

Tuesday, 11th August 2015

JOHN QUEKETT LUNCHTIME TALK

DR ALBERTI: Good afternoon, ladies and gentlemen. Welcome to the Royal College of Surgeons. My name is Sam. I work here. For many reasons, it's a very special occasion. We have come into the library, when otherwise the library has been closed for us to undertake our big jobs. This is a technical term for large collection management activities that we do during August, these big jobs! But for a special audience like yourselves, we have opened up the library again. It's also very special because we have many representatives here of the Quekett Microscopical Club, who we have been working on this very special year on looking at the collections we have here relating to John Quekett. It's a very great pleasure to welcome many members of the club today.

In particular, I'm delighted to welcome Philip Greaves. He's a microbiologist by training and worked for 30 years in the pharmaceutical industry and in consultancy roles, specialising in contamination control. Fun, fun! But has been an amateur microscopist since the age of 14! So just seven years ago, obviously! He's been on the committee of said Quekett Microscopical Club for 20 years and has served as honorary secretary and president. He has featured many times. He is past chairman of the pharmaceutical and healthcare sciences society. He is fellow of the Linnean Society, the Royal Microscopical Society. Today, he is our star speaker and he will be telling us all about John Quekett, Victorian microscopist. Phil.

MR GREAVES: Thank you. Thank you for that introduction. I just want to thank Denis for putting me forward for this talk. I have learned so much more by putting this talk together about John Quekett. I'd like to thank you for attending and learning a bit more about a Victorian scientist who I think needs to be much better recognised.

Our story with John Quekett starts in London 150 years ago. It was on 7th July 1865 that a group of gentlemen assembled for the first meeting of a new microscope club, a club for amateur microscopists. There already existed a society for professional microscopists, the London Microscopical Society, but this group particularly wanted an informal club for amateurs. At that first meeting in July 1865, part of their business was to discuss the name of their new club. They chose to call it this, the Quekett Microscopical Club, after Professor John Quekett. It is worth just stopping for a moment and thinking, "Why did they choose him?" Why didn't they choose somebody like Aristotle or, dare I say it, perhaps a more well-known microscopist like Robert Hooke? What was it about John Quekett particularly that appealed to them?

To understand that, we need to go back in our story another 200 years or so to when the microscope was first invented. It was in the 16th century that the telescope was invented. It didn't take very long after that for people to work out that lenses with different curvatures, when put in combination, would magnify the distant and the very small. I need to refer to my notes now. It was a Dutch spectacle maker, a gentleman called Zacharius Janssen, who is most likely to have invented the microscope, somewhere

between 1590 and 1600. Like any great advance in technology or science, it caused a very rapid growth in people investigating with that instrument. It became an object which optical manufacturers in the big cities of Europe, so in Milan, Florence, London, made for rich gentlemen. Virtually every time they looked at something with a microscope, it was a new discovery. In the 17th century, the microscope was at the forefront of major new understandings, new developments and understanding, and structure.

In London, we had a gentleman called Robert Hooke, I'm sure many of you will have heard of him, who was perhaps the most famous microscopist. This is actually a picture of his microscope. Robert Hooke was secretary of the Royal Society. He was also their demonstrator. It was part of his job to find things for the Society members to look at at their meetings, objects of interests, scientific experiments. Robert Hooke's microscope was very limited in what it could achieve.

With early microscopes, the lenses suffered from defects, aberrations, and when you put two or three lenses in combination to get a higher magnification, those defects became more magnified. His microscope was limited to no more than 30 times magnification, quite low. What Robert Hooke looked at were items of curiosity in everyday life. Here, the example is: Why does a nettle sting you when you rub against it? He used his microscope and if ever you have used a 17th century microscope, it is amazing how poor the images and how superb Hooke was able to draw those images. But he looked at everyday objects. Why does my bread or my cheese go mouldy? What is that blue stuff, mould, growing on the top of my food? What does it look like under the microscope? Why does cork float? Simple, everyday questions solved with the microscope.

On the right-hand side, we have a slither of cork and Robert Hooke was the first to name individual cells. It took another 200 years before people understood the significance of that, but Robert Hooke was making discoveries with everything he looked at. He published those in a book, which I'm sure many of us have seen, "Micrographia", published a year before the Great Fire of London, published in 1665, and that had a great impact on the London scientific society. The book is superbly illustrated. It drove more people to buy more microscopes and make more discoveries.

A little bit later in the 16th century -- 17th century -- excuse me -- in Holland, in the Dutch Republic, Antoni van Leeuwenhoek, a draper by trade, was using very simple microscopes that he made himself. He ground the lenses and he is reported to have even smelted his own metal to make microscopes. This is a modern but fairly accurate reproduction. For Leeuwenhoek, he used a single lens, which only had very few aberrations, a few defects, and could achieve a much greater magnification. An incredibly difficult instrument to use. You have to get your eye right against it. You have to force your eyelids open against it. It is not comfortable using something like that. With that, he made discoveries beyond what Robert Hooke had seen. He looked and he found microscopic life. These illustrations are so good -- I think my laser is fading -- but we can see an organism that we would recognise as Hydra. On the right-hand side, on the stem of a plant is a rotifer that today we could give a name to, Floscularia ringens. He didn't draw them himself. One thing that Leeuwenhoek couldn't do is draw; he had to employ a draftsman. On the right-hand side, he was the first to discover bacteria. I think that is where the microscope was in the 17th century. Somebody looked, they made a discovery, they improved science.

Unfortunately, that was to change in the 18th century. Possibly Robert Hooke's book was too good. It excited too many people with money! And in the 18th century, the microscope really became a plaything of rich gentlemen. The design of the microscope did advance. But what people were looking at did not. So the microscope went into its own doldrums in the 18th century. People didn't really make good scientific advances.

Fortunately it changed in the 19th century. The microscope went through its own mini renaissance in the 19th century. Those defects with lenses, those aberrations, people found a way to cure that. It made the microscope a much more useful tool and allowed magnification to increase.

From about 1850 onwards, there was a large trade in London and in provincial cities of instrument manufacturers, making what were at the time very expensive microscopes and really very capable instruments. The 19th century was a period where the microscope could make very major advances in our understanding of structure. I think it's fair to say that people had understood anatomy fairly well by the start of the 19th century. But microscopic cellular structure wasn't understood, that needed another advance.

If we just think for a moment. In daily work, perhaps working in a museum like this, what would you be asked to look at with your microscope? One day, it might be something like this, the skull of a North American beaver. The investigation might be to understand those superb front incisor teeth. How does their structure vary and differ to allow a beaver to chop through trees? The next day, you may be delivered the kidney of an orang-utan from Borneo! It may have come on a ship in a bottle of alcohol, preserved. I should confess if there are any orang-utan kidney specialists in the audience... this is actually a pig's kidney! Unfortunately, my local butcher was clean out of orang-utan kidneys! A very different subject from the beaver's tooth. The next day somebody may come in with a fossil or coral. If you think of these objects at random, they are physically too big to get under a normal microscope. You can build a microscope to look at the surface. When we take our orang-utan kidney, and look at the surface of that, using reflected light under the microscope, we see very little structure. In fact, the more we magnify it, the worse it gets. Indeed, some of the early microscopists, they looked at tissues like this, and the more they're magnified -- I'm not sure if it comes out well on this screen, not particularly well, never mind -- you see globules and the lenses that had their defects made those globules look real. For quite a while people had the globular theory and everything was made out of globules. It was totally wrong. They were looking at the specimens the wrong way.

I photographed these with a modern microscope. Even the modern microscope, without lens defects, can't tell as much with just looking at the surface of that kidney. What we have to do is prepare that specimen for the microscope. In the case of kidney, we take a slice of it, a very thin slice, a section, which light can transmit through. This is a John Quekett slide, the section of the kidney of a dog. Obviously, his butcher was out of orang-utan kidneys at the time! When we look at one of those sections under higher magnification on the microscope, we can start to understand the structure of the kidney, the glomerulus. That's where our friend John Quekett came in. I won't pretend he was the person that invented all of the techniques of how to prepare those different objects for the microscope.

He certainly developed and refined many of the techniques. I personally think he perfected some of them.

What's really important and why I think he deserves a special place is because he communicated them. Others had done bits and pieces but they were very secretive about their methods. John Quekett put all of the methods he was aware of, all of the methods he worked with into a book and published it for everybody to be able to do what he could do.

Let's go to the start of John Quekett's story. He was born on 11th August 1815. For anyone who worked out what today's date is, it is the 200th anniversary of his birth. I hope we can all wish John Quekett a happy birthday. He was the youngest of six children. His parents were William Quekett and mother, Mary.

At this stage, I must go back a little bit. Quekett is an odd surname. People sometimes confuse the Quekett Microscopical Club with the game of cricket (kwicket) said with a lisp. The earliest I can trace is that the family were Scottish. The great grandmother was on the side of Bonnie Prince Charlie in Scotland and when Bonnie Prince Charlie lost, he had to come south of the border. John's grandfather was a captain in the army and he lost his life in the battle of Bunkers Hill in 1775. His father, William, was living in the north and was offered headmastership was a grammar school in the town of Langport in Somerset. He became a very successful headmaster there, serving to 1842. He served 52 years. Of the other children, I'm afraid we know nothing about his two sisters. All I can trace is one was born in 1800. Of the brothers, we know a fair amount. William Quekett was to become a local banker. He stayed near Langport and he is buried with his wife in the churchyard. William and Mary, their grave is adjacent, next door to William's. Unfortunately, it is now almost illegible. I apologise, it's Edward Quekett who is the banker.

William became a very successful curate. He came into a very impoverished parish in the east of London, turned that parish around, and then became the curate of Warrington, at that stage a very rich and affluent town. Brother Edwin will come into our story in a minute.

Reverend William Quekett fortunately left us with a book of his life, "My Sayings and Doings". It gives us some insight into John Quekett's childhood. Dad was headmaster of a school and his education was superb. All of the children were encouraged to study natural history from an early age. When you read the book, the childhoods seemed to be spent going up and down the river that runs through Langport (sometimes literally when there is flooding in Somerset) and shooting ducks -- it was what Victorian boys did -- or chasing down butterflies or chasing beetles. They established their own museum, what is called the Hanging Chapel in Langport. Those collections ended up in the Taunton Museum, but I think they're now lost.

It was a superb childhood and John Quekett showed interest in the microscope from an early age. There are stories of him building his own microscope from a parasol and delivering lectures to the local school at the age of 16 in how to use a microscope. When he left school himself, he was apprenticed to a local doctor and then, in 1840, he joined his brother, Edwin, in London at this place, number 50 Wellclose

Square. Edwin at that stage had already established himself as a successful surgeon and as a lecturer in botany at the London Hospital.

1840 is also an interesting date because that is when an earlier group of gentlemen met in Wellclose Square and formed the first microscopic society, the Royal Microscopical Society. John Quekett arrives there to start the next stage of his medical career and he is taken into the London Microscopical Society and is made their secretary. He served in that role for 19 years. It was probably a really shrewd career move. In 1840, John Thomas goes into King's College and the London Hospital to serve his medical apprenticeship. He comes out of that as a licentiate of the Apothecaries' Company. He becomes a member of the Royal College of Surgeons.

What is a young man to do? He can follow his brother's career and become a doctor or a surgeon to the rich. Edwin Quekett kept a good table. He moved in high society. He was fairly affluent. That isn't what John Quekett had in mind for himself. He applied here, the Royal College of Surgeons in London. I don't think that entrance we walked through has changed in the years since this photograph was taken. The Royal College of Surgeons had put up funding for a studentship in human and comparative anatomy. That was successful and they put out for a second studentship in that role in their museum. John Quekett was one of, I think, eight candidates who applied for that post. Had you interviewed somebody for that post, you give them a sheep and tell them to dissect it over two days. The best dissection is the best candidate. John Quekett was shortlisted and he went on to a second stage interview. The second stage interview was a six-hour dissection of the head of a rabbit. Perhaps we ought to interview people like that today! He was the successful candidate. He was appointed to that on 8th June 1840. He took up the post here on 17th October 1840. He was to serve in this place, the Hunterian Museum, which I'm pleased to say has changed a lot since 1854, when the London Illustrated News showed off the new museum rooms here. This is where he worked and with the studentship he was here to learn as well as to do.

He served under this gentleman, Professor (Sir) Richard Owen. Owen doesn't have the easiest of reputations as a man to be close to. John Quekett survived him. I suspect John Quekett learned a lot from Richard Owen and Richard Owen was quite supportive of John Quekett. So at the end of his three years' studentship, John Quekett gets appointed as the assistant curator under Richard Owen at the Hunterian Museum. He is already given the title of demonstrator of minute anatomy. He served in that role for quite a few years.

In about 1856, Richard Owen left the college to pursue other interests in South Kensington, and John Quekett was then appointed as conservator of the Hunterian Museum and Professor of Histology. His salary at the time was £300 a year. I find it interesting these days that you can put a value of money from any year into a calculator on the internet and it will calculate what that money is worth today. I had estimates that £300 in 1856 was somewhere between the salary of £25,000 and £703,000, depending on the website I used! I suspect that John Quekett was on the lower end of that salary range. But I'm sure he had free accommodation and maybe free food. He was elected in 1857 as a fellow of the Linnean Society. In 1860, he was elected fellow of the Royal Society. He also, during that time, married a lady called Isabella in 1846 and they had four children.

For me, with John Quekett, in his career here in the Hunterian Museum, there are two things which stand out. His output of work. I know people worked long hours and I know he lived virtually on the premises, but how he achieved what he achieved, his output was incredible. He undertook a series of lectures for students on microscopic anatomy. He wrote it up into a two-volume book and every subject that he discussed, he drew it for the students and it is published in the book. It is just one example of not just doing the job but going the extra mile, writing it up, communicating it to others. I will come on to the other interesting aspect of what stands out for me in his work here in a minute.

He also published that all-important book "A practical treatise on the microscope". It was the first book in history to really document how to prepare specimens for the microscope. A third of that book is dedicated to how to look at things, how to prepare things. It was an extremely successful book. It went to three editions. It was translated into German. It was totally plagiarised in America... that might be a good thing in a way. There was not another book to equal this in terms of microscope technique for at least another 60 years. I would argue that it is John Quekett, by educating others, who is responsible for many of the scientific discoveries that were made with the microscope in the second-half of the 19th century.

This is the histological theatre in the Royal College of Surgeons. He would have been stood at the front with the big microscope, and his students would be arranged around him in semi circles and these microscopes travel on little rails on the bench docks, so you can transfer the microscope from student to student without disturbing the slide or the lighting.

The other aspect that stands out for me with John Quekett and the Royal College of Surgeons is what he was allowed to look at. I would have thought that at a college for surgery, for medicine and a demonstrator of microscopic anatomy, you would be restricted to human body parts, but no, John Quekett prepared slides of anything and everything that came his way! Rocks, fossils, insects, everything. By 1846, he had prepared some 3,000 slides by his own hand. Interestingly, they weren't assumed to be the property of the museum, even though he had prepared them here. The college bought those slides from John Quekett. It has formed the nucleus of a collection that still exists here today, of over 12,000 slides. Not all of those are by the hand of John Quekett. He was obviously connected, networked as we would say today, with the microscopic community. If somebody else had got a slide that was of the right quality, why would he bother to make it himself. He would obtain that slide and perhaps give somebody else in exchange some of his material.

In the Quekett slide collection, we see a range of Victorian mounts, the vast majority of which are by John Quekett. The other great thing that John Quekett left for us here is a series of diaries. He wrote down from 1840 to 1845 everything he did of significance every day. Reading those diaries, it allows you to both link through to a particular slide, who brought in that piece of rock, how had he prepared it. Those examples from 1854. "Put my slides in order, Topping comes about 12.00, he gives me some fossil amecules (?), and I give him some pieces of injection. Tuesday, 29th o'clock, I then assist Mr Darwin, until past 1.00, we make some points representing to his South American fossils."

There is also some amusing anecdotes: "Friday 10th June, 1842. The cat, which had been doing considerable mischief in the museum, was chased and at last caught by Mr Goby and given to me for injection!" Not a good place to be a cat!

It is that particular way of preparing the subject, the way that John Quekett excelled and perfected the technique. We are taking a freshly deceased animal or human body part, flushing out the blood in all of the vessels and injecting those vessels very delicately so we don't burst them with our coloured wax or gelatine and allowing it to set. We can dissolve away the tissue and all we are left with are the blood network and capillaries of that. It is very educational and very informative, and I think a very artistic way of preparing tissue.

Those slides, John Quekett described in two catalogues. Not all of the slides are in there because unfortunately he didn't get that complete that task. The catalogues give a wonderful description of each slide and John Quekett has illustrated them all. There are some items to look at at the back, after the talk, and some of John Quekett's proofs are there from the catalogue.

If we look at some of the investigations that he undertook. Not long after he had joined the college in 1840, they were offered a large collection of slides that had been made by a Dr Todd in Brighton, who had investigated how wounds heal, and particularly a lot of interest then and today in how animals like salamanders are able to regrow a limb that they've lost one. Dr Todd had prepared a lot of slides of his investigations and when he died they were offered to the college. After a few negotiations, the college bought that collection of slides. By today's pricing, it was quite a bargain, all of those slides for £150. They were put into the museum. John Quekett worked on those. One of the main people here, who has become president of the college, Benjamin Travers, he initiated with John Quekett a series of their own experiments with frogs and salamanders to replicate. It was the time before ethical committees and protocols for animal research. There is a story in the book of one frog who hopped away during the experiment, could you blame it! It was important work how wounds occur and how tissues repairs, it is really important medically.

So the healing of wounds created a lot of slides. It resulted in a publication by Travers, a book. Sadly, John Quekett just gets a small mention for his thanks. This is a Victorian book, so the thanks is in glowing terms, but John Quekett was the technician that had done the work. He didn't get the recognition of the importance of the discoveries. Being John Quekett, he kept a very detailed account of every experiment, how long it took for a wound to repair. There's just one example of what John Quekett worked on here.

Something slightly more unusual, I think it was 1847 that John Quekett was here with his brother, the Reverend William, and a little letter comes through the post. It's got a small disc of what John Quekett describes looking like shoe leather in it. The letter said, "What is it?" So John Quekett rehydrated it, put it under his microscope, and it was human skin. When he read the letter, that human skin had been removed from underneath a steel plate, iron plate attached to the door of a church in Essex. What was human skin doing on the doors of a church? Again, being John Quekett, he investigated further. At Rochester, Worcester and Westminster Cathedral, they have all found to have human skin on them.

Samuel Pepys, in his own diaries, gives us some clue. What we think and what is anecdotal is that Vikings, Scandinavians, periodically when they were doing their mischief here, got caught and they were skinned alive and that skin was put on the church doors as a warning to others. Probably the Westminster case is a local criminal. Certainly, the others trace very neatly with where Vikings would have invaded in the UK. Quekett published this:

(see slide)

The slide which John Quekett has on the right-hand side, the tanned skin of Bishop of Burker. He was unfortunately a body snatcher. In 1849, unfortunately, he supplied the anatomy trade, which was hungry for bodies, by suspending a 14-year-old Italian lad upside down in a well and then offering his body to St Bart's Hospital. I'm glad to say the Royal College of Surgeons was not implicated! The Bishop of Burker was hung, publicly dissected and John Quekett is there and received a piece of skin. Being John Quekett, under the microscope, make the slide, and he's there for people to look at. Every slide and every turn with John Quekett tells a story.

One that he didn't win, and not every case was successful, was the Torbane mineral affair. Torbane Hill in Scotland was the subject of a legal dispute, which went to the courts in Edinburgh, as to whether the combustible material torbanite was coal or not coal. It had a great financial implication for the people owning the lease. John Quekett and a few others were called as expert witnesses. There was 78 expert witnesses. There was the group from London, led by John Quekett who said it's not coal and when I look at coal under a microscope, I can see woody tissue and woody remains and I can't in this material. There was a group of Scottish botanists who said they could find coal in there. John Quekett lost the case. They were shipped back to London with their tails between their legs. It was all a question of terminology and it was all a question of which bit of material you looked at. It's now what we call boghead coal. It's a very low-value, low-energy coal. It was the only case I could see that he lost.

In 1861, John Quekett is elected as the president of the London Microscopical Society. Unfortunately, he didn't want to be. His health was really failing. He wrote to the London Microscopical Society saying, "Don't make me president." His letter arrived a couple of days after the committee had made him president and not told him. So he became president in 1861. He was only well enough to attend one meeting. He delivered his presidential address and it was unfortunately one of the last things that he did.

He died on 20th August 1861. He died of what was called nephritis of the kidney. He was obviously a respected man at that stage. There was an obituary in the Times and it was copied into the Illustrated London News.

Possibly of interest to us, there was dispersal sale and auctioning off of his effects. His wife was not left penniless, there were two memorial funds set up to support Mrs Quekett and his children. The first day was books and the second day was microscopes. Also, there was arms and armour, south Asian artefacts, et cetera. In fact, one of the famous items was the head of a New Zealander, with his face finely tattooed. You don't find many of those for five pounds and five shillings! Even by Victorian standards, that auction was unusual. It was the Daily Telegraph that published a little report. I will just

read it out, "A nicely cured head of a Dyak and a New Zealander, and from Borneo, strangely fish, and gentleman who have done with them under stress of curious wounds or diseases, new flowers, some describe birds, egg shells, wood, insects, butterflies, such was the collection of curiosities that surrounded microscopists."

John Quekett's final resting place is here, the church of St James the Less in Pangbourne, Berkshire. I spent the best part of two hours trying to find his grave in the churchyard there. I was looking for something simple and humble because that's what John Quekett was. I was surprised to stumble across what would have been a very expensive marble and, for me, quite modern looking grave. The epitaph reads: "Professor Professor of Histology for the Hunterian Museum and for the Royal College of Surgeons in England. His memory will be cherished by all who knew him and the thousands who have profited by his [illegible] of science. There was a spirited man and an inspiration of the almighty and given them understanding. Born in 1815. Died at Pangbourne, 20th August 1861, aged 46 years. His wife is buried there with him. I think that's a good epitaph. I don't think there can be anything greater as an epitaph than that club that was named in his honour, and celebrated its 150th anniversary in this building four weeks ago. And John Quekett's name, his memory and his work lives on through that club. So, I give you Professor John Quekett. Thank you.

I must very quickly thank a few people. Hayley, who I believe is on holiday, for setting this up. Martyn who first let me see the wonders of John Quekett's collections, several years ago now. Emmy, who has put up with constant requests for information, emails, photographs, et cetera. And not here today, is Brian Bracegirdle, a good friend, and is perhaps the world's leading authority on the history of the microscope. Thank you.

DR ALBERTI: Thank you very much, indeed. I found that talk fascinating. I know a little bit about Quekett but I learned a little bit more today. Even with such an esteemed and expert audience as yourselves, there was a little bit of squeamishness, with the human skin, and it was injecting the cat that people were more horrified! It is all right for criminals. If you are available, we have some questions.

FLOOR: I lived in Langport in 1970. I hadn't heard of him. I recognise the places and the hanging chapel but is there anything in Langport, because the school you talk about is in [inaudible], just up the hill, I can't think of the school, it would have been his father's school. Would you know anything about that or where I could find it out?

MR GREAVES: The question is in the town of Langport, what still exists relating to the Quekett family and, indeed, which school was his father was headmaster. Certainly, in the church there are the graves of Edward and his parents, William and Mary. I believe, although the church is sadly locked, but there is a memorial within the church to the father, William. In terms of the school, I don't have that in my mind. After the talk, we can look into the book and find out which school that was.

Any more questions?

FLOOR: I have had the privilege of looking at the Tomes slide collection in the museum here. The parallel to me is amazing. I just wondered whether in your reading that there was any interaction between the two, John Tomes and Quekett?

MR ALBERTI: Could you just explain who John Tomes is?

FLOOR: He was a microscopist who was interested in dentistry. All of his slides were mainly ground sections of teeth. He was the father of dentistry. We celebrated his 200th anniversary. He had eruptions with Richard Owen. But he was a superb microscopist. There was no idea where he got it from. One wonders whether perhaps he was shown or had any communication with Quekett.

MR GREAVES: The question is whether a specialist in microscopy of dentition who worked here at the same time as John Quekett and in the Royal College. I know the answer is yes but I also know there is somebody at the back of the room who is much more knowledgeable about the individual slides. Emmy has been working with the Quekett slides on a part-time basis for nearly a year now and also is a dentition specialist, kind of. I suspect that certainly they will have worked together. Some of the slides he prepared may have been prepared by John Quekett.

FLOOR: Your inability to find information on his sisters, is that a common theme? Historical references to women around were poor.

MR GREAVES: The question is, as I couldn't find out anything about John Quekett's sisters, is that normal for Victorian ladies to be ignored? Sadly, I suspect it is. I find it really strange that brother, William, in a three or four-hundred page book about his life doesn't even mention his sisters' names. We're lucky these days with the internet and with genealogy and we will be able to find their birth certificates, with time, but they don't get a mention. I suspect they stayed local and married local and lived out their lives as ordinary people do who don't get remembered in history.

DR ALBERTI: Did they survive childhood?

FLOOR: They might have died at birth.

MR GREAVES: I don't know. They may have died at birth.

FLOOR: Or in childbirth.

MR GREAVES: I suspect if that had happened, they would have been buried in the church close to, or at least in the same graveyard as the parents. I don't know but it is more work and we will get to the bottom of that one.

FLOOR: Did any of John Quekett's children or grandchildren follow with his passion?

MR GREAVES: It is a topical question. The question is whether his children or later relatives pursued the microscope. Certainly up until I think about the mid-1970s, the Quekett Club had a member Captain Quekett who was the grandson. I don't know what happened to the children, but certainly, as a club, we had contact with the Quekett family up until the mid-seventies. I believe that there may be some people

in the audience today with the surname Quekett. I would love to meet you as soon as we break up and have a look at the wonderful collection of material at the back.

FLOOR: Just to fill you in, Captain Quekett was my uncle. My father was also called William Quekett, as I am. But none of them ended up in the medical profession. John Quekett's son, William, went to Oxford and studied the law and he worked for the Government of Ireland and lived in Dublin. He married his first cousin and they got married in 1914. His father-in-law was in the town of Newbury. His son, Arthur, also became a lawyer and he ended up as King's Counsel and adviser to the Government of Northern Ireland and wrote the constitution in Northern Ireland, for which he was knighted. He had three sons. They had no interest in medicine or the law! My father worked in commercial aviation.

MR GREAVES: I think that's relatively normal, that we don't follow the careers of our parents, and we make our own journeys in life. I would love to catch up and understand more about what happened to the family after 1861.

DR ALBERTI: Thank you. A final question.

FLOOR: A mechanical question, the semi-circle theatre with, with the gliding microscopes, are they in existence at all today? Can we see them?

MR GREAVES: The lecture theatre with the semi-circle benches, have any of those survived? I'm not aware. I suspect some folk in the audience may know more than I. I believe there is one in Italy, but I can't quite think where. The other thing they will have had is a simple hand-held microscope, an optical tube, and the slide goes in on the end, and they would pass that from student to student. But I suspect all of those original lecture theatres have, sadly, gone.

DR ALBERTI: Well, ladies and gentlemen, that's been a wonderful set of questions. Depending on whether you thought they were wonderful as a whole, the talk, or very, very wonderful, we would love to hear your feedback on the forms you have on your chairs.

If you'd like to learn more, we'd be delighted to see you at the museums at night event on Friday, 30th October, where we will be exploring further the great small world of John Quekett.

Our next lunch time lecture is on 8th September, which is on exotic menageries and we are continuing or zoological theme.

For the time being today, I'd like to thank the Quekett Microscopical Club for the work we have been doing on this and the sesqui-centenary year of the club. I would like to thank Emmy and Martin who have been running that project and doing that work. I'd like to thank our speech-to-text colleagues for bringing this in multimedia. I'd like to thank Jane and Hayley for arranging the events programme more generally. I'd like to thank you for coming out and sharing with us today John Quekett's birthday. But most of all, I would like to thank Philip for a wonderful talk. Thank you very much, indeed.

Please go and look at some of the original slides and the archival material at the back.

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