



***The Elephant Man* (dir. David Lynch, 1980)**

Lesson by Robin McHugh, Teach First

Key Stage 4 Science

This lesson explores the medical science behind Joseph Merrick's condition and places an emphasis on *How Science Works* by examining how these scientific theories have evolved and changed over time. In addition, learners will look into the ethical considerations surrounding Joseph Merrick and the scientists that worked with him. A pre-screening activity to be completed before *The Elephant Man* is shown to the class is also included.

Curriculum Links

- How explanations of many phenomena can be developed using scientific theories, models and ideas
- To consider how and why decisions about science and technology are made, including those that raise ethical issues, and about the social, economic and environmental effects of such decisions
- How uncertainties in scientific knowledge and scientific ideas change over time and about the role of the scientific community in validating these changes
- The ways in which organisms function are related to the genes in their cells
- Human health is affected by a range of environmental and inherited factors, by the use and misuse of drugs and by medical treatments

Lesson Objective

To help students to understand how scientific theories that explain Joseph Merrick's condition have changed over time and to evaluate the ethical considerations made by the scientists treating Joseph Merrick.

You will need...

- **Trailer:** Inference Square template, Stills from *The Elephant Man*, *The Elephant Man* DVD
- **Main Attraction:** *The Elephant Man* poster
- **End Credits:** Quote and poem included

Activities

TRAILER: INFERENCES

Select one or more of the following images (see additional resources) and present to learners on an interactive whiteboard or as a hand-out:



Ask learners to study the image and then complete an ‘inference square’ (see inference square.pdf template), which requires them to note down the following:

- What is known for certain
- What can be inferred
- What is unknown
- Questions they have

Discuss the notes that learners have made as a whole class discussion. If there is access to a visualiser, display the inference squares that are being discussed.

At this stage it would be best to avoid using the term “the Elephant Man”.

MAIN ATTRACTION: WHICH MEDICAL ISSUES AFFECT JOSEPH MERRICK?

Play “Meeting of the Society” clip (20:30 – 22:50).



Ask students to write down the physical afflictions that are observed by Dr Treves as he exhibits Joseph Merrick. (Support: If necessary, the moment that Treves begins listing these can be pointed out to students (21:40 – 22:06)).

For each affliction that they identify, ask students to imagine and write down how it might affect them and how they would have to change their behaviour to cope. **n.b.** the issues include:

- Enlargement of the skull
- Enlargement of limbs
- Curvature of the spine
- Looseness of the skin
- Tumours covering 90% of the body
- Chronic bronchitis

How and why would mobility be affected? What is bronchitis? (Link to KS3 prior knowledge.)

Play Bytes' introduction to the Elephant Man (12:30 – 13:30)

Ask students the following question:

- What does the clip say about the understanding of science by some people in the Victorian era?

Introduce the idea of maternal impression and folklore. Discuss how pseudo-science in the present day is often used to explain phenomena without any/sufficient evidence.

This is a useful clip to introduce contemporary research into Joseph Merrick's condition: <http://science.howstuffworks.com/life/48135-elephant-man-autopsy-model-3d-video.htm>

Using the following article as a source (<http://io9.com/5969314/did-joseph-merrick-known-as-elephant-man-have-proteus-syndrome>) and ask students to create a timeline showing how the scientific theories of Joseph Merrick's condition have changed over the years.

(Support: These starter points to look out for can be given to some learners if necessary:

- Birth and folklore
- Neurofibromatosis 1
- Proteus syndrome

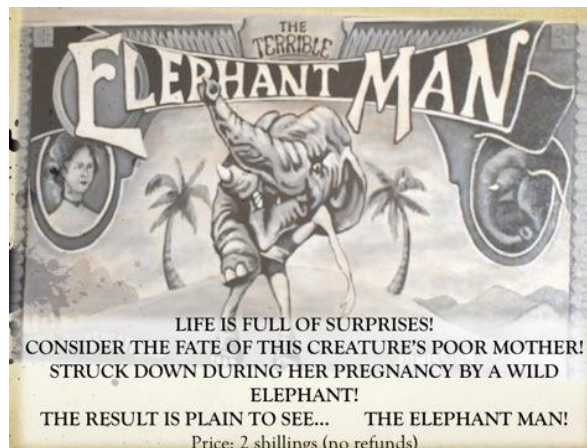
Ask students the following questions:

- What does this tell you about how medicine and science changes over time?
- Why must scientists always maintain some doubt when they present a scientific theory?

Letter to the Times

Give students the following task:

Imagine you are a scientist in the Victorian era with the knowledge you have now. You see the following poster around London:



Write a letter to the Times to explain:

- The actual scientific explanations for Joseph Merrick's condition
- Your own views on the poster, whether it is right or wrong, and why

END CREDITS: DR TREVES

Ask students to read the following quote from Dr Treves:

“I’m beginning to think that Mr Bytes [the circus keeper] and I are very much alike... It seems that I’ve made Mr Merrick into a curiosity all over again, doesn’t it? This time in a hospital rather than a carnival.”

Now ask the following questions:

- Do you agree with Dr Treves?
- What similarities are there in the ways that Mr Bytes and Dr Treves used Joseph Merrick?
- What differences are there?
- Did Dr Treves always act ethically?

The following poem “False Greatness” by Isaac Watts, which Joseph Merrick used to sign off his correspondence can be used as a ‘final thought’ to the lesson:

*'Tis true my form is something odd,
But blaming me is blaming God;
Could I create myself anew
I would not fail in pleasing you.*

*If I could reach from pole to pole
Or grasp the ocean with a span,
I would be measured by the soul;
The mind's the standard of the man.*



Extras

Other Ideas

- With access to ICT resources and in groups, students can research the following areas: Cutis laxa, NF1 and Proteus syndrome, creating a presentation on their specialist area. For each presentation, learners can link the condition to Joseph Merrick's medical history.

Read

- www.independent.co.uk/news/science/will-dna-unlock-the-elephant-mans-final-secret-8060069.html
- <http://io9.com/5969314/did-joseph-merrick-known-as-elephant-man-have-proteus-syndrome>

Watch

- <http://science.discovery.com/tv-shows/science-channel-presents/videos/curse-of-the-elephant-man-skeleton.htm>
- <http://www.discoveryuk.com/web/meet-the-elephant-man/videos/>

What **QUESTIONS** do you still have?

What does the source **NOT** tell you?

What can you **INFER** from the source?

What does the source tell you for **CERTAIN**?