for risk? What information can we trust? How do we develop the skills to understand risk?

Lockdowns

Lockdowns have been the most extraordinary shift of control from individual to government. Our government acquired emergency powers that are generally held either in wartime or by non-democratic states. How do we understand how lockdowns affected the functioning of our country?

Vaccines

It is a priority to make sure that everyone in the world is vaccinated. That is in all our interests. Do we all see it that way? Should we encourage government to enable the cost of vaccines to be reduced dramatically in poor countries? Do we understand why people have different views about vaccines?

Uncertainty

The only certainty is uncertainty. If the pandemic has taught us anything, it is that we must develop the confidence, the skills and the wisdom to live our lives to the full in this uncertain age. How do we enable young people to be confident, yet realistic, about uncertainty?

Public Health

The most important thing to understand about the pandemic is how it is changing our understanding of public health. The Victorians built sewage and clean drinking water supply to overcome epidemics. What are we doing? What should we be doing? What are your priorities – locally? – globally?

Consequences

The pandemic has highlighted consequences that could not have been predicted. For example, the reduction in travel has reduced income from eco tourism in African countries and so driven up other activities that threaten species and the environment. How can we find out about such consequences?

Global Pandemic

Some key questions

How would you rank them?

Let's talk about Covid-19 ...

Not only is there a life-threatening global pandemic, suggesting a future 'normality' that none of us can be sure of, but there is also mistrust in politicians and the media, allegations of corruption, and 'fake news' including that coronavirus is a hoax.

Never has it been more important to enable young people to assess and evaluate information for themselves, to recognise their own assumptions and prejudices and those of others, to review those assumptions as well as be willing to think about their own dispositions in the context of information and ideas.

Opportunities to talk are vital to building an understanding. That need is central to all the ideas that follow from photo activities to draw out experiences, to the time-line that provides a focus for group discussion.

Edward Jenner, famous for the Smallpox vaccine [page 23] was a focus for anti-vaccine campaigners even after he had died.

In 1858 a statue of Jenner was placed in Trafalgar Square; this was to honour his discovery of a vaccine for smallpox. Four years later the statue was removed and put in Kensington Gardens. This was after pressure from anti-vaccine campaigners, some from within the medical profession, and the military who disliked having a statue of a seated civilian amongst their memorials. There were campaigns in 1923, 1937 and 2010 to return the statue to Trafalgar Square but it remains in Kensington Gardens.



Should this statue be returned to Trafalgar Square?



What might the pandemic mean to each of us? This has been a difficult time for very many of us. But not exclusively so. There are aspects of life under lockdown for instance that some appreciated. And aspects of the adjustments that we have had to make that we might want to hold onto for the future. We could talk about our losses, our gains, our sadness and our joys.

We need to take stock ourselves. Young people need that opportunity too ... but it needs sensitivity. Using photograph activities is one way we can allow the discussion to evolve from the personal to a wider understanding.



There are other stimuli that might get a good discussion going. It is important to choose well.

For some discussing our approach to badgers who might have TB and what that would mean if applied to those with Covid, could generate a useful debate.





There is a need for approaches that engage learners in a way that values their experiences and ideas but does not expose them to embarrassment or worse.

Photographs can provide the stimulus needed for group discussion and personal reflection.

The National Gallery [on-line] have an excellent collection of photographs on a Covid 19 theme.

See: [Hold Still at National Gallery](#).

Here are three activities that could be applied.

Suggested Process ...

Review the collection of photographs. [Web link]

Individually [A]: choose 3 that say something important to you.

Focus on one photo.
[B] Generate questions looking at the detail.

Some question will have answers, some you might guess, others are just good questions.

Share your photo [C]
What do others see ?

Pose a question to help focus discussion.

Eg - What are the challenges of being a Care Worker?

[C] Share your choices - The process:



What do I see? - What questions?



How do others in the group see them?



? What question will focus discussion?

[A]

Choose 3 photos that say something important to you.



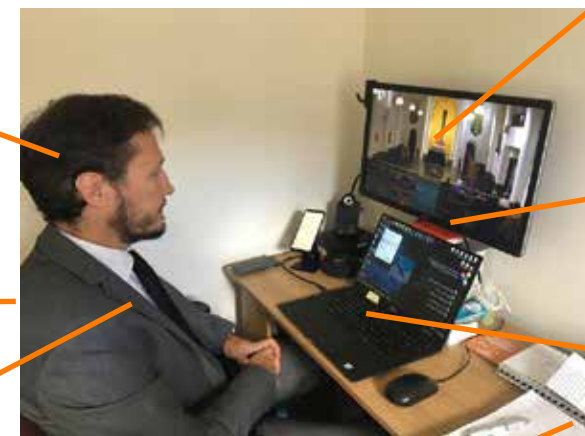
[B]

What is he watching? Why?

What is he thinking?

Where is he?

Why is we wearing a black tie?



What is the building?

Where is it?

How many people are there?

Why is he not there?

Why has he got two screens?

What notes has he been writing?

Vaccines ... a global matter?

Ngozi Okonjo - Iweala. In March 2021 she was appointed Director at the World Trade Organisation [WTO].

Here she talks about Covid-19 vaccines.
Click on photo to see short video [1.45 min].



There is, we propose, a need for participatory learning resources to enable students, wherever they are, to explore the issues relating to the global distribution of Covid-19 vaccines. The issue highlights many of the complexities of the current world situation. A key question for the proposed group - **How do we make those ideas accessible?**

There are useful articles such as those by [Gordon Brown](#) and [William Hague](#) both advocating the need for new international initiatives.

Why, as with Climate Change, does the political response seem to be so slow?

[Nick Cohen](#) offers a view, starting with an interview ... *"When I asked Brown to explain the failure, he replied with admirable brevity: "Nationalism and stupidity."* If there is any truth in that an educational response has additional difficulties.

Has only 1% of the 1.3 billion vaccines injected globally been administered in Africa?
See article from Development Education Ireland website [June 2021]

We seek a group of school practitioners, with members from different parts of the UK, to take a lead in the creative work needed.

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Please let us know if you are interested.



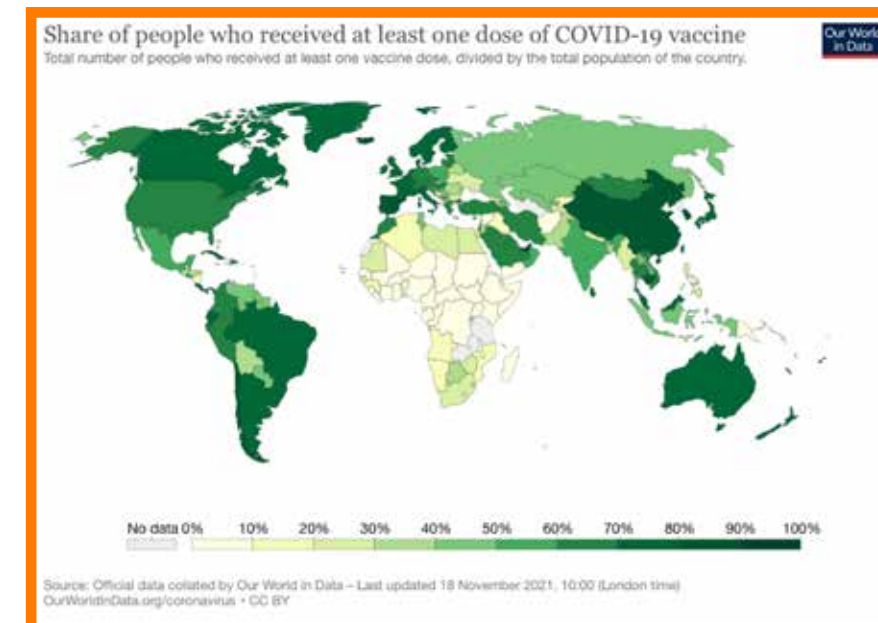
Image: Ben Jennings The Guardian

This map is regularly up dated by 'Our World in Data'

Click on it to see up-to-date info.

There are other useful sources such as the World Health Organisation COVAX site.

How do we enable learners to explore these matters for themselves?



Years ago people died of smallpox.

We eradicated it. We can do the same with Covid-19 if we get everyone in the world vaccinated

There is a moral imperative to make sure that everyone in the whole world, rich and poor, is vaccinated against this disease.

It is our duty.

We just have to learn to live with higher death rates and reduced life expectancy.

It's just how things are; we have to get used to it.

If we don't get at least 80% of the world vaccinated then more variants will emerge and these new variants might be resistant to the vaccines we have developed.

It is to our advantage to get all the world vaccinated regardless of cost.

The priority for vaccinations has to be to look after our own not to export vaccines that we might need to poor countries.

How far do you agree or disagree with these statements?

How would you reword them?



Black Death 1348 ... and Covid 19 now

Can learning about the Black Death in Florence in 1348 help us understand something about Covid19 now?

If young people - actually let's be honest any of us - are going to make any sense of the events of the pandemic, we need to understand that it is not solely about viruses and infection rates, it is also about impacts on society, the economy and culture. There has been no shortage of people talking about the impact of the Spanish flu epidemic on modernist writers such as T. S. Eliot or Virginia Woolf.

However, this suggestion builds on the idea of using **Boccaccio's description of the Black Death in Florence** to help us understand how our own society has responded to Covid-19.

Giovanni Boccaccio - Decameron.

In 1348, when the Black Death arrived in Florence, the city had a population of around 80,000 people.

Two years later the population had fallen to between 25,000 and 30,000. This is the context in which Boccaccio wrote his literary masterpiece the **Decameron**.

It is a frame story with 100 short stories told by ten young Florentines (seven women and three men) over ten days. They were trying to evade the plague by isolating themselves in a secluded villa on the edge of the city. The stories explore themes of love and luck, cleverness and good manners.

However, in the opening pages he sets the scene by reminding his readers of the recent plague with several observations -- see *visual* >>>

Boccaccio Giovanni (2004) Decameron Wordsworth Classics of World Literature

Black Death in Florence in 1348 ...

- ☐ '...it was forbidden for any sick person to enter the city.'
- ☐ '...it spread from sufferers to gain a grip on any healthy people who were in contact with them...','...touching the clothes or any other thing...seemed enough to communicate the sickness'
- ☐ People would 'shun and avoid the sick'
- ☐ There were those who believed that 'to live moderately...was the best defence'
- ☐ 'others...maintained that a more certain remedy was to carouse and make merry...they put their beliefs into practice...drinking without restraint or measure'
- ☐ '[some] ...abandoned their own city...houses...and relatives...' [they went away]
- ☐ 'The condition of the poorer people was even more pitiable to see...persuaded by hope or by poverty to stay... they fell ill everyday by their thousands' '...even in scattered villages and in the fields, the poor labourers and their families died wholesale'
- ☐ '...burial grounds were not sufficient to hold the vast multitude of corpses which...arrived every day and almost every hour'
- ☐ '...it may have been that the nature of the infection prevented a cure...'

Which observations from 1348 could be said today?

What surprises you?

Quotes from the Wordsworth Classics of World Literature (2004) pages 6-12.

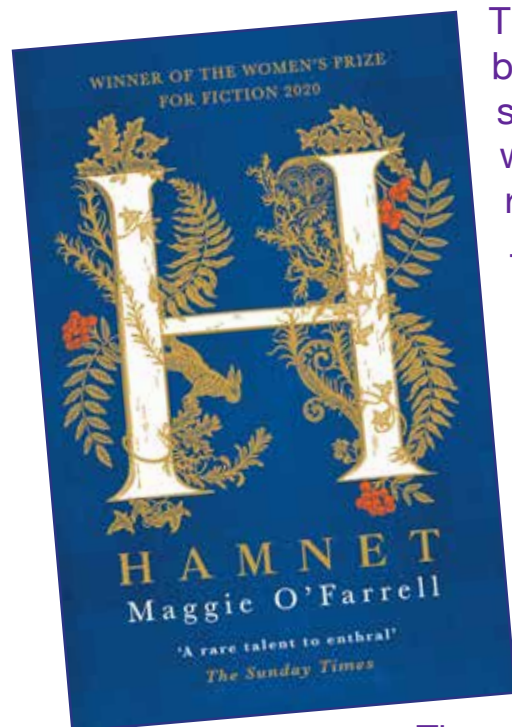


Hamnet ... the journey of a flea

This wonderful story imagines the life and death of Shakespeare's son Hamnet who died of the plague in 1596.

Four years later Shakespeare wrote the play Hamlet: the names Hamnet and Hamlet were inter-changeable in those times. The novel, which won the Women's Prize for Fiction in 2020, explores themes of loss, grief, and the wonders of life. Set in the 16th century, its themes are completely relevant now, and the writing is beautiful.

There is a chapter in the novel in which the author plots the journey of the flea that carried the plague to Warwickshire in 1596.



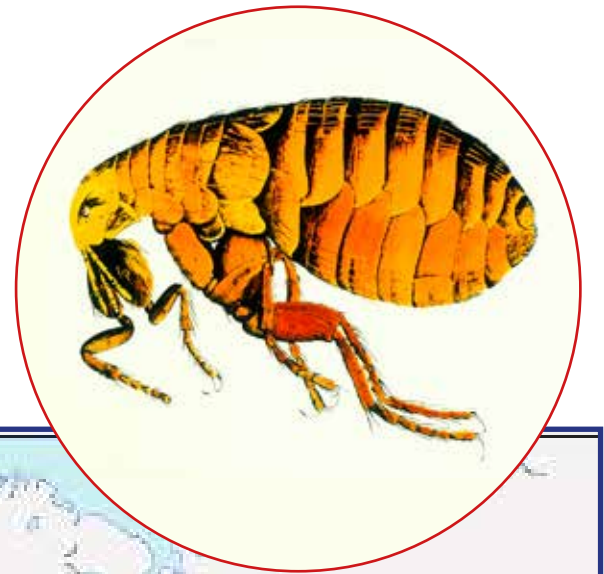
The novel was written before the pandemic. There have been interviews with Maggie O'Farrell where she says she considered leaving that chapter out. Of course now we've experienced the pandemic, it feels incredibly relevant and even prescient.

This imagining of the journey of the flea and its descendants not only charts the ways in which a small place in Warwickshire, in 1596, was connected to the world but it also gives a rich flavour of the coincidences, brutalities and wonder of the lives of those who were touched by the flea and its descendants. And for students of Shakespeare, and especially of Hamlet, it shines a light on the humanity, the grief, the loss and the wonders that Shakespeare writes of in his majestic play.

There are of course other novels that investigate grief and loss, and others that illuminate plagues and pestilence. The obvious one is Camus, 'The Plague', which is also an allegory for the Nazi occupation of France.

Do you have 'plague literature' to recommend?

Let us know.



The chapter opens

"For the pestilence to reach Warwickshire, England, in the summer of 1596, two events need to occur in the lives of two separate people, and then these people need to meet."

First ~ a glassmaker on the island of Murano, in the principality of Venice.

Second ~ a cabin boy on a merchant ship sailing for Alexandria on an unseasonably warm morning with an easterly wind.' (p166)

The flea is on a monkey in Alexandria.

Via the cabin boy, - the ship's cats, - the ship's crew, - the rats on the ship. Back to the cabin boy, - to the master glassmaker when the ship docks in Venice.

The rags used to wrap Murano glass beads have eggs laid in them by the great grandchildren of the monkey flea.

They are delivered to a seamstress in Warwickshire, and shown to Hamnet's twin sister Judith who happens to be present when the beads arrive.



Vaccines ... discovered & feared

There is nothing new about fearing vaccinations, this simple point is outlined using James Gillray's famous cartoon 'The Cow-Pock -or- the Wonderful Effects of the New Inoculation!'. This was printed June 1802. It ridiculed the fears many people had about the new vaccination against smallpox.

James Gillray (1756 - 1815) was a British cartoonist. He specialised in ridiculing King George III, Emperor Napoleon, other politicians as well as the rich and famous.

Use the spheres of inference grid, one copy between 3 students, first label what you can see, then what you can infer from this and what it tells you about what society was like in 1802.

Finally what questions would you ask about the cartoon.

In the feedback discussion ask how this could help us to understand anti-vax myths today.

Here are some of the more unusual claims about vaccines

- ◇ It makes you infertile
- ◇ It is to reduce the world population
- ◇ It causes Alzheimer's -- It causes cancer
- ◇ It contains nanobots so that we will be controlled by ...
- ◇ It contains alligator extracts and will turn you into one.
- ◇ It is all about the state trying to control us more and more.



Cartoon: 'The Wonderful Effects of the New Inoculation!'

Dr Edward Jenner (1749 – 1823)

He was born in Berkeley, Gloucestershire, and educated locally. At 14 he was apprenticed to a surgeon in Chipping Sodbury, then, at 21, moved to study anatomy in London. In 1773 he returned to Berkeley to work as a family doctor. He had other interests such as ballooning and birdwatching.

Smallpox was endemic in Europe at the time, estimates suggest that around 4,000,000 people died of smallpox every year.

Amongst rural communities it was well known that milkmaids didn't often catch it. Jenner thought that might have something to do with them catching cowpox which was a much less dangerous illness. On 17 May 1796 he tested his hypothesis by infecting James Phipps, his gardener's 8-year-old son, with cowpox. James was feverish but soon recovered. Later he was exposed to smallpox but did not catch smallpox.

Jenner wrote up his findings and became famous. James Phipps stayed in Berkeley and Jenner gave him and his family a cottage to live in.



Pandemics

an historical context

Writing about Covid is complicated; events move quickly, and ideas are rapidly outdated. Notes that refer to 'the new Kent variant' now read like ancient history. However, we, in the broadest sense of the word, **need desperately to reflect on the pandemic if we are to understand our world and have any hope of building a better future.**

At one level this is being done, as people have sought to make sense of the world last year sales of the novels **The Plague** by Camus (1947) and **Blindness** by Saramago (1995) shot up on Amazon, alongside increased sales of Defoe's 1722 classic **A Journal of the Plague Year**.

From within the medical profession Richard Horton, Editor-in-Chief of **The Lancet** argued in **The Covid-19 Catastrophe**, that **deaths from Covid were not 'unlucky, inappropriate or even regrettable' but the result of policy decisions.**

Elsewhere philosophers have reflected on the pandemic; Giorgio Agamben feared the new powers used by governments to fight the pandemic would establish a permanent authoritarian state of exception.

Zizek in **Pandemic**, the first of his books on Covid, disagreed fundamentally with Agamben, whilst he argued in his later book, **Pandemic 2**, that contemporary society is incapable of protecting its citizens in a crisis. This is partially, as Krastev argued, that the pandemic was both predicted and still unimaginable.

This time-line considers pandemic in a historical context. It is not complete, it needs to connect to other dialogues, such as geographers exploring the role of trade and tourism in spreading infections, biologists to support understanding of viruses and epidemiology or mathematicians for the complexities of statistics and modelling.

Time-line in three phases

This activity is intended to trigger discussion so it needs to be done in largish groups. The students need to spot patterns within the time-line that covers the last 3,000 years.

Phase One ... key events. [See page 24]

The event cards are shared amongst the students, they read them then put them in the appropriate place on the timeline. They are not expected to read and remember every event, but time must be given for them to look for surprises or patterns, such as the waves of plague or cholera epidemics. This is not a complete list of epidemics, so feel free to add any others. Invite the students to comment on the time-line.

Phase Two ... causes and impact. [See page 26]

Share these 19 cards amongst the students, they put them on the time-line and discuss things that they notice or find intriguing. They will spot that travel is central to spreading an epidemic, highlight the role of Constantinople and Genoa with the Black Death or consider how the first cholera outbreak in 1816 was spread. You might choose to point out that Dr Urbani died of SARS soon after recognising it as a new illness.

Phase Three...reactions. [See page 27]

These 18 cards are shared and then put on the time-line. There are several themes that emerge -- such as:

- ◇ *The long history of quarantining patients suspected of having contagious illnesses*
- ◇ *Irrational reactions to diseases, you could point out that whilst the new temple was being built in Athens, the snake of Asklepius reputedly stayed in Sophocles' house as an honoured guest*
- ◇ *The urge to find scapegoats*
- ◇ *The importance of a global response to eradicating diseases*
- ◇ *The importance of vaccination as a tool to fight infectious diseases*
- ◇ *Public Health policies to reduce illness*
- ◇ *How the 2003 SARS epidemic was handled.*



Phase One: Key Events

Plague in Athens, Greece
75,000-100,000 deaths
430-426 BCE
Thought to be smallpox.

Antonine Plague
5-10 million deaths
165-180 CE. Generally accepted this was either smallpox or measles.

Cocolitzi epidemic Mexico
2-2.5 million deaths
1571

Great Plague of London
1665-66 CE

Jian'an Plague in China
217 CE
Probably typhoid.

HIV/AIDS
35 million deaths so far
1981 to the present

Japanese smallpox epidemic
2 million deaths
735-737 CE

Spanish flu
17-100 million deaths
1918-20

Plague of Justinian
15-100 million deaths
541-570 CE
Start of the First Plague pandemic which lasted until around 750 CE

Black Death
75-200 million deaths
1331-53
Start of the Second Plague pandemic which lasted until late C18th.

Plague outbreak in Yunnan China, spread to India.
12-15 million deaths
1855
Start of the Third Plague Pandemic which lasted until the 1960s.

Cocolitzi epidemic Mexico
5-15 million deaths
1545-48 CE

The last major outbreak of the plague was in Argentina and Peru in 1945.

Mexican smallpox outbreak
5-8 million deaths
1520

Plague of Amwas, in what is now modern-day Syria
638-639 CE

SARS
774 people die in 20 different countries.
November 2002-May 2004

Plague of Shroo in modern-day Iran
627-628 CE

First Cholera outbreak... Asia and Europe
Over 100,000 deaths
1817-24

Second Cholera outbreak... Asia, Europe and North America
Over 1,000,000 deaths
1826-37

Third Cholera outbreak
Over 1 million deaths worldwide
1846-60

Sixth Cholera outbreak... Asia, Europe and Africa
Over 800,000 deaths
1899-1923

Fifth Cholera outbreak... Asia, Africa, Europe and South America
Over 300,000 deaths
1881-96

Fourth Cholera outbreak
Over 600,000 deaths worldwide
1863-75

Seventh Cholera outbreak
1,126,229 cases worldwide
1961-75

SARS-Cov-2
New SARS virus recognised, this causes COVID-19.
December 2019

EBOLA
28,616 deaths mainly in Guinea, Liberia and Sierra Leone. Some limited outbreaks in 7 other countries.
Dec 2013-Jan 2016

Evidence of smallpox found on mummies dated to around 1000 BCE.

Footnote on the use of ...

BCE (before the Common Era) and CE (Common Era). The use of BCE and CE may sound like a relatively new version of the established BC (before Christ) and AD (anno Domini/ in the year of the Lord) used in the Julian and, since 1582, Gregorian calendars; however, these 'new' terms have a much longer history.

As early as 1615 the mathematician Johannes Kepler referred to 'annus aerae nostrae vulgaris' (year of our common era) and twenty years later a reference was made in English to the 'vulgar era' (where vulgar means common rather than rude). From the mid C19th Jewish scholars increasingly used BCE and CE to refer to BC and AD when using the Gregorian calendar.

As the events of this time-line are drawn from a range of cultures and the people named from diverse faiths and none, the author decided to use BCE and CE.



Phase Two: Causes and Impact

Athens was so weakened by the plague that they lost the war with Sparta.

The plague came into Athens on ships through their port Piraeus.

Human waste causes cholera, it pollutes water supplies and creates unhygienic conditions.

1665, the plague was brought to Eyam, in Derbyshire, in a flea-infested bundle of cloth from London. The villagers introduced a set of rules to stop the plague spreading, such as quarantining the village and open air church services. The plague lasted around 14 months but did not spread beyond Eyam.

European invaders and settlers brought a wide range of diseases to America including smallpox, bubonic plague, chickenpox, cholera, the common cold, diphtheria, flu, malaria, measles, scarlet fever, typhoid, typhus and tuberculosis.

1854, Dr John Snow realised that many cholera victims in Soho, London used the same water pump. He had the pump handle removed and the number of victims fell dramatically. The water from the pump, taken out of the River Thames, was polluted by untreated sewage.

Increased trade, migration, troop movements, Royal Navy ships and pilgrimages led to cholera spreading rapidly after the first outbreak in 1816 in India.

Romans thought the Antonine plague was brought to Rome by troops returning from fighting in what is now Iraq.

The SARS virus was found in masked palm civets at a Chinese food market in May 2003. Later research found it in racoon dogs, ferret badgers and domestic cats.

Constantinople became the centre for spreading the First Bubonic plague along trade routes throughout the Mediterranean and the Middle East.

166 CE The Roman army was so weakened by the plague it could not defend the empire. The emperor recruited gladiators, criminals, and slaves into the army.

1347 troops fighting in the Crimea brought the plague from central Asia. Then Genoese traders carried the infection to Constantinople ...it spread rapidly to the rest of Europe and North Africa.

Between 1847 and 1851 one million Russians died of cholera.

Between 1900 and 1920 approximately 8,000,000 people died of cholera in India.

SARS virus can cross from one species to another.

By 1850 around 20% of the population of Hawaii died in an outbreak of measles.

In 1875 around one third of Fijians died in a measles epidemic.

In 2014 it was reported that 10% of deaths in the ebola epidemic were medical staff who caught it whilst treating sufferers.

28 February 2003 in The French Hospital of Hanoi, Vietnam, Dr Carlo Urbani was treating Johnny Chen for flu. He realised it was a new disease Severe Acute Respiratory Syndrome (SARS) not flu.

Phase Three: Reactions

1951 Mexico announced it had beaten smallpox after a vaccination campaign started in 1803.

8 May 1980. The World Health Organisation announced that smallpox had been eradicated, after a global immunisation programme started in 1958.

February 1349 the Jewish community in Strasbourg, around 2,000 people were massacred, they were blamed for the Black Death. In August the Jews in Mainz and Cologne were also massacred.

Dr Jenner in Gloucestershire announced he had a vaccine for smallpox, in 1798. The French Emperor Napoleon Bonaparte awarded Jenner a medal for his work even though Britain and France were at war.

Venice introduced a policy of 'quarantena' to stop ships bringing the Black Death, they were to isolate for 40 days to make sure they are not infectious.

The famous Persian medical writer Ibn Sina (c.980-1037) recommends isolation of people with infectious diseases.

1858 work started on a new London sewage system designed to release the sewage into the Thames downstream of London.

1855 plans were drawn up to build a new Parisian sewer system.

2017 the World Health Organisation launches 'Ending Cholera: a global roadmap to 2030' with the intention to cut deaths from cholera by 90% by 2030.

In 2006 two Chinese laboratories show that the SARS Coronavirus in humans and civets are genetically related.

In 420 BCE a snake sacred to Asklepius, God of Medicine, is brought into Athens. A new temple is built for the god, and his snake.

December 2017 scientists in China located a colony of horseshoe bats that carry the coronavirus likely to have caused the 2003 SARS epidemic.

Faith in the Greek god Asklepius grows, a massive temple dedicated to him in the C4th BCE was built at Epidaurus.

Dr Urbani contacted the WHO about SARS, they announced isolation and quarantine measures to stop its spread.

Dr Urbani also notified the Vietnamese government. They immediately introduced screening of people coming into the country and isolation of SARS patients.

The Persian physician Muhammad ibn Zakariya Al-Razi (860-932) wrote the first detailed account of measles infection.

A measles vaccine was first produced in 1963 and an improved version in 1968.

Despite the vaccine for measles, it remains the biggest vaccine-preventable cause of death. Infection rates have risen between 2017 and 2020.

