

Reading Comprehension

1. Coronavirus: What can we learn from the Spanish flu?

By Stephen Dowling (bbc.com: 3rd March 2020)

In the aftermath of World War One, a flu pandemic swept the world, killing at least 50 million people. What lessons can it teach us about Covid-19?

One hundred years ago, a world recovering from a global war that had killed some 20 million people suddenly had to contend with something even more deadly: a flu outbreak.

The pandemic, which became known as Spanish flu, is thought to have begun in cramped and crowded army training camps on the Western Front. The unsanitary conditions – especially in the trenches along the French border – helped it incubate and then spread. The war ended in November 1918, but as the soldiers returned home, bringing the virus with them, an even greater loss of life was just around the corner; between 50 million and 100 million people are thought to have died.

The world has suffered many pandemics in the years since – at least three serious flu outbreaks among them – but no pandemic has been as deadly, nor as far-reaching.

As the world reacts to a headline-grabbing – yet far, far less deadly – outbreak of Covid-19, caused by a new coronavirus, BBC Future looks back to our 2018 special marking the 100th anniversary of Spanish Flu to see what we learned from one of the most

devastating diseases in recent history.

Many of the people dying from Covid-19 are succumbing to a form of pneumonia, which takes hold as the immune system is weakened from fighting the virus.

This is something that it shares with Spanish flu – though it must be said that the death rate from Covid-19 is many times lower than that of Spanish flu. Older people and those with compromised immune systems – who make up the majority of those who have been killed by the disease so far – are more susceptible to infections that cause pneumonia.

Air travel was in its infancy when Spanish flu struck. But there are few places on Earth that escaped its horrific effects. Its passage across the world was slower, carried by railway and passenger steamer rather by airliners. Some places held out for months, or even years, before the flu arrived and wreaked its terrible toll.

But some places did manage to keep the flu at bay, often by using basic techniques that are still being used 100 years later. In Alaska, one community on Bristol Bay escaped the flu almost unscathed. They closed schools, banned public gatherings, and shut off access to the village from the main road. It was a low-tech version of the travel restrictions that have been used in some areas today, such as China's Hubei province and northern Italy, in an effort to stop the coronavirus spreading.

Doctors have described the Spanish flu as the “greatest medical holocaust in history”. It was not just the fact it killed so many, it was

that so many of its victims were young and healthy. Normally, a healthy immune system can deal reasonably well with flu, but this version struck so quickly that it overwhelmed the immune system, causing a massive over-reaction known as a cytokine storm, flooding the lungs with fluid which became the perfect reservoir for secondary infections. Older people, interestingly, were not as susceptible, perhaps because they had survived a very similar strain of flu which had started to spread through human populations in the 1830s.

With the new coronavirus, the elderly and people with pre-existing illnesses are considered to be most at risk. Although still low, deaths have been highest in those aged above 80 years old.

The Spanish flu broke out in a world which had just come out of a global war, with vital public resources diverted to military efforts. The idea of a public health system was in its infancy – in many places, only the middle class or the rich could afford to visit a doctor. The flu killed many in slums and other poor urban areas, among populations with poor nutrition and sanitation, and often those with underlying health conditions.

The flu spurred the development of public health systems across the developed world, as scientists and governments realised pandemics would spread more quickly than they had in the past.

Treating people on a case-by-case basis would not be enough – to deal with pandemics in urban settings, governments would have to mobilise resources as if they were at war, quarantining those showing signs of the disease, keeping minor cases separate to those suffering

more serious illness, and limiting people's movements so the disease would burn itself out.

The public health measures we see being enacted today across the world as efforts to contain the spread of coronavirus are one of the Spanish flu's most enduring effects.

2. The country where mothers win medals for having more kids

By Taylor Weidman and Azat Ruziev (Editing by Bernadette Young)

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In Kazakhstan, a long-standing Soviet tradition honours 'hero mothers' with medals for having very large families.

Many governments have incentives for citizens who have multiple children – but Kazakhstan goes so far as to award medals to its 'hero mothers' who keep the birth rate high.

Mums are given silver medals at six children and gold at seven kids or more. Medal holders also receive an allowance from the government for their entire lives. And although they don't win medals, families of four children or more are still provided with a financial support programme until the kids are aged 21.

The practice of decorating these mums goes back to the Soviet Union, which established a 'mother heroine' award in 1944 for families with 10 or more children. Although awards now go to smaller families than they did in Soviet times, keeping the birth rate high is still very much a priority for the Kazakh government.

“Everybody always talks about it, to have more children, to make our population bigger,” says Aksana Eleusezova of Kazakhstan’s Department of Labour and Social Programmes.

3. How Babies Learn Language

During the first year of a child’s life, parents and carers are concerned with its physical development; during the second year, they watch the baby’s language development very carefully. It is interesting just how easily children learn language. Children who are just three or four years old, who cannot yet tie their shoelaces, are able to speak in full sentences without any specific language training.

The current view of child language development is that it is an instinct - something as natural as eating or sleeping. According to experts in this area, this language instinct is innate - something each of us is born with. But this prevailing view has not always enjoyed widespread acceptance.

In the middle of last century, experts of the time, including a renowned professor at Harvard University in the United States, regarded child language development as the process of learning through mere repetition. Language “habits” developed as young children were rewarded for repeating language correctly and ignored or punished when they used incorrect forms of language. Over time, a child, according to this theory, would learn language much like a dog might learn to behave properly through training.

Yet even though the modern view holds that language is instinctive, experts like Assistant Professor Lise Eliot are convinced

that the interaction a child has with its parents and caregivers is crucial to its developments. The language of the parents and caregivers act as models for the developing child. In fact, a baby's day-to-day experience is so important that the child will learn to speak in a manner very similar to the model speakers it hears.

Given that the models parents provide are so important, it is interesting to consider the role of "baby talk" in the child's language development. Baby talk is the language produced by an adult speaker who is trying to exaggerate certain aspects of the language to capture the attention of a young baby.

Dr Roberta Golinkoff believes that babies benefit from baby talk. Experiments show that immediately after birth babies respond more to infant-directed talk than they do to adult-directed talk. When using baby talk, people exaggerate their facial expressions, which helps the baby to begin to understand what is being communicated. She also notes that the exaggerated nature and repetition of baby talk helps infants to learn the difference between sounds. Since babies have a great deal of information to process, baby talk helps. Although there is concern that baby talk may persist too long, Dr Golinkoff says that it stops being used as the child gets older, that is, when the child is better able to communicate with the parents.

Professor Jusczyk has made a particular study of babies' ability to recognise sounds, and says they recognise the sound of their own names as early as four and a half months. Babies know the meaning of Mummy and Daddy by about six months, which is earlier than was previously believed. By about nine months, babies begin recognizing

frequent patterns in language. A baby will listen longer to the sounds that occur frequently, so it is good to frequently call the infant by its name.

An experiment at Johns Hopkins University in USA, in which researchers went to the homes of 16 nine-month-olds, confirms this view. The researchers arranged their visits for ten days out of a two week period. During each visit the researcher played an audio tape that included the same three stories. The stories included odd words such as “python” or “hornbill”, words that were unlikely to be encountered in the babies’ everyday experience. After a couple of weeks during which nothing was done, the babies were brought to the research lab, where they listened to two recorded lists of words. The first list included words heard in the story. The second included similar words, but not the exact ones that were used in the stories.

Jusczyk found the babies listened longer to the words that had appeared in the stories, which indicated that the babies had extracted individual words from the story. When a control group of 16 nine-month-olds, who had not heard the stories, listened to the two groups of words, they showed no preference for either list.

This does not mean that the babies actually understand the meanings of the words, just the sound patterns. It supports the idea that people are born to speak, and have the capacity to learn language from the day they are born. This ability is enhanced if they are involved in conversation. And, significantly, Dr Eliot reminds parents that babies and toddlers need to feel they are communicating. Clearly, sitting in front of the television is not enough; the baby must

be having an interaction with another speaker.

4. WHAT A WASTE!

Every day, all over the world, unwanted waste is disposed of from both domestic and commercial sources, usually with insufficient attention paid to the resulting problems. The increase in excess refuse and how to dispense with it has become a major headache for the government and the environmental agencies.

This has certainly been the case in Britain where there has been a steady rise in the amount of rubbish generated in recent years. In industry, the mining, agriculture and construction sectors are the biggest culprits, being amongst the greatest producers of waste. Also, household waste has grown at a rate of 3% a year as a consequence of society becoming more affluent and thus consuming more goods, resulting in more rubbish to discard. As this waste is economically and environmentally costly to deal with, local authorities have been required to ensure that the arrangements made to dispose of the surplus detritus are efficient and practicable, considering social as well as economic implications.

For many years, the preferred option for refuse disposal in Britain has been the landfill. In fact, the UK, more than any other European country, makes use of landfills to get rid of its biodegradable waste. However, problems have arisen with this method and alternative solutions have had to be researched.

One of the biggest drawbacks to landfills is the cost. In the past this was not the case as land was plentiful and cheap with abandoned

quarries and mines often being utilised. But by 2015, since space for approved and licensed landfills will have run out, viable alternatives to waste disposal have to be found. Another disadvantage is the environmental impact made by the acids and hazardous chemicals that are leaked from the landfills. Older sites depended on these substances being diluted naturally by rain but this often did not occur and surrounding agricultural land was affected and livestock poisoned. Nowadays, more modern landfills use liners within the pits to contain any dangerous material and the liquid is then collected, treated and discharged within the site itself. But perhaps the most apparent annoyance for the general public living in the immediate vicinity of the landfill is the nuisance that results from the traffic, the noise, the dust and the unpleasant odours emanating from the site. Although no risks to human health have been verified, symptoms such as headaches, drowsiness and exhaustion have been reported by people living close to landfills. These may have been caused by toxic emissions from the site but they may be connected to the impact that living next to the sites can have on stress and anxiety.

In order to reduce the amount of waste being sent to the landfill, a special tax was introduced in 1996, to discourage this practice. The charges range from two to eleven pounds per tonne depending on the type of rubbish being discarded and due to this tax the amount of waste from the construction industry has been markedly reduced. Other targets have been set to reduce biodegradable waste deposited in these sites by 2006 but it is thought that the greatest impact could be made through the introduction of more intensive recycling, which

could be funded from the proceeds of the landfill tax.

In Europe, Britain is bottom of the recycling table with the lowest rate of 8% compared to the Netherlands where they recycle 72% of their detritus. According to government research, only 7% of plastic was salvaged, as was only 22% of the six billion glass containers manufactured annually in Britain. On the other hand, the same sources found that 90% of car batteries and 66% of lead is recycled. This proportion is high because of the economic value of the material and so reprocessing is an opportunity to gain an income from an environmentally friendly undertaking. Also, of the thirteen billion steel cans produced yearly, about a quarter come from recycled metal. These goods only consume 25% of the energy needed to make the same products from raw materials.

Biodegradable wastes can be made into organic compost to use as fertiliser for the land. At present less than half the local authorities have facilities for this and about a fifth of municipal waste is being treated but in some areas, schemes are being set up to collect waste from both domestic properties and supermarkets to help effect this procedure.

Yet even now in the 21st century, less progressive authorities are still constructing and employing incinerators to dispose of waste despite the subsequent health hazards. They also have to confront opposition from the public over a policy which has proved to be the most unpopular technology since the introduction of nuclear power.

So, what can be done to encourage more recycling? Probably

what should be the government's priority is the reduction in the number of landfills in regular use. Even materials that are biodegradable such as paper cannot easily be broken down as the landfill pits are constructed to keep air out and moisture in, thus slowing down the process to degrade this matter. Therefore, more reprocessing plants for refuse must be constructed to replace the outmoded landfills. Also, companies should be encouraged to take a more responsible approach to the packaging of their products, only using the minimum and environmentally friendly recycled materials. Then, the public must be convinced of the benefits of recycling and be made aware of the ecological consequences of not recycling. In Britain, more intensive reprocessing would lower the production of gases harmful to the ozone layer by 12.8 million tonnes of carbon a year, the equivalent of taking nearly five million cars off the road. Also, a strong incentive for the public to support recycling is the prospect of higher employment. In Germany, it has been estimated that 150,000 people are employed in the recycling business, a number greater than those employed in the steel industry. It is believed that up to 50,000 jobs could be created in Britain if recycling was adopted.

What will happen in the future regarding the disposal of waste matter very much depends on the attitude and party policies of the particular government in power. Yet, if reforms to the methods of waste disposal are not made, serious environmental problems will arise in the immediate future, the consequences of which are too dire to contemplate.