

History, Medicine through time

Lesson 11 of 30

Worksheet:

Why did ideas about the cause of disease change between 1700-1900?

Miss Holland



The Enlightenment and Scientific Revolution

The Enlightenment was an **intellectual** movement starting from the 1700s. It was known as the 'age of reason' and even more emphasis was placed on the judgement of individuals and scientific explanations. The power and influence of establishments such as the Church over everyday life had been virtually removed.

The Scientific Revolution existed alongside the Enlightenment promoted rational thought and from the 1700s (the 2nd half of the Scientific Revolution), scientists focused on creating new ideas and replacing the old ones that had already been discredited during the Renaissance.



Factors - attitudes

As a result of the Enlightenment and the further loss of influence of the Church is concerned, more people were willing to accept new ideas and explanations, such as the four humours and God were no longer in use.

More people wanted to find rational explanations about the cause of disease. Industrial cities were overcrowded and filthy and so outbreaks of disease, like cholera, were common. This meant there was a need to find the answers to questions about the cause of disease.

However, although attitudes had begun to change, when the **Germ Theory** was published in 1861, there was still a lot of opposition in society. It took a long time to be accepted - until the 1880s.



Factors - individuals

Individuals were very importance in the changes seen in the understanding of the cause of disease.

Both Pasteur and Koch were able to finally prove an accurate idea about the cause of disease - that microbes (or germs) were responsible. Koch effectively developed Pasteur's theory and Pasteur also used Koch's ideas to continue to study microbes and create vaccinations.

There was a growing culture of scientists developing each other's work and filling in the gaps left by each other. For example, **John Tyndall** used both Pasteur's and Lister's work to theorise that dust particles carried the disease-causing microbes.

However, as you saw last lesson, some individuals such as **Henry Bastian** did prevent changes in ideas in Britain because he was a supporter of spontaneous generation and was well respected, so people were less willing to accept the Germ Theory straight away.



Factors - Communication

Communication continued to improve after the Renaissance and a print culture meant ideas were spread more rapidly than ever.

This meant it was even easier for scientists to share their work and develop each other's ideas. For example, **Joseph Lister** was able to read Pasteur's Germ Theory and use it to rationalise his ideas about how to prevent infection in surgical patients.

Literacy had also improved to a certain extent, making the ideas being shared more accessible.



Factors - Science and technology

The Scientific Revolution saw the promotion of experimentation and a will to develop new theories.

There were also some key technological advancements that allowed change to happen:

- Microscopes became even more powerful in the 2nd half of the 1800s. This meant some microbes could be studied more clearly.
- The petri dish was developed (by Koch's assistant Joseph Petri), which allowed scientists to grow cultures of bacteria which made it easier to study.
- Koch helped to develop industrial dyes to stain microbes.



Factors - Government

The government was not very involved in medicine and public health during the Medieval and Renaissance period. New theories were the result of individuals and organisations like the **Royal Society**.

This continued into the Industrial period. The British government did not think it was their responsibility to be involved in changes to medicine or public health and they continued to support the theory of miasma. This was a '**laissez faire**' attitude. The British government were not interested in the Germ Theory as they didn't think it had a practical application.

The government did begin to become more involved in medicine after **1867** once working class men were given the vote. They were forced to represent the interests of all classes and find solutions to problems like outbreaks of disease in order to stay in power.



Glossary

- **Intellectual** - Qualities such as critical thinking
- **Laissez-faire** - Where you don't get involved. A 'if it's not broken, don't fix it' sort of attitude.



Read the interpretations:

Interpretation 1 - Historian A

From 1700, **there was further change in attitudes in society**. This was **essential to the progress** seen in the understanding of the cause of disease. **People were looking for more rational ideas about disease due to the epidemics** they were faced with in Industrial towns. It was this **change in attitudes that inspired individuals** to search for the answers, leading to the Germ Theory and a change in ideas about the cause of disease.

Interpretation 2 - Historian B

The role of individuals in changing ideas about the cause of disease has been **greatly exaggerated**. **Far more significant were the technological advances**, like the further development of **microscopes from the mid 1800s**, that allowed progress in this area.



Interpretation Questions

1. What does interpretation 2 say about why there were changes in the ideas about the cause of disease in the industrial period?
2. How can you support interpretation 2 with your own knowledge?
3. How far do you agree with the view given in interpretation 2?
4. Challenge question: Do you agree with the view in interpretation 1 or 2 the most? Explain your answer.

You may want to use the following sentence starters:

- *I agree more with interpretation ____.*
- *Interpretation ____ says that the reason why ideas changed about the cause of disease was because...*
- *I think this is a more accurate interpretation than ____ because....*
- *Therefore, I agree with interpretation ____ because....*

