Ulster Medical Society

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Dr Brenda Moore-McCann
Medical Semiotics and its influence on art, psychoanalysis and Sherlock Holmes

Professor Shaun McCann
Microscopes and corkscrews: a future perspective

Trinity College, Dublin

Professor McMullin:

Welcome everyone, to this further meeting of the Ulster Medical Society. Welcome to Altnagelvin, who again are online, and we hope to make this a regular feature.

Tonight we have a double act, a husband-and-wife team, so we're going to start with my great friend and colleague, Brenda Moore-McCann. Brenda graduated in medicine in 1970 from University College Dublin. She practised medicine for 20 years, but then she had a career change and she started to study art and modern art history, originally with a degree, and then in 2002 she obtained a PhD in art history from Trinity College Dublin, and was then a lecture in the National College of Art and Design. She's now Assistant Professor in the School of Medicine at Trinity College Dublin, but Brenda has written a lot of books over time on this subject of art history. Perhaps, if you know anything about art history, which I don't know much, most famously, on Brian O'Doherty or Patrick Ireland, who was also a doctor and practised medicine for some years before he took up his art career, and she's looked at various other things, at the images and at art history. And what we're particularly interested in tonight is one subject that she has looked at, which is medical semiotics, the study of signs, originally talked about by an Italian called Giovanni Morelli, and she's going to talk about *Medical Semiotics and its influence in art, psychoanalysis and Sherlock Holmes*. Brenda's going to talk first, and then we'll have a few questions, and then we'll move on for the second talk, so Brenda, the stage is yours, thank you.

Dr Moore-McCann:

Thank you very much. First of all, thank you very much, Mary Frances, for inviting me to give this talk. I'm delighted to be here in Belfast once again.

Some of you already know what semiotics is about, but medical semiotics is an analysis and study of signs, and of course, when I started researching this, I found it very interesting. I had thought that semiotics was something that only related to linguistics, but I found that in fact it relates to medical treatises, which go right back in history to even Hippocratic times, and of course, this study of signs is something that not only doctors were interested in for thousands of years, but also it was used in divination, with the way birds would fly to the left or fly to the right, was an indication of whether disease was going to occur. It was also used for weather forecasting, and of course it was used for hunting, because people had to look at the signs in the soil or in the ground, as to what kind of animal was ahead, and so on.

So thinking that medical semiotics, what got me thinking about this subject was a couple of things. First of all, I was thinking about how, in our current time, the practice of medicine has changed dramatically, certainly since I was in practice. The diagnostic facilities and ways of diagnosis have changed, methods of treatments have changed, but in terms of diagnosis, we have been inundated by technology, and however good that is, and it certainly has delivered a lot of good things, however, in the western world at least, I can only speak for the western world, many people training medical students began to feel that the students were coming out of the other end of medical school and going into the workplace, and that they did not have the same degree of sensitivity to the needs of patients. They were just ordering tests, and to a certain extent following guidelines, ticking boxes, and this tried-and-trusted relationship, the doctor/patient relationship that has stood the test of time, was becoming eroded. Patients were getting very upset with the way doctors were treating them, and there was a famous article published by professor of haematology in the BMJ, in the '90s, I think it was, by Professor David Weatherall, where he found himself as a patient in a hospital in London, and he was very, very severe in terms of describing the manners or lack of manners, the courtesies and the general way that young doctors treated him, so being on the other side of the fence was not a pleasant experience for him.

So other schools in the western world, in the United States in the 1990s, they started introducing humanities as a way of trying to, in a sense, break down the rather rigid methodology of teaching, which was based primarily on the scientific method, and a reductive method at that, based on the idea that this would lead to certainty, it would lead to the truth of the situation, whereas in the humanities, and I have obviously experience of both, I found, and I'm not the only one, that studying the humanities leads to a completely different way of thinking. It's more open, it's more accepting of ambiguity and uncertainty, and I have come to the conclusion that in fact the scien-

tific method has indeed stood medicine well, but my argument is that what we need to do is bring the way of thinking of the humanities more into medical training, and I'll come back to this in the later part of this talk, but I just want to open with that.

I'm going to show you three gentlemen here. Some of you may recognise this particular one?—anybody know him?—Freud, exactly, Sigmund Freud. You may not know this man, this man so well—this is Arthur Conan Doyle, and this one is, it's just a bust, there was a bad portrait of him, a painter portrait of him, but I think this bust is better, and this is Giovanni Morelli. Now, the thing that all of these gentlemen have in common is, they are all doctors, they all trained as doctors. However, the interesting thing is, they all contributed to different areas other than medicine. Of course, psychoanalysis is a bit nearer, I acknowledge that. The key person in all of this is Giovanni Morelli.

Now, who was Giovanni Morelli? Well, he was an Italian doctor. He was born a Protestant, so he could not go to medical school in Italy at the time. His dates are 1816 to 1891. He went to medical school in Switzerland and Germany, and of course became fluent in German. However, he never practised medicine. He came back to Italy when there was the reunification, the *resurgimiento*, as it was called, in the 1860s in Italy. He went into politics. He became a senator in the new unified government of Italy, and he chaired many, many commissions that had to do with art in Italy. He built up Italian art collections, which were not in a particularly good state at that particular time, but he travelled widely, particularly to Germany, France and Italy itself.

Why do we know him today? I first came across him when one of our courses in art history was about art connoisseurship, and I was attracted, of course, naturally being a doctor, I was attracted to the fact that he was a doctor who was interested in the arts. He's known not so much for his medical achievements, which are not so great, or we don't have any, but because he is known as the first scientific connoisseur of art, and so what do we mean by that? Well, an interesting thing about him was that he worked under pseudonyms for over 40 years when he was writing about art. The reasons for that are not so clear, but some of those pseudonyms, for example, would be Nicholas Schäffer, Johannes Schwartze and Ivan Lermolieff. Now, the latter, Ivan Lermolieff, was the actual author, who is, of course, Giovanni Morelli, of a very famous treatise on Italian painting, published in the 1870s, just called "Italian Painters in the Pamfili Doria Gallery in Rome." He had a translator, because it was written in German. The translator was Schwartze, who of course is himself, translated into Italian, and this, there was an English translation of this particular book, which became very, very popular in Europe, was by Sir Austen Henry Layard. Now, this was an Englishman who was a friend, and he published the English translation in 1892. And what is interesting about the way he laid this out, first of all, it was pseudonymous, but it was laid out in the form of a dialogue between Lermolieff, who was a supposedly Russian tourist, who meets this old Italian gentleman in the gallery, and they start talking about art as they're looking at it, and of course, they're all Morelli, and it's all Morelli's ideas about art. He was vehemently against the current kind of theories about art, and the conventional way that art was being critiqued. He was against the idea of the general impression, and looking at other theories and documents, and using his medical knowledge, he came of the idea that really, these people are not looking at the work itself. They should be looking at it in intense detail, and what has really set him apart in a sense was, he suggested, it was his theory, that when an artist is painting, there are conventions about how you do the face, obviously it has to be a face you recognise, how you do what they call the drapery, the clothing. Fur had to look like fur, silk had to look like silk, etcetera. It had to look realistic, that it was falling through gravity on the body of this person that was being painted, but what he said is that the artist might have to conform to conventions within art, at those major parts of the painting, but when it got to the smaller parts of the anatomy, in other words, the fingers, the ears, the nose, his theory was, in those places the artist felt much freer to paint, or draw or paint, as he would instinctually have done, and so therefore he said that, and I'll quote you what he said. He said, "For every painter has, so to speak, a type of hand, an ear peculiar to himself. Except for the face, probably no part of the human body is more characteristic, individual and expressive than the hand. To represent it satisfactorily, has ever been one of the chief difficulties which artists have had, and one which only the greatest have completely been successful in overcoming."

So, now what's significant about him is, first of all identifying, he was able to identify different artists' hands, different artists' ears, noses, etcetera, but the real secret of what he did, and why he's known to us today, is he actually created a dictionary of the ears and the noses and the hands, of all the different artists, and I'm going to show you, so this is what he did, and that's how we know about him so well. I'm just showing some hands here, they could be ears, as there are sets of ears as well. So, he was actually anticipated by yet another doctor, another Italian, Giulio Mancini, in the 17th century, who was the physician to Pope Urban VIII, and interestingly Mancini also said, we should be looking at these small parts of the anatomy, in order to decide whether this is an original work by artist X, or a fake or a copy.

However, the difference between Mancini and Morelli was that Mancini didn't draw up a kind of an inventory like Morelli.

So just to give you some few examples of his method and how successful it was—for many, many years, there was a Magdalene painting in the gallery in Dresden, and it had always been accepted that this was by Caravaggio. However, Morelli, applying his method, said no—it's a late 17th century copy. Then also in Dresden, there was the Sleeping Venus, which people had always thought was by a follower of Titian's, but he was able to say no—it's a lost Giorgione, and of course, there were hundreds and hundreds of so-called Raphaels and so-called Leonardo da Vincis in Italian and other museums at the time, and he was able to say that these are not original Raphaels or original Leonardo da Vincis, these are all copies by visiting Flemish artists. So he did have his critics, of course, in his own time, and even later, and of course now we can say that his methodology has been to a degree superseded by technology, because we use the same technology in art as is used in medical practices.

So, then I want to move on to, who his method influenced, and I've already mentioned Sigmund Freud. Now, Sigmund Freud's dates are 1856 to 1939. Freud wrote a very famous essay, which is called "The Moses of Michelangelo", and he wrote that and published it anonymously, which is interesting, in 1914. In that, Freud says, "Long before I had any opportunity of hearing about psychoanalysis, I learnt that a Russian art connoisseur, Ivan Lermolieff, had caused a revolution in the art galleries of Europe, by questioning the authorship of many pictures, showing how to distinguish copies from originals with certainty. He achieved this by insisting attention should be diverted from the general impression and main features of the picture, by laying stress on the significance of minor details. It seems to me that his method of enquiry is closely related to the technique of psychoanalysis."

So it's interesting that, because Freud and psychoanalysis and psychoanalytical theory obviously laid great emphasis on unconscious gestures, which he felt were a lot more revelatory of the character of the person that he was looking at. They told you more about the character of the person than the conscious gestures, so he was looking at the small, usually overlooked things, in the same way.

We do know that Freud bought a book, Morelli's book, when he was visiting Milan in 1898, and in fact Carlo Ginzburg, the writer, has suggested that Morelli probably should properly be given a place in the history of psychoanalysis.

So now we want to move onto Sir Arthur Conan Doyle. He, as you all know, was the author of the famous Sherlock Holmes series of stories, that were published in the Strand magazine, and, of course, Sherlock Holmes, we all know, was renowned for his attention to details, which other people missed, and was able to solve every mystery accordingly. There's a famous one, was published in 1893, called "The Adventure of the Cardboard Box", and in this, there's an old lady in Croydon, and she receives a box in the post from Belfast, and inside the box there is a bed of coarse sea salt, and in it are two severed ears. So Sherlock sets about trying to solve this mystery—where did these two severed ears come from?—and he solves it by looking at the ears in the box and the ears of Miss Cushing herself, and he's able to work out that one of the ears in the box is actually by a female, who is related to Miss Cushing—why?—because he was able to say, he talks to Dr Watson, interestingly it's sort of the same kind of thing as Morelli, it's like a dialogue going on between Sherlock Holmes and Dr Watson, and Dr Watson, of course, is always the slightly dim-witted guy. Anyway, he says to Watson, "As a medical man, you are aware, Watson, that there is no part of the human body which varies so much as the human ear", so now Morelli was ears and hands and so on, but here's Sherlock Holmes. He is saying, "In last year's anthropological journal, you will find two short monographs by my pen on the subject. On looking at Miss Cushing, the lady from Croydon, I perceive that her ear corresponded exactly with the female ear I had just inspected: the same shortening of the pinna, the same broad curve of the upper lobe. It was evident that the victim was a blood relation."

Now, of course, you all know, maybe you don't, that Sir Arthur Conan Doyle was a doctor. He studied at Edinburgh University, and he studied under a Dr Joseph Bell, who died in 1911. Now, Bell was renowned for his diagnostic skills, and he was so famous that he was often invited down to the local police station to help them with a murder, what he could help forensically. Dr Joseph Bell was the model for Sherlock Holmes, and we know that from a letter that Conan Doyle wrote to Dr Joseph Bell, but do we know whether Sir Arthur Conan Doyle knew about Morelli? Now, that's a bit less certain. However, there might be an Irish link. Henry Doyle was the uncle of Sir Arthur Conan Doyle, and Henry Doyle was an artist, and he became the second director of the National Gallery of Ireland for about 30 years, 1862 to 1892. Now Henry Doyle wrote the catalogue, and when he wrote the catalogue, it was based on a revision of a particular manual which included much of Morelli's ideas, and we know that Henry Doyle actually met Morelli in London, because there's a letter in the British Museum where Morelli is saying, I met this man from Dublin. So it's possible that maybe Sir Arthur Conan Doyle, through his uncle, might have known about Morelli.

So these are three doctors who had an interest in

and exploited this system of signs, the analysis of signs. Well, I've talked about medical semiotics and qualitative research analysis, I would suggest, which is used right through all the social sciences and not in hard science. But in the sciences, it is, we know from linguistic semiotics of Saussure in the early 20th century, that the words we use are actually, they're arbitrary sounds, which over time and convention, have acquired meaning which we give to the words, but there is no necessary link between how the word looks, and what the meaning of it is. So because all interpretations, whether they're qualitative or quantitative, are shaped by factors such as the context, the experience and knowledge of the person looking at the research, and of course their own particular viewpoint, and I would suggest that is the case as much for quantitative as qualitative research.

So the fragility of interpretive methods can, however, be minimised by an awareness of its fragility, and with training and practice, so that as Holmes once said, I have trained myself to notice what I see. So all of that kind of thinking is what informed my ideas about how I would create a module, a medical humanities model, for medical students, first-year medical students in Trinity College.

I happened, there's a serendipity to this as well, I happened to be with my husband in New York, where he was presenting a paper at the Museum of Modern Art. It really generally was about quality of life for patients in a sense, and how art could be useful, and one of the speakers, to me, opened up something for me. She was an art educationalist in the Frick Museum, Amy Sherman was her name, and she gave a talk about looking at paintings and looking carefully at them, deriving a narrative from what you were looking, with training you could look at a painting, even if you knew nothing about art, and I went up to her, I said, this is perfect for me. I have to do this module, this is perfect. Well of course, I was thinking, what I'll do is, I will also bring medicine into it, because she wasn't medical, she was just doing the art thing. So what I've done is, I worked from the premise that, at the very early stages, medical students, well they don't know much about medicine, first years, I often say to them, to relief them of any anxiety, I say, you do not have to know about art to come into this module. In fact, the less you know, the better, because what I want to do is get them right back at the [tableau latta?], where they're just really working on the spot, looking at stuff, no preparation, and it's just done in a totally interactive way, and it's multidisciplinary in the sense that I mix art and medical imagery side-by-side, because as I say, all I want them to do is, what do you see?—answer the question, what do you see? I train them, much as you would in medicine, to develop accurate description, and they have to present this, as they would in a ward round, discussing a particular patient case, they have to discuss the painting they're looking at, so I teach them how to get around the painting.

My module, I should say, is not the only one that's available in Trinity College. We have all these other ones here, so the students are completely entitled or encouraged to select one. However, I should say it was introduced by Shaun McCann, when he was Professor of Academic Medicine in Trinity. First of all, when he asked me, would I do it, I said no—that's nepotism. You can't, the boss, be asking your wife to do a course, that's wrong, I'm not going to do it, so eventually he persuaded me, because I have, he and others persuaded me that I should do it, because I have an unusual situation, in having both medical and art history training, and so I'm able to do this. I don't think anyone else is doing it in the country, because you have to have these two things to be able to … so I oscillate between medicine and art all the time. I'm talking about a medical situation, and then I talk about an art situation, and so I bring them, well this is just a definition of, to define art is extraordinarily difficult. I'm sure many people are here, over 25 people, we'd get a different definition from everyone. Everyone thinks art is something, but nevertheless it does, the value of the arts, they teach us to see what we can't see, hear what we can't hear, think about things we haven't thought about, etcetera. There's a creative element that we ourselves bring to any kind of art experience.

This is an example of one of the things I do. I call my course "Perception in Medicine and Art", because my idea is, we all negotiate the world in how we perceive it. We perceive other people, we perceive things around us, and this of course changes as we get older, as we get more experience, as our ideas change, etcetera, and our knowledge increases about things. We're all not the same self that we were when we were in our twenties, that's clear, that all of us, I think, can appreciate that, but this is one little exercise I do, and I emphasise it to them, that this is not a test of your intelligence, and I just say to them, look, you have nine dots there. I want you to join all of those dots with four straight lines, without lifting your pen or pencil from the page, once you hit the page, so you have to join it, and you can just quickly look at it yourselves, and see, can you join them up. Almost certainly you won't be able, most people can't, unless you've done it before. It's like one of those things, once you've done it once, you know it straight away, but this, if you can't, has anybody joined them up?—no, okay, this is the answer.

Now, this is an exercise that was devised by an English mathematician in the early part of the 20th century, and it gives rise to that phrase that we all use, but I never knew where it came from until I saw this, thinking outside the box, because everyone tries

to get the lines to stay inside this imaginary cube that they see. They see, their brain tells them that all of those lines, they have to stay inside an imaginary box, but I never say to them, you have to stay inside the box. Their brain tells them to stay inside, so this is, it's a perceptual exercise.

I do things like that. I also show them films, show them videos, take them out of one institution, where there are certain conventions, like the University, and bring them to a different institution, like an art institution, where there's a totally different atmosphere. Some of them had never been inside the art gallery before, and we go, generally I try and bring them to a completely representational type of portrait, and I just say, okay, I split them up into groups of two. I've only twelve in any group, so I can keep it small and interactive, and I put them in front of various pictures that I've pre-selected, and then they look at it for a few minutes. We all rejoin, and then rather like on a ward round, they have to report, what did they see?

After they accurately describe it, I then let them create some kind of a tentative narrative about what they think is going on in the painting, and I leave it wide open. There's no right or wrong, just tell me what you think is going on, and they also have to do it in a way that their colleagues can hear them, and they get it very quickly, but what I say to them is, you've never seen this painting before—right, that's your patient, where do you start?—and of course it starts in observation. We all do it, in art history, in art, we start with observation, and we do the same in medicine. The minute your patient comes towards you, you're looking at the gate, you're looking at all of these things. These are the sorts of things that we do, and as I say, there's no homework, there's no preparation, etcetera.

This would be an example of a kind of a medical image I would show them, and I would just say, just describe what you see. I'm not looking for a diagnosis, I'm just looking, what do you see? Can you guesstimate what age, is this a male or a female? Is it possible to, from just the visual evidence, it all has to be visual evidence, and just write down in bullet points what you see, and then this would be another example of a medical image that I would show, so we'd end up, we'd then look back and discuss it and say, what's the outstanding thing about this particular man? It's amazing, because he's smiling, they don't think he's sick, because he's smiling. Then we end up talking about the pillows, how many pillows there are, where could he be, what age would he be, what ethnic background do you think he could be, and if he's in hospital, why do you think he might be there? It takes a long time for them to sort of say, he's very, very thin, so then I tell them, he's actually an AIDS patient, so then we might look at say, something like this, a Vermeer from the 17th century, and the kind of things that I teach them about this is, what does this bodily gesture mean? Our bodies use gestures to convey meaning, what does that mean? What does this expression mean, with our mouth open?—the seated woman? What's the relationship between these two women? What is she doing? Why has she stopped? Are they speaking to each other?—yes they are, both their mouths are open, so then what do you think might be going, is one rich, one poor? Is one the mistress, etcetera, by the clothing? How many windows are in the room?—and this always gets them, so they get the bit about the sunshine coming through a window outside of the frame, because it's shining on the face and it's showing, the clothing is much brighter in some parts of the painting than others, etcetera, but then I say to them, well how many windows are in the painting?—and they all, they can't get it, and I say, the artist has told you—just look, look, look really carefully, and eventually somebody might get it, that the inkwells out of which she's writing and dipping her pen, actually has windows reflected in the inkwell, so we know there are more windows than the one that is possibly to the top left-hand side of the painting, so that's the sort of thing.

Then we might have something like this, "The Death of Marat", by Jacques-Louis David, I mean, what's this man doing? Where is he? It's a rather peculiar place to be. Is he in a bath? What's he doing in a bath, and what's he writing in the bath? His quill is there. What's happened to him, do you think?—etcetera, so they have to describe, well it looks like he's been stabbed. Sometimes it's hard for them to say the very, very obvious things, so then we discuss then about the painting and the circumstances, the French Revolution and so on, and so they're just some of the things that we do, and I'll just leave you with this. I'll just give you some responses from some of the students. Let me see. These are unsolicited by me, this comes separate from me, it comes through the school. This is my, they're talking specifically about my module.

"It changed the way I look at art and people, making me realise that analysing the two is very similar and important. I thought it was a great cultural experience."

Then another one says "This module expanded my mind creatively. I learnt not to look at images superficially."

And another "I was expecting to be studying artworks based on medical scenes, but instead I feel I have learnt some valuable skills that I can use in a medical setting."

And finally, another one "It made me realise that medicine is not all about academics. Sometimes we need to take time to reflect and view from a different perspective."

So I think I'll leave it at that. I'd be happy to

answer any questions, should you have any. Thank you.

Professor McMullin:

Thank you very much, that was wonderful, and a different perspective. Any questions? Yes? We're going to try with the microphone, because again we want to make sure that the people listening elsewhere hear.

Audience member:

Thank you very much, Professor. Could I ask, do you think that studying [?] emotional [?]?

Dr Moore-McCann:

Yes, I do.

Audience member:

Because it seems to me that, I think one of the sad things I often think with medical training is that they can dampen people's intelligence and curiosity, and I suppose it strikes me, that that's really [?] with people here, such as yourselves?

Dr Moore-McCann:

That's right, yes. They quite frequently say, it's just, they enjoy coming because, I never tell them what I'm going to be doing with them. One thing I forgot to mention I do with them, I actually bring, I get an artist to help me, and I bring them to a studio which belongs to Trinity, and I get them to draw the human body. They're already dissecting cadavers, so I say to them, you're going to have to get used to looking at the human body, so we have our live model, so you're going to be like art students today. You're going to draw the human body, and it's a little bit of a shock for them, they didn't expect it, but as I say to them, you have to get used to looking at all kinds of bodies—it's going to be your whole life, and you must get beyond looking at a body in a sexual way. They really enjoy it, because this artist is very skilful. He teaches them to look at the architecture, the skeletal architecture of the body, and he has medical terminology which he uses, because he teaches drawing to art students, and then some of them do actually quite really amazing drawings.

My whole purpose about doing that, and I've developed it over the years, is, they actively feel themselves looking, really looking, seeing shadows where normally … we talk about things like, there's a difference between a look and a gaze. There's a difference between a glance. We have all these different words, and we all know what they mean, but it's about slowing everything down, so we can look with great attention, and you won't see something if you don't pay attention to it, etcetera, so it's to try and develop an awareness of the complex factors that go into this apparently simple, but far from simple act, of looking, and they get it.

We do a sort of little exhibition at the end of the, it's only six weeks, and they are able to do anything they like. They can do a poster or they can do a play, they can make a video, and draw on topics or concepts that have come up in the course, and some of them are really, really interesting, and very encouraging, I would say.

Do I know, is it going to make a difference in the end?—no, I don't. I don't think anybody does. I think in Sweden, they do have a long-term prospective type of study going on, with a huge investment involved in it. It's very difficult, like any teacher, how do you know who you're touching?—and you just hope you are hitting somebody.

Professor McMullin?

Any other questions?—yes, Angela?—oh sorry. We're going to just do it through the microphone, because we want to make sure that everybody can hear. We're trying this anyway.

Dr John Logan:

Just to say thank you very much, that was absolutely fascinating, and just to remind everybody about our James Moore, who was an artist and who did the illustrations for one of the Edinburgh surgeons, Bell's[1] textbook of surgery, I think it was, but I don't know which Bell, but Moore was a very prolific surgeon in the 1850s, 1860s with many cases.

Dr Moore-McCann:

Yes, thank you for that. There's a surgeon in the UK that an artist friend of mine alerted me to, and I think you can actually see this maybe on YouTube, or one of those … he actually draws his operation procedures before he actually goes into surgery, and probably a little bit more controversially, when he's actually, he's a heart surgeon, and when the patient is open, he'll actually dip his kind of brush, if you like, into the blood, and start drawing for the surrounding students, what he's doing, how he's manipulating this valve or whatever, so it's quite … he says he finds, he's studied Leonardo's drawings very attentively, and he's found, since he draws, his own technique, he feels, is better than it was, and I often say to the students, you might find occasion, I've had it myself with patients, where you actually might have to draw a sketch to tell the patients, well you actually might have to draw a sketch to tell the patient where your pancreas is, because they won't necessarily know, and a sketch is very useful sometimes.

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[1] Syme's, in fact

Professor McMullin:

In the interests … we have a last question from Angela.

Angela:

It's more a comment. You've just reminded me that I was at Coláiste na hOllscoile, Gaillimh[1] in the 1970s, and in the third year we did a module called experimental medicine, and it was Professor Lovell.

Dr Moore-McCann:

Shaun Lovell?

Angela:

Yes, and at the time, we had no concept of why we were doing this subject in the third year, but you know, in retrospect, he was getting us to do exactly what you're saying. I can remember an image in my brain of where he marched down the corridor towards the lecture theatre with a yellow balloon inflated, and our task was to describe the balloon. The diagnosis was, it's a balloon—we had to do everything else, so you just reminded me of that. The answer is, yes, it was a good idea, but we had no concept at the time.

Dr Moore-McCann:

No. Actually, one of the students I just finished on Monday, it was my last class, and one of the students said, it's been very enjoyable but at this point, it would be, we need much more of this—they're not just saying that to me. We need much more of this, and in fact in Trinity, we have, I have done it, a number of us have done it with fourth-year medical students. Now, I think that's much more useful, because they're with the patients in the hospital, and so on, and they're more in tune with what the practice is going to be. At first year, they're dying to get at it, and it's all a bit abstract, but nevertheless my wish would be that this would become a major part of the curriculum all the way through, because it needs reinforcing and reinforcing. Shaun could talk more about it, but I believe they all come in and they're so idealistic, and they want to save the world, and love patients and all of this, but when they get to third year, I don't know if this is your experience here, something seems to happen, and the something we're not sure about, and maybe they become overwhelmed. Some of them just become, some people have used the word cynical. They can't cope or something, and so they're just not the same kind of caring person that they wanted to be. So I don't know what the reason for it is, but it's, obviously something's been recognised in medical schools in the UK and in the United States. All the top medical schools have courses similar to this.

[1] University College, Galway

Professor McMullin:

That was wonderful, thank you Brenda.

I think we have to move on in the interest of letting Shaun have a fair crack of the whip, so Professor Shaun McCann is now going to talk to us. Guess what, he also qualified in 1970 from UCD. He trained in haematology, including in Seattle, doing bone marrow transplants, and I still remember his descriptions of the three months he spent in Seattle, where he never had a day off, but he came back to Ireland, and set up the bone marrow transplant service, and did the first bone marrow transplant in the Republic of Ireland, but however he developed the service there, became a world-leader in transplant, with areas like aplastic anaemia and CML, where he's talked and lectured all over the world, but he also, as we have heard already, took a big interest in education, and led education in Trinity College, Dublin. He did retire from clinical practice some years ago, but despite that, he has been extremely active since in the European Haematology Association. He has interviewed hundreds of people now, including me several times. That requires a breadth of knowledge of haematology. I don't know how he does it actually, because you've got to actually be able to know the whole subject in order to interview experts and then that all goes up online.

He's also an Italophile, although he does assure me he hasn't been Italy since last year, so we don't have to worry, he's going to be alright.

Professor: McCann:

I don't have the virus!

Professor McMullin:

And he's also written a number of books, which he may tell you a little bit about, and which you've certainly got one of today, but as well as all these things, he's also a wine connoisseur, and writes on wine—guess what?—as Giovanni Morelli, as his pseudonym! I don't know where that came along from.

The theme I have been trying to develop all year is about medical diagnostics and future medical diagnostics, and I think that's where the medical semiotics fitted into that theme, but this is a subject that has concerned Shaun a lot, because he is a passionate defender that the microscope will be required in the future, despite what we bring along, so I've asked him along today, and he's going to talk to us about microscopes and corkscrews. Shaun, the floor's yours.

Professor McCann:

Thank you very much indeed, and hello to Altnagelvin. Good evening, and I just want to say a couple of words, but you've all got a copy of this book? It's absolutely fantastic, written by a man called Giovanni Morelli! Now, I have to tell you how that came about. I

got asked, actually I was told to write by my current wife, and an article about wine, for the Irish Medical Times, about 20 years ago, and I wrote it, and I thought, you can't really write an article about wine and sign it Shaun McCann, it sounds pretty dull, so Shaun would be Giovanni in Italian, it sounds much better, and then we had a house in Tuscany, a small house which we still have, in a little burg or a tiny little village, called Morelli, so I thought, Giovanni Morelli, it sounds fantastic. I didn't actually know at the time about the real Giovanni Morelli, so she subsequently told me about that, so that's why I wrote under the pseudonym of Giovanni Morelli.

The cover was designed by our son, and the title, I'm sure you all know, "An Immodest Proposal", is based upon the pamphlet by Jonathan Swift, called "A Modest Proposal", written in the early 1700s, and Jonathan Swift was quite a vicious pamphleteer. His book, for example, "Gulliver's Travels", is not a child's book at all, it's a vicious criticism of the English establishment. But in the Modest Proposal, he realised that there was a lot of child poverty in Ireland, and he said, the way to cure this poverty was that the poor people would give their children to the rich people, who would cook them and eat them, and even gave recipes on ways of cooking these children, and of course, he published it and it was called "A Modest Proposal". People were shocked, not because poor children were dying, but they were shocked that he would write such a pamphlet, and again it was an attack on the establishment for allowing such a dreadful state of poverty to exist in Ireland in the early 18th century, so that's what I'm going to say. The book, you may have, and hopefully you'll enjoy it—I'm trying to get rid of them, I have so many of them.

So, as Mary Frances said, I'm an avid believer in looking, and I did most of my training in North America, under a man called Harry Jacob, who was really a wonderful teacher and a man who believed in looking down a microscope at a blood film, and I still think, for a haematologist anyway, part of the physical examination is actually looking at a blood film, and you can learn an awful lot, and it's much more difficult, by the way, than looking at a bone marrow smear, because the changes are much more subtle, so I still think, in spite of all the gizmos we have now, that history, physical and looking at a blood film, at least for haematologists, is extremely important. So the microscope is to haematology as the corkscrew is to wine. Who said that?—I did, so it's obviously, it's absolutely true and extremely important to remember.

Let's talk a bit about microscopes and looking at things. It actually goes back an awful long time, 1,000 years before Christ, so the Romans, and before them, used magnifiers called reading stones, which basically were small pieces of glass which magnified the image, and allowed old people like me, and maybe some people in the audience, to read things they couldn't, because of course they didn't have glasses or spectacles in those days.

You'll all know this painting by Rubens, and it's a painting of Seneca, and why I've shown this here is that it is said anyway that he had read every book written in Latin by using the reading stone, so even though he was a wonderful man, like the rest of us, he was mortal, and had poor eyesight as he got older, and had to use or rely upon the reading stone. Now, we came a long way, nothing much happened for the next 1,500 years, and then it's debatable now, Zacharias and Hans Janssen, father and son in the 16th century, invented the telescope, and probably invented a simple microscope as well, so at least they get the credit anyway in most of the texts. Interesting, a lot of the people who invented or developed this technology were from northern Europe, and I don't have any good reason for that, and that's what it looked like, that original telescope.

This man will be probably better known to everybody, Jan Swammerdam, my Dutch isn't great, the pronunciation, and he was the first person, he wasn't actually a scientist, he was a tailor, I believe, the first person to describe the size and shape of red cells in the middle of the 17th century, so again, very early on people were beginning to look at magnified images, as I say, in haematology, it's particularly good because it's very easy to get a blood sample. You stick a needle in somebody's finger, or into a vein, and of course we're far more intelligent than most other specialists, so the two go together, and that's what he looked like.

Now, the other man who is well-known to every medical student, and to most physicians, was another Dutch man, Antonie Philips van Leeuwenhoek, again 17th century, and the early part of the 18th century, and he described bacteria, yeasts, and he was able to look at red cells traversing capillaries in, I think it was rabbits he used, and he made his presentation in the late part of the 17th century, to the Royal Society.

I should do an aside on that. When I was in America, Sir John Dacey came to give a talk. I was at the University of Minnesota, and there was a poster put up, Sir John Dacie, Fellow of the Royal Society, and the secretary rang me up and said, "The Royal Society of what?"—and I said, "There is only one Royal Society, my dear!" So anyway, that's just an aside.

Anyway, when this poor man gave his very critical observations to the Royal Society, they thought he was drunk because he was so outrageous, because nobody had ever seen these particles at this size before, so it just shows you that you can tell the truth, and still people do not believe you.

That's his microscope, this next one from the Wellcome Foundation, I never really understood why that's his microscope, but you see it in every text-

book, and I don't understand how it works.

Now, this man here, everybody will know him, Galileo Galilei, fell foul, as you know of the Catholic church because of his teachings, but he was mainly an astronomer, and was able to show things that we now know are true in astronomy, but for that he was heavily criticised and made to retract his observations by the Vatican, and of course he was from, everybody knows he was from Pisa, where the Leaning Tower is. He is buried in Santa Croce in Florence, and this is his tomb, so a very famous man made very acute observations, but unfortunately fell foul of the establishment, as many people have done and no doubt will do in the future.

Now, this is my hero, and I won't say I've never heard about him until about three to four years ago, maybe everybody else knows about him here, François Donné, and again early part of the 19th century in France, and he was, in my view, a very famous man, because first of all he had to fight against the establishment. Nobody believed anything he said, because he wasn't a professor, so all the professors in France looked down their nose upon him. He discovered, and was the first to describe trichomonas vaginalis in prostitutes in Paris, again probably didn't do him much good. He was the inventor of photomicrography, and most important to haematologists here, he said, and we're talking about a very, very long time ago now, that leukaemia was a differentiation block—he was right, and we now know it is. So by simple observation and deduction, he was able to work that out, and as I say, he had a very hard time. He used to give lectures on microscopy in Paris, and he paid for them out of his own money. He rented the halls, and brought the equipment along, because, as I say, because he wasn't a professor, he got absolutely no help from any of his colleagues in Paris, so never trust professors.

Now, we moved along then, and when I was young, a very long time ago, the transmission electron microscope was widely used, or fairly widely used anyway, in diagnostics in haematology and in solid tumours. It's now practically extinct, I think, as an instrument, or very, very rarely used. The scanning electron microscope, I thought was really much more enjoyable, and certainly much easier for ordinary people to look at and understand what the images were. I'll show you the most beautiful part of my anatomy, these are my red cells taken by a man called Jim White, who was a very famous haematologist/photographer/scanning electron microscopist at the University of Minnesota, and this is in the 1970s, and hopefully my red cells still look like that, even if the rest of me is pretty decrepit.

We then go off to confocal, or then go onto confocal microscopy, and then we have what is near and dear to all haematologists, in the audience anyway, and I mean there are many different companies making these now, they all look pretty well the same to me, and this is the microscope we all rely heavily on, so in spite of our facts now, in spite of molecular genetics, and Patrick is here, in spite of all these fancy things and fancy gizmos, I still think that looking down, and Barbara Bain agrees with me, and as Mary Frances said, we've gone into print about this a number of times. People think we're cranks, and I wrote to a person recently in North America, the American Society of Haematology guidelines, which I hate anyway, for making a diagnosis of intravascular haemolytic anaemia following stem cell transplantation, mentioned everything, all of the very, very difficult tests you could do, and never mentioned a blood film, which of course is how you make the diagnosis the first place, so I wrote to the person who wrote the article, they never wrote back, surprise, surprise.

We're going to shift now, so the microscope obviously, is intrinsic to being a good haematologist, hopefully I've made that point. What has it got to do with corkscrews?—well, as I said, the microscope is to haematology as the corkscrew is to wine, my other favourite subject besides haematology is drinking wine. Wine goes back, of course, to many, many hundreds or thousands of years, again before the birth of Christ. Usually it was in amphorae and they were covered in, sometimes in cork and sometimes in animal hide, and they were tied, and it was really very difficult, because it was difficult to transport them and difficult for the wine not to be contaminated over a period of time. So in the 17th century in England, a man called Digby, in the middle of the 17th century, was accredited with developing the corkscrew, and he was important in that he developed wine bottles which were a very specific size, so he knew it was 750 mls, an ordinary wine bottle, and then he developed a method of sealing them with corks which he imported from Portugal, but the problem was, how do you get the corks out of the bottle? I can tell you an anecdote about that. I worked in Baghdad at one stage in my life, and we were in the desert on a bus, and we had a bottle of wine, but no opener, a terribly frustrating situation. Luckily we had a plastic surgeon on the bus, who managed to extract the cork—I don't know how he did it, but he got the cork out of the wine and we drank it all, so when you have a bottle of wine, and when you have a cork, you need to have a good way of getting the cork out, and who will we turn to? Well, the corkscrew, the actual word corkscrew was first used in the middle of the 18th century, but this man here, he patented the idea, the Reverend Samuel Henshall. Obviously he was doing more than being a reverend, and he was obviously experimenting with wine as well, and then in the middle or early part of the 19th century, the corkscrew was developed and now was known, I'm sure you'll know the one that I favour,

which is known as the waiter's friend.

Now, what gave people the idea of having a corkscrew? Well, the idea came from actually gunsmiths, and you know the difference between a musket on the top here, and a rifle, and the difference is that the internal bore is entirely different, and this is the internal bore of a rifle here, and it's like a corkscrew, so this means that the bullets travel much more accurately, and they travel much more quickly, and therefore it became the standard, and that's why the musket was replaced. These people actually were the inspiration for the development of what we now know as a corkscrew.

Now, this is my favourite, and this is the one which was invented in the late 19th century, called the waiter's friend—very simple, it's got a little knife here to cut the foil. It's got a simple screw here and it's got a way of levering the cork out. It never fails. You can get them usually free, most wine-makers or most big wine shops will give them out free, usually with an advertisement of some sort written along the side here, but the waiter's friend, in spite of all the other gizmos invented in my view, is still the best and will never let you down.

This one here, this is rather a rather anthropomorphic view, I must say, of this fellow here, this one is expensive, very heavy, and often lets you down—don't buy it, okay? I don't know what it's called, but it was invented about 100 years ago, and in spite of looking very trendy, I don't like it at all, I think it's very, very unwieldy.

Now, we were in California a couple of years ago. I've forgotten when the last American Society of Haematology was, maybe three or four years ago, and we went up to the Russian river valley, to a company there which makes very good sparkling wine. You're allowed to call it champagne in America, you're not allowed to do it in England, you can only do it in the Champagne area. They developed this, which I thought looked rather crude, I must say, when I saw it first of all, and in fact, what you do with it, you clamp this on top, you take off the foil obviously, you take off the ring, and then you clamp this, and extract the cork. It works extremely well. It doesn't look very elegant, but I've used it too many times probably, but it does work extremely well.

Now, there is, or there was a man, he's still alive actually, called Coravin, and he was a medical instrument inventor, and his wife became pregnant, although he doesn't tell us how, but we can probably guess, and he had to take blood samples for her, from her many, many times, so he invented this very, very thin needle, and then he put it into this thing here called the Coravin apparatus, and these are the gas cylinders here, argon gas to go with it, and with this, if you're drinking Chateau Petrus 1975, which is retailing at about £8,000 a bottle at the moment, you can take one glass out, and the cork will reseal again, because the needle is so fine, and you can have another glass of Chateau Petrus next week without the wine going off, so if you're very rich, and you have a fantastic cellar, a really good Bordeaux or burgundy, buy yourself, or get someone to buy you this, as a Christmas present, and you can drink a glass of your favourite wine every week.

Now, somebody gave me this, and this is supposed to be a corkscrew for taking wine or taking corks out of fine wine, again like our Chateau Petrus 1975. I've never used it, it's in my collection at home. I'm not exactly sure how it works, so if anybody can enlighten me, or if anybody has ever used it successfully, you can please let me know afterwards.

Now, I want to finish up with one of my pet hates. If you want to cool a bottle of wine or sparkling wine usually, you put it into a bucket and it should be 50% ice and 50% water, because heat or cold will travel through water much quicker than it'll travel through air, and many, many times I've seen in restaurants and other places, a bottle of white wine sitting on top of a bucket of ice—it'll never get cold, or it'll take two or three days. Stick it in, and I've sent many, many buckets back to waiters, in pretty good restaurants, saying look—just put some water into that will you please?—and suddenly the wine gets cool. If you want to cool a wine in 20 minutes, 50% ice and 50% water, and I think that is that, okay? Thank you.

Professor McMullin:

Thank you very much. That's the fact for the night, 50% ice, 50% water! Any questions?—yes, Frank?

Dr Frank Jones:

Thank you Shaun, and yes, I have used that last implement, and I'll tell you about it later. It's not easy or simple, but it will, with persistence, get the cork out.

Professor McCann:

Obviously you drink very fine wine!

Dr Frank Jones:

No, I just got so frustrated with a cork that disintegrates, that's the problem. Thank you.

Professor McCann:

Actually, talking about corks and wine, I was in a reasonably good restaurant recently, where the young boy opened the wine, and there were some bits of cork floating round, and he said, "Oh, your wine has corked"—nothing at all to do with that, as we know. Corked wine is contaminated by TCA, which is a by-product of a fungus which grows in cork trees, nothing to do with bits of cork in the wine at all.

Professor McMullin:

Any other questions? Anything from Altnagelvin? I can't see them.

Dr Frank Jones:

I think they've got a bottle of wine under the table!

Professor McMullin:

So do you think microscopes will survive into the next generation, possibly yes, but what about the generation beyond that?

Professor McCann:

No, I don't think they will unfortunately, and I think it's really sad. I mean, looking at a blood film costs … I had an email from, a relative of my wife from New York recently, who thought she had leukaemia. She obviously didn't because she's still alive, and she went to some private clinic in New York, she's quite wealthy, and they sent me this amount of all sorts of tests, lumbar punctures, facts, analysis, molecular biology. I said, did anybody look at a blood film?—which would cost them like two cents?—no. Will they?—no. She obviously had infectious mononucleosis, she's absolutely fine now. So in spite of my exhortations, and Barbara Bain and other people as well, unfortunately I insisted on having a microscope in our outpatient clinic, and every time I saw a patient, I would look in the microscope, but apparently, from talking to my colleagues now, nobody does it any more, in our clinic, I'm talking about, in St James. I'm sure you do.

Professor McMullin:

Two minutes from the microscope …

Professor McCann:

Well, when they're gone, you'll be gone! That's the other thing I've learned.

Professor McMullin:

Anybody else? Any other questions? Okay, well I think we've had two fascinating talks tonight, with a good way of looking back at diagnostics, and hopefully we'll continue into the future, so thank you very much to both our speakers for tonight.