Dorothy Heathcote
Living History Project

By Amanda Kipling

These workshops were part of a project by the Mantle Network, funded by the National Lottery Heritage Fund, looking at the application of Dorothy Heathcote's methods in teaching history and heritage through drama

The project includes work with schools, and also with heritage sites, such as the Black Country Living Museum.

This article focuses on a workshop about the 19th century surgeon, Joseph Lister. This project involved a class of year 8 pupils from Charter School, East Dulwich, and comprised two workshops: one at their school, followed by a second workshop with the same group at the Old Operating Theatre, London Bridge.

This article draws upon a number of sources:

- preparatory notes and post-workshop reflections from facilitator, David Allen, which provide insight into the design and evaluation process and contextualise the role of the UCL PGCE drama students;
- an interview with Phoebe Batey, the Science teacher involved in the project, which illuminates the position of a non-drama specialist encountering Mantle for the first time;
- another meeting with three of the year 8 students about two weeks after the Old Operating Theatre project, revealing the impact the experience of Mantle had on the pupils themselves.

While the theory of Mantle of the Expert is well covered in the literature, it is difficult to envisage the practice without being actively involved in the whole process. This article is presented as a bricolage of these sources in an attempt to capture some of these elements: exposing the planning process and the rationale behind this preparation; accounting and evaluating the workshop processes through the eyes of the science teacher and pupils; exploring the wide ranging outcomes as voiced by these participants and punctuated by reflective commentary by the workshop leader.

David Allen's commentary on the first Lister workshop:
I worked with Year 8 pupils from Charter School East Dulwich, on a drama about Joseph Lister and his development of 'antiseptic surgery'. (Lister was the subject of a famous drama led by Heathcote in 1980.)

I was assisted by some PGCE students from UCL, and their lecturer, Theo Bryer. The class were asked to think of themselves as people preparing a museum about Lister. We explained that the museum was planning to have actors in role as Lister, and other people from his time. However, there was a problem: the actors would not have any scientific training or knowledge, so could we prepare them to explain Lister's work to visitors?

The pupils looked at evidence of some of Lister's experiments in bacteriology, and then tried to explain them to the 'actors'.

The materials used in the workshop were based on actual materials that Lister produced for his lectures. He created his own visual aids and surrounded himself with the lab equipment he used in his experiments. So that was my starting point. I focused on a particular lecture that Lister gave when he took up a new post in Kings College, London, in 1877. The topic was his experiments in putrefaction in milk. The science was quite complex: it took me some time to get my head round it all, and then to break it down into teaching resources I could use. I was not sure what the pupils would make of it all; in the event, I was impressed by how far they got, in the time available, in understanding the science behind it. They studied the materials (images, charts, objects and so on) to work out what Lister was saying in the lecture, and what the connection was between putrefaction in milk, and 'antiseptic surgery'. Then, they had to try to explain it all (in simple terms!) to the 'actors' (the PGCE students) who would supposedly be working in the 'museum'. It was all based in the principle that the young people had to 'interrogate the world' (as Heathcote said) and develop their own knowledge and understanding. The act of explaining it to other people (the 'actors') was a way they could begin to share and consolidate their learning.

Some of the materials that we produced for the workshops (charts and images) are published on the website www.livingmuseums.co.uk/joseph-lister

David Allen, preparatory notes

Following this outline of the workshop is a plan described and explained by David Allen. Details were drawn from Lister's actual notes and used by the PGCE students to help support their work in Mantle.

LISTER WORKSHOP, CHARTER SCHOOL EAST DULWICH APRIL 2025

Image Stimulus

Look at the image. Do you know who it is? What can you say from the image about him or what he did?

It is 1877. In this year, Joseph Lister moves to Kings College London. He has been in Edinburgh and established a worldwide reputation. Many places have accepted his ideas in this country and abroad, but many surgeons in London are still resisting the 'antiseptic system'. Now, shortly after his arrival, he is going to give a lecture. He wants to make a big impact. There is a lot at stake.

When he gave his lecture, we imagine it looked like this photo of him.

Do you know anything about Joseph Lister?

The Task

Can you imagine that we are people who are creating an exhibition about Lister?

We want to recreate this moment in the exhibition. We will have someone dressed in Costume, and a number of objects around them that they will have to be able to explain to visitors.

Contextual information

We collect as a group around a desk.

READ: The address was delivered from behind a table covered with test tubes, pipettes and flasks, showing tubes and plates of cultures. Not one student had ever seen any such apparatus before; for we must remember that bacteriology was not being taught, for the good reason that it hardly had come into existence.

Matching activity

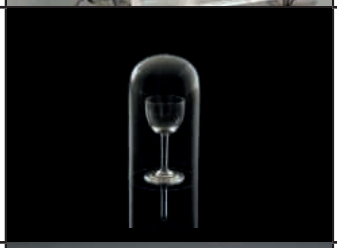
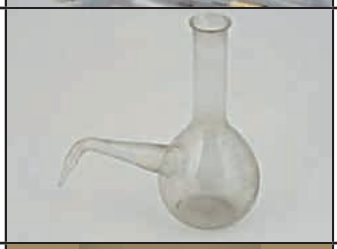
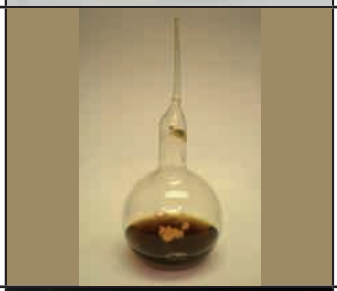
We position the objects we see in the image: the flask, the goblet, the test-tubes. (Photos on stands.) We position someone in role as Lister.

So, our actor will have to be able to explain to visitors what the objects were, and what they meant. Do you have any sense of what some of these things might have been?

We have some of his lecture notes here. And a chart. These may help. Can you see if you can match the images and the descriptions? They may help us work out what everything was, and it will help the actor who will play Lister, to know what to say about the objects in the display.

We divide into groups (approx. 4 in a group). Each group has a pack of images, and short texts, introduced as Lister's lecture notes.

The task is to match the images and the texts. They include:

Hot Box		If we have a vessel like this liqueur-glass, covered with a pure glass cap, and further covered with a glass shade, and standing on a plate of glass, any organic liquid contained in the liqueur-glass, provided it be free from living organisms at the outset, will remain without any organic development occurring in it, as long as the arrangement of the glasses is left undisturbed.
Test Tubes		These five covered test-tubes which you see before you, containing boiled milk in their lower part, were inoculated each with a drop calculated to contain two bacteria; these other five similar test-tubes were inoculated each with a drop calculated to contain one bacterium.
Liquer Glass		If we have a vessel like this liqueur-glass, covered with a pure glass cap, and further covered with a glass shade, and standing on a plate of glass, any organic liquid contained in the liqueur-glass, provided it be free from living organisms at the outset, will remain without any organic development occurring in it, as long as the arrangement of the glasses is left undisturbed.
Test Tubes		Test-tubes of unboiled milk. They are examples of the alterations in appearance produced in milk by various different organisms other than the Bacterium lactis. From sketches taken 1st October, 1877.
Double-necked Flask		The liquid is introduced to a flask with a bent spout, large at the commencement and comparatively narrow in its shorter terminal part beyond the bend. The liquid, if it was pure to start with, will remain ready to be used again a month or even a year later if required.
Straight-necked Flask & Twisted neck Flask of Urine		It is now nearly four years since I introduced portions of the same specimen of urine into four glass flasks. I then bent three of the necks at various acute angles, and the fourth was left vertical. The bending of the necks in three of the flasks was with the view of intercepting particles of dust, which, according to the germ theory, are the cause of putrefaction, while the fourth neck was left vertical, to afford opportunity for dust to fall into the liquid.
Syringe Pipette		One other piece of apparatus requires a short notice, viz. that used for withdrawing fluid from the experimental glasses for inoculation or examination. The most convenient means for this purpose I have found to be what may be called a 'syringe pipette'.
Glass Garden		I have watched one and the same organism continuing to grow unmixed in such a garden for several weeks together, though carried about with me in a journey made in an autumn holiday.

David Allen's Notes to UCL PGCE Students

Please support pupils in these tasks – taking the position of someone who does not know the 'answers' any more than they do! You are all trying to work it out together.

Group work

We talk through the objects as a whole group, and how you would explain them to a visitor to the exhibition.

Extension

We have some more materials from the Archive which we think might be connected to the lecture. [Explain: they are not real, but they are based on materials in the Archive in the Royal College of Surgeons.]

I wonder if we can examine them and see if these can help us work out what he talked about in the lecture?

A chart of 'key points'

There is also a chart, in four parts. Lister created large charts like this for his lectures.

Some of them were 6m long. One was even 10m long. We don't know how he used them.

This one is in four pieces so groups will have to assemble them in order to make one long chart.

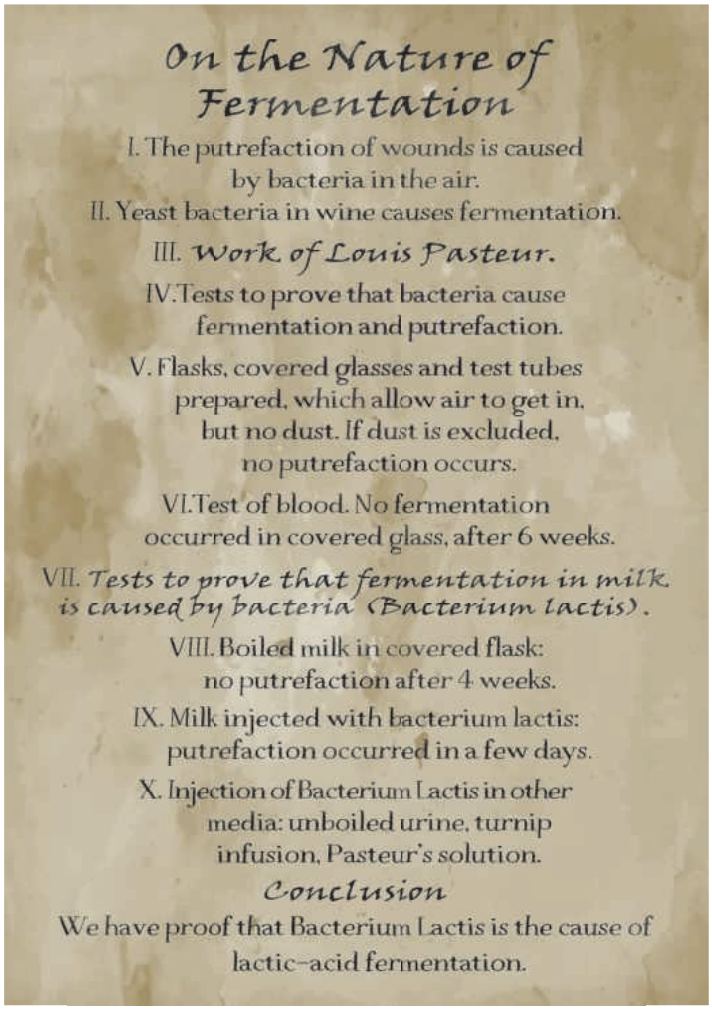
We invite the young people to look at these items and say what they make of it.

What was he doing – and why was he talking about it, in his first lecture in London?

Again, they work in groups, and then we feedback as a whole group. I have no idea whatsoever of what they will make of this material, as I don't know their achievement level, or what knowledge they may have already about the subject matter. The point really is NOT to get the 'right answers', but to try to work it out, and explain it to each other as best we can. As facilitators, our position is as uncertain as theirs; we are not scientists, we are people creating an exhibition, so we are not 'experts' in the science at all.

This is Heathcote's 'crucible' model of teaching: we explain the world to each other. I have spent a long time getting my head around the science and then trying to break that knowledge down into materials that the students can work with and can find the answers for themselves. (This means that I won't present myself as the one who 'knows the answers', even if I do know them!)

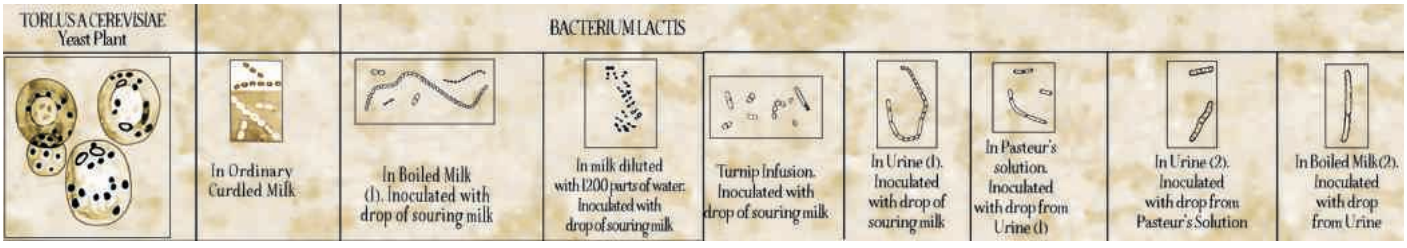
If at this stage, they are struggling to make sense of it, that's alright. We will have some ideas at least, to share with each other; and if I was their class teacher, I would plan follow-up tasks (and create more materials) so they could make sense of it for themselves. In this way, the 'charts' task would be diagnostic.



Sharing as a group

Again, we share as a group. One of the UCL students could stand in as Lister. He/she can be guided by the class, about how to explain the charts to visitors. (Or class members can themselves stand in as Lister…)

The point really is NOT to get the 'right answers', but to try to work it out, and explain it to each other as best we can.



Interview: The Lister Workshop at The Charter School East Dulwich April 2025

Phoebe Batey is a science teacher at Charter School, East Dulwich, and is in charge of Key Stage 3 Science. She has been teaching for nine years. The group was made up of pupils selected from across four year 8 classes. I interviewed Phoebe online and went to talk with three year 8 students a short while later to see what they thought of the project.

AK: **Thank you very much for participating in this interview, Phoebe. Please tell me a little more about how you became involved in the Sister Dora project.**

PB: This invitation came to me through a colleague in my department who was keen to have more off-site Science experiences for KS3. I had just taught a module on pathogens to year eight and been wondering how I might bring science to life for these pupils. When I had the chance to be involved in this project, we selected the pupils who we felt would benefit most from this kind of learning experience from across year 8; so this group had not existed as a group before these workshop experiences.

Science has a somewhat inaccessible curriculum due to the abstract nature of the concepts, and I have found it increasingly challenging to make it 'real' for students in recent years. The opportunity to participate in the Living History project was most timely and offered exactly what I was looking for in terms of making science more accessible, particularly to these pupils. There were two parts to the project: there was a workshop at school about Lister and his work on antiseptics; and this was followed by the trip to the Old Operating Theatre at London Bridge about two weeks later.

I felt the project offered a broader worldview and context for the science and made more sense than what is offered merely through the curriculum: the personal involvement could make deeper connections. Looking back, I would have liked to have been involved in the planning so that I could see the theory being put into practice at that stage in addition to being on the resultant receiving end of the Mantle approach.

AK: **I was unable to attend the Lister workshop at school. Maybe your pupils can tell me what they recall from this experience?**

(Pupils)

Mr Allen came with some actors (PGCE drama students) and we learnt about unsanitary conditions. Lister had worked on bacteria in milk and oil but thought some might be airborne.

He thought about how acid in the stomach killed some bacteria and got an idea about antiseptics from that. He started to work on the idea that bacteria were different, and some were more resistant than others.

He wasn't believed at first. (This observation was chorused by all the pupils – they really related to this feeling.)

PB: I was struck by the way the pupils seemed to acquire a fresh confidence in the way they wrestled with concepts to try to reach understanding and then wrestled with the language to communicate that understanding. By being gradually shifted into role they were given (or were they uncovering?) a confidence I had never seen before…I am not sure if they had either. The drive to express understanding was stronger than the fear of 'getting it wrong' which simply disappeared.

This observation has also left its mark on David:

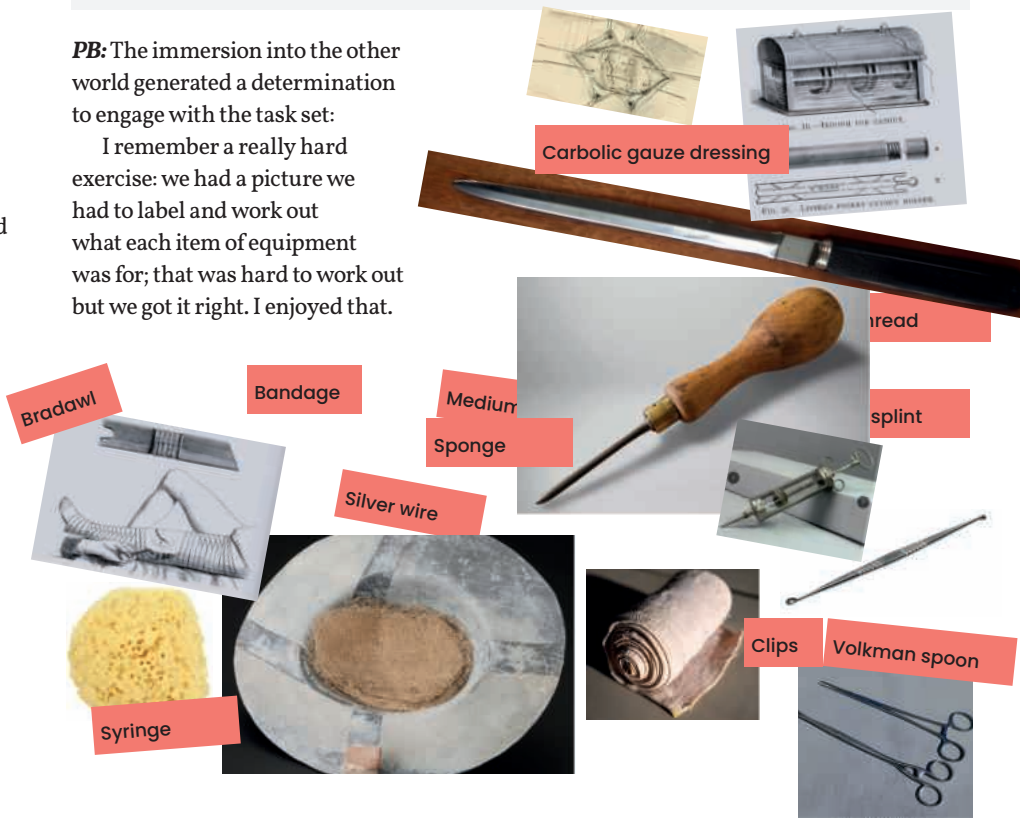
At the end of the session, one year 8 girl put on Lister's coat, and tried to explain as if they were Lister, what his experiments in milk were all about. It was also a moment when they took over: they were empowered, to take charge. She actually got the science wrong - it was nothing to do with acid in the stomach. But it could have been! This was an example of a pupil drawing on her existing knowledge and working at trying to understand things. It was a great moment. I wasn't too concerned that she had not got it 'right'; if I had been able to continue working with the group, I would have found a way for us to work out the 'right' answer together. The important thing for me at this moment, was that she was really trying to make sense of something that was quite complex. There was even a moment when she paused, as she tried to find the words as 'Lister', and said: 'I want to try to get this right'.

It was an example of one of Dorothy's key principles: in drama, we 'explain the world to each other.' And when people explain the world to each other, 'that's when some change can happen.' (Rolling Role and the National Curriculum video, Tape 6 (University of Newcastle, 1993)

David Allen, reflective commentary

PB: The immersion into the other world generated a determination to engage with the task set:

I remember a really hard exercise: we had a picture we had to label and work out what each item of equipment was for; that was hard to work out but we got it right. I enjoyed that.



THE SECOND WORKSHOP
THE OLD OPERATING THEATRE PROJECT

These workshops followed on from some work I had been doing with students from Birmingham Newman University, about Sister Dora, a 19th century nurse in Walsall. This included an event at the Black Country Living Museum, where the students worked in role and encountered museum visitors as people from Sister Dora's time.

In 1878, Sister Dora went to London, to observe Lister at work, and learn about his method of antiseptic surgery. In the workshop at the Old Operating Theatre, she became the device we used for the pupils to 'realise their knowledge'. In teams, they were given a description of each step in an operation as Lister would have performed it, including the use of his carbolic spray. They then had to demonstrate the procedures to Sister Dora (a student in role), who could ask them questions about it, and also ask them to repeat actions if she wanted.

David Allen, preparatory rationale

The workshop follows a similar format to the first one about Lister. The PGCE students will be actors at a museum who have to understand and explain Lister's procedures, but this time, to a 'visitor': Sister Dora.

The Preparatory Stages

Introduce Sister Dora as a portrait.	In our exhibition, we want to look at her visit to London in 1878 and make this the focus of one of the rooms. She observed Lister at work, in the wards and performing operations. As if our visitors to the museum are going to see everything through her eyes. She has a terrible problem in her hospital. It is become so badly infected with hospital diseases, that the management have taken a drastic decision, to knock the whole building down, and start a new building. She doesn't want this kind of disease to infect the new hospital as it did the old, and she's heard something about Doctor Lister, and she wonders if she might be able to learn from him. So she is interested to see how Doctor Lister works, and to purchase some of the equipment that he uses, so she can take it back to the hospital in Walsall. She is here to make detailed notes so that she can explain everything in detail to the doctors and nurses in Walsall. And she may have questions if she isn't totally clear about something.	
We look at image of American painting of Gross performing an operation. This was painted in 1875.		This was a surgeon called Dr Samuel Gross, who did not believe in Lister's methods. We thought that this might start the exhibition to show people what things were like before Lister introduced his changes. Although we are not sure because it might be rather shocking to some people. So be warned: it is rather gruesome, there's a lot of blood. What is wrong here? What might be happening here that could cause hospital illnesses diseases to spread? We set up a recreation of the image. We share it with sister Dora, and we explained to her all the things that we see that are wrong.
Now we look at an image of Lister at work.		What is different? We arrange the image with 'actors'. Is there anything you observe in the image – any thoughts on what it maybe tells us about Lister and the way he worked?
We look at the spray.		It seems Lister was very much associated with this spray. We discuss how it might work or what it does. (Museum objects so please be careful with them!)

The Task

We want to recreate an operation as Lister would have performed it. Again, like last time, the problem is, we will have actors in costume, but we will have to tell them what to do; they do not know the history or the science. And if course we have to try to make it as accurate as possible. And they will have to explain it to Sister Dora.

We thought we would base the operation on quite a famous operation that Lister performed, in a theatre like this, with lots of people (medical students) watching. It was shortly after he arrived in London. It was quite a brave thing to do. And it helped persuade people that his methods worked. Sister Dora might have observed – not this exact operation, but one like it.

Group work

We work in teams. Each team focuses on one person in the team. (Descriptions have been prepared, as notes for the actors: 'I am the chloroform clerk. I do this and this'.)

- **Instrument Clerk**
- **Head Surgeon**
- **Spray Clerk**
- **Chloroform Clerk**

There are also materials. For example, the group who are helping the spray clerk, will have to be able to explain not just what he does, but also how the spray works.

The Interview continues:

AK: **What do you perceive as the value of having engaged in these workshops?**

PB: Outside of the actual visit to the Old Operating Theatre I was very struck by the impact of going to London Bridge by bus. A number of students the class had never been into the centre of London before and this in itself was an eye opener for me and for them. At this point I considered the cultural capital which we take for granted somewhat by virtue of the curriculum diet and how unreal that is for students. Prior learning is not really 'what we did last lesson'.

There was a remarkable impact on some students of just being in that space. I was struck with how very vocal some of the students were in the space of the Old Operating Theatre. Students who are very quiet and need to be encouraged to speak in class were volunteering and taking a vocal lead in that space. This was new for me to see alongside a fresh confidence which I had never witnessed in class.

Students were drawn into the experience by the use of costumes worn by the PGCE students playing the part of the medics at that time. They talked a lot about the very tight and steep spiral staircase we had to climb in order to access the Old Operating Theatre.

Pupils:
We saw things in the museum: body parts in jars and big diagrams of the human body inside; yes, and all the knives and scissors they used. There were big blue jars with old labels on: I think some of these were herbs
I found the space claustrophobic: it was very cramped. The operating table was small (I got on it) but there was an extension for someone taller. But then architecture has evolved since then as well…

AK: **How do you think they would get a patient who couldn't walk up those stairs?**

Maybe there is another set of stairs round the back… normal ones not spiral.

> This is very interesting comment; in fact, there was an entrance in the back wall of the operating theatre, now blocked; the hospital was through this door.
>
> ***David Allen, reflective commentary***

AK: **What did the class remember?**

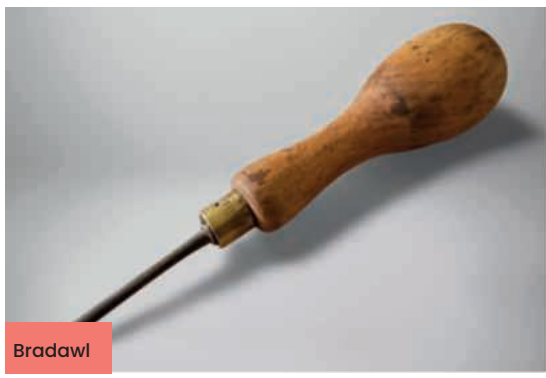
PB: Initially their talk about that visit focused on the museum items. Gradually these conversations moved on to comparing what it was like then to how things have changed – especially relating to hygiene.

The session started with comparing two pictures:

Pupils: There were two pictures – one with everything all over the place and one with Lister who was more organised and cleaner – still no overalls though. But there were some hanging up so they much have used them, but they weren't wearing them in the picture.

We saw a pump: one was big so they worked in a cloud of antiseptic and one was small to spray directly onto the area being operated on.


Bandage


Bradawl


Carbolic gauze dressing


Clips

In fact, Lister did not use aprons; we see young people wrestling with meanings from different sources. We managed to acquire a couple of vintage antique models of Lister's famous carbolic spray pumps, to use in the session.

David Allen, reflective commentary

PB: The immersion into the other world generated a determination to engage with the task set:

Pupils: I remember a really hard exercise – we had a picture we had to label and work out what each item of equipment was for – that was hard to work out but we got it right. I enjoyed that.

The embodied element was very strong:

We saw the soap they had to use in the museum and could smell it. (carbolic)

I remember they were also struck by the smell of the wick in the carbolic spray. This was methylated spirits, used as fuel to heat the water in the spray.

David Allen, reflective commentary

PB: And students started to make other links…

Pupils: There was a team of people all with one job each and all the watchers had to sit further away. There was a pad put over the patient's face to put them to sleep and we can't remember the drops: what were they called? Oh yes chloroform.

The operating table was small (I got on it - but there was an extension for someone taller). But then architecture has evolved since then as well.

AK: **What did students think about the Mantle pedagogy**?

PB: The emphasis on process rather than product made an impact. Their having to work things out independently appealed to them.

Pupils: We remember what we did. We had to copy a picture. I was the lady in the picture who couldn't bear to watch the operation: maybe she was a relative of the patient with her head turned away. She was like this (posed as in photo). Maybe she wanted to see but it was just too gruesome…

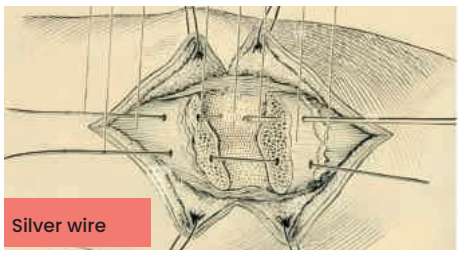
I liked having to be someone at that time.

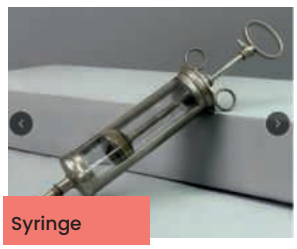
This is an interesting comment. Because of course, the whole framework was that we were creating a museum, so the pupils were not being asked to think of themselves as people living in that time; they were preparing demonstrations for 'museum visitors'. But it seems that doing the demonstrations gave them a feeling of being in the time. I think that Dorothy was actually aiming for just this kind of duality - by demonstrating something, you nevertheless get the sense of experiencing it.

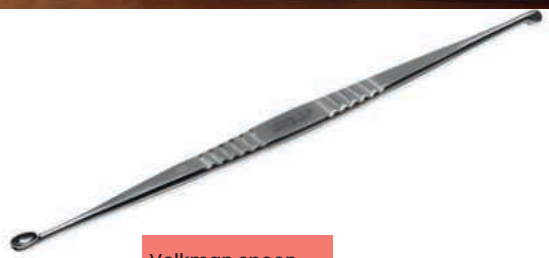
… These comments show, I think, the value of giving them tasks they really have to work at; the struggle itself makes it stick in their minds.

David Allen, reflective commentary

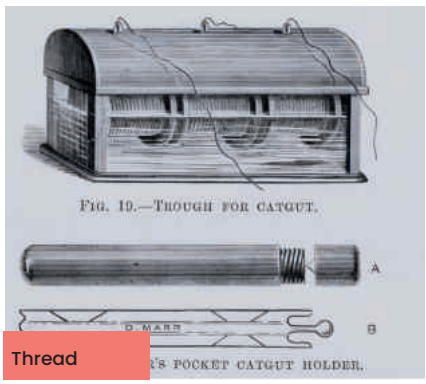

Medium knife


Silver wire

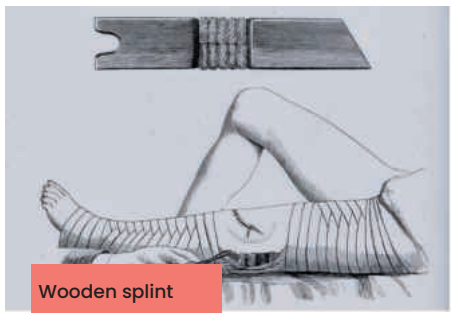

Syringe


Volkman spoon


Sponge



Thread


Wooden splint

PB: Students were drawn into the experience by the use of costumes worn by the PGCE students playing the part of the medics at that time. It drew them into a different learning context away from the here and now of the school lab. The nature of questioning was different, and I heard the PGCE students provoking responses rather than asking questions.

Pupil: It was nice working with the actors because we were learning with them.

PB: I observed some students who take a while to settle - especially after the excitement of the bus journey. I had to stop myself from being a 'teacher' and telling them to focus. I was told that Mantle would manage this, and it took a little while but organically these students were drawn into the work and remained focused, as opposed to demonstrating patchy engagement requiring reminders.

Later on, you could tell reflection had remained with them:

Pupils: I am happy Lister did what he did – technology has advanced more since then – like we have metal beds not wooden ones and aesthetics are different now: no cloth over your face. We have injections. Oh yes and the timeline showing what happened when: you could see some things happened at about the same time and other things had spaces in between.

AK: **Do you have any reflections of your own to add?**

PB: As some of the groupings were more productive than others with hindsight, I think it might have been a good idea had I pre-selected the groups. Not all wanted to 'show at the end' and that was fine: I felt some had more to show than others but I had gone round the groups and their conversations, planning and engagement with the task were all there. There didn't have to be a 'show', and the process was what was valuable and ultimately what was recalled.

AK: **Did students mention the 'show' at the end?**

PB: Not really:

Pupils: We showed our work – and the lady playing Sister Dora asked us about what we were doing.

Certain points occur to me. I think Mantle is really about, less 'learning about' something (i.e., the 'facts'), than developing a way of thinking. The pupils in the workshops were really being inducted into thinking like scientists. So they may have got some of the 'facts' wrong, but the main thing was that they were thinking for themselves, and trying to understand complex ideas. Any mistakes on the factual level could always be corrected later. The other point is about the space. I imagine that a lot of school groups go to this space and are given a lecture about the time, the development of Victorian medicine, Lister's work, and so on. I wanted the pupils to take over the space, to make it their own, and take an active role in trying to understand, and in presenting their understanding of Lister's work. I have the rather grand hope that our project overall might make a difference or point to different ways that museums and heritage sites can work with school groups. Time was too limited really in this case, but we got some way towards it.

David Allen, reflective commentary

Phoebe was thinking along the same lines:

AK: **Have you any plans to try this kind of approach again?**

PB: I used to do a lesson on chromatography, and taped off the lab with 'Crime Scene' tape and this really engaged pupils. They had to figure out who the murderer was by examining a murder note and testing he ink using chromatography. I now have some theoretical knowledge which tells me why this was so effective.

However, pressure of curriculum and time has meant that this has fallen away. I'd like to bring it back now I know more about the theoretical framework of Mantle. I'd like to work more in this cross-curricular way combining the pedagogical skills of Mantle with the science curriculum content. By being

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involved in the writing of this article I now have some of the experience I wished for earlier. I have a deeper insight into the planning process in and thinking behind Mantle and how you can set up a relationship with resources to make the resources drive the learning.

I have seen what a different space can do to alter behaviours - maybe that was what I was doing with my police tape: and how to allow the space to do that management for you. Working in role also invited pupils to adopt a different way of thinking and this combination provides a new learning dynamic.

It was a win all round. PGCE students learned about this advanced teaching model and practiced it, the pupils had a great learning experience, I have learnt so much more about my students and what they really know, how they think and learn who they are.

Collated by Amanda Kipling from sources provided by, and thanks to, David Allen, Phoebe Batey and Year 8 students from Charter School East Dulwich.

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