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ReachMD

www.reachmd.com
info@reachmd.com
(866) 423-7849

ReachMD on the Road: Exploring the Mutter Museum, Part Two

INFORMATIVE MUTTER MUSEUM

Hi, this is Dr. Michael Greenberg on the road for ReachMD XM, The Channel For Medical Professionals and today I am in Philadelphia continuing my visits to the Mutter Museum with my guide, the curator, Anna Dhody. We are exploring how our visit here allows us to actually see things, but up to now were only pictures in our textbooks.

DR. MICHAEL GREENBERG:

Now we are on this side of the room here and I see a heart?

ANNA DHODY:

You see a heart in a jar. Now this is especially injected heart that really highlights vasculature around the heart and rendered part of the heart translucent.

DR. MICHAEL GREENBERG:

Now, this REMINDS me somewhat about the specimens in body works. I am sure you are familiar with that.

ANNA DHODY:

Yes.

DR. MICHAEL GREENBERG:

And I want to ask you to comment on how you feel about it, but it is a kind of that type of specimen.

ANNA DHODY:

We are the protoplasmazation museum. Everything we have here like I said most of our objects are over 100 years old, and you see to my right here these are desiccated bodies. They are also injected with some wax to highlight the vasculare structures. The heart is still intact. There are some of our wonderful wax models here. This was made by the Thurmond Paris. The two main producers were Thurmond of _____ Paris and _____ of London.

DR. MICHAEL GREENBERG:

And doctor studies these when they probably couldn't get through all the disease with cadavers, but wax models that doctors have never seen them looks almost like living flesh. I feel to touch them.

ANNA DHODY:

Yes, that was the intent. Now, you see here we have wet specimen. Now those are specimens that real human biological material and placed in a preserving solution and they are wonderful in the sense that they are the actual organ or the part, but the problem with putting them in a preserving solution is you will see like for instance this myosarcoma right here that it leeches the specimen. So you don't get an accurate idea of color and since they are in this container you don't really get an accurate feel or idea of the texture. The wax models really aim to give you a sense of color and texture that the wet specimens cannot. We have such a variety of objects because to teach medicine again before photographs, before the high-tech 3D imaging that we have today, you really only have the actual bodies where you could preserve from the bodies of these wet specimen, these dried specimen and then you had to manufacture these wax models. We also have paper machine models to a kind of round out the experience.

DR. MICHAEL GREENBERG:

I think this is fascinating for physicians to see it. As a physician, I understand the anatomy. I see it and even my experience in medical school with dissection was nothing like this. The cadavers we are all grey and shoveled. It almost looks like you got a living one, but there is no bleeders to tie off.

ANNA DHODY:

Yes. It has a very fresh feeling to it and you can see the faces in wonderful condition as well.

DR. MICHAEL GREENBERG:

How old are these models?

ANNA DHODY:

About 150 years old.

DR. MICHAEL GREENBERG:

And the colors have not fade?

ANNA DHODY:

The colors have not faded and that is the beauty of wax that you just give it. You know, good temperature, you don't obviously want it to get too hot, you don't want to get it too cold or brittle. It is a very long lasting.

DR. MICHAEL GREENBERG:

When we talk about wax models, these models, we are not talking about candle wax. It is a mixture of bees wax and something else?

ANNA DHODY:

Paraffin. It is hard.

DR. MICHAEL GREENBERG:

Paraffin. We can touch it.

ANNA DHODY:

Yes.

DR. MICHAEL GREENBERG:

You could touch it.

ANNA DHODY:

You could touch it. Yes. Absolutely, and you can see just a delicate nerves there along the neck. It is so detailed and the amount of craftsmanship and skill that went into these is really is astounding.

DR. MICHAEL GREENBERG:

Absolutely beautiful. Now lets move on from here. In front of the case of the plaster models, which everybody would recognize you know

modern culture and this is Chang and Eng, the most famous Siamese Twins.

ANNA DHODY:

Right. This is where the term Siamese Twins came from.

DR. MICHAEL GREENBERG:

Is it living cast or?

ANNA DHODY:

This is a death cast and actually if you look carefully along the abdomen, you will see the autopsy incisions here sewed up. Now Barnum and bailey, coined the term siamese twins because Chang and Eng Bunker were born in Siam and they actually toured with Barnum and Bailey for many years on the surface they made themselves available to be seen, but a lot of people don't know about Chang and Eng is that they have actually retired from the circus profession. They bought a joining farm in Mount Airy, North Carolina. They married sisters and believe it or not they had 21 children between them.

DR. MICHAEL GREENBERG:

I have heard that, very interesting.

ANNA DHODY:

The descendent, which are actually still in contact with us this day.

DR. MICHAEL GREENBERG:

Surely stretches the limit of brother _____ in Philadelphia.

ANNA DHODY:

That is what I say is the exact details of that in our part and I leave that up to your imagination.

DR. MICHAEL GREENBERG:

Fascinating. How did you get this cast?

ANNA DHODY:

Actually what happened was Chang and Eng died in 1874. First, Chang died first. We think he probably died of something along the lines of the stroke, although, they were able to verify that but Eng died a few hours later. His death was listed as syncope or "fright" which of course now we don't think that probably happened is we did know before they died they shared a blood supply. Interestingly enough, they determined that by giving one twin the asparagus and testing the other ones urine. Very low but very effective. So, we did not know that they shared a blood supply. So Chang died a couple of hours later Eng did die probably as a result of some sort of clot from his brother's blood passing into his system. The twins did actually have a consistency in effect where if one twin died there were some of the doctors to have an emergency separation. However, it was a dark and stormy night. There were no land movers back then. The doctor could not make it in time and Eng did pass away. Now, interestingly enough even though they died in North Carolina, their all autopsies were performed here at the college of physicians. They are with arrangements made between Chang's and Eng's doctors and the doctors here at the college of physicians. The bodies were brought up to Philadelphia and the autopsy was performed. Now you can see along the incision line here that they did not sever the ties. The twins also said that they want to die together, they want to remain together, and the physicians of course did honor that. What they did find that was unique is that they actually had conjoint livers. They did not know that at the time. Yes. The livers are right below the cast and a brand new container that I have put the men are just looking beautiful. Now interestingly enough, it is hard to see here one liver is larger and a bit cirrhotic that's Chang's. He would like to use beverages. Eng was a teetotaler.

ANNA DHODY AND DR. MICHAEL GREENBERG:

And they shared a blood supply but only one came cirrhotic.

ANNA DHODY:

Yeah. They had very different personalities. Because you are conjoined does not mean you are the same person, of course. So like I said Chang liked to drink, Eng was a teetotaler, but Eng liked to stay up late at night playing poker. So they had a system where they spend a couple of days with one brother's farm a couple of days other brother's farm and this seems to work out for them.

DR. MICHAEL GREENBERG:

So, when Chang drank, did the Eng get high?

ANNA DHODY:

That's a good question. I do not know. I think most of it was filtered out through Chang's liver as you can see here.

DR. MICHAEL GREENBERG:

If you have just tuned in, you are on the road with me, your host, Dr. Michael Greenberg on ReachMD, The Channel For Medical Professionals and we are on tour of Philadelphia with Anna Dhody, the curator of the disturbingly informative Mutter Museum.

ANNA DHODY:

Now, this is our teratology section and of course that is the Latin for the word monster and unfortunately, this is how these children, these specimens of course review back in the day where you may have heard the lot of what we call neural tube defects and again, it is very rare to see a full-term fetus with anencephaly or with acrania, acardia exencephaly or this severe spina bifida and this is what we have here.

DR. MICHAEL GREENBERG:

So this is, I can't say it's fabulous because of the tragedies for the families to have these children but it is once again an opportunity to see things that you wouldn't see otherwise.

ANNA DHODY:

Exactly, exactly. We have sonograms and amniocentesis, things like this, it is not unheard of, but it is very rare to see something for full term.

DR. MICHAEL GREENBERG:

I am very proud of myself as a dermatologist because I myself that looks like a pig and it is.

ANNA DHODY:

It is a fetal pig with cyclopia, you know. So that is not just a normal fetal pig.

DR. MICHAEL GREENBERG:

I was proud of myself in making this diagnosis.

ANNA DHODY:

Yes.

DR. MICHAEL GREENBERG:

You have a website. Are there any images available for people to study online?

ANNA DHODY:

Yes. We actually have Rights and Reproductions coordinator who works with scholars, works with artists, works with people who would like to have images of our specimens, who is very careful about how many we let go to, who did they go to of course, researches to have a publication that specifically deals with whenever images we do make that available.

DR. MICHAEL GREENBERG:

We entered a new room here and tell us about this one.

ANNA DHODY:

Its called the Worden Gallery. It is dedicated to Gretchen Worden, who was our former director and curator who passed away in 2004, but it wasn't until recently that we really finished it in terms of now we have fiberoptic lighting. We have all new labels with interpretations. The cabinets are the original cabinets that they were referred, but in fact, if you look on the sideways at the cabinet, you will see some working on the glass that is because of the original 100 and plus year old glass.

DR. MICHAEL GREENBERG:

What is this rebounding my server here?

ANNA DHODY:

Yeah, actually for.

DR. MICHAEL GREENBERG:

For< ____ >.

ANNA DHODY:

Yeah. Now, this is a gallery that we originally envisioned as a wet specimen open storage display. We have in excess of 1200 wet specimens and we really have to keep and monitor them to make sure they are in good condition. The fluid levels are stable and what we decided to do here when we had this new gallery space is we decided to call it a body of parts and what it is, is just away to come in and look at the human body piece by piece, so you walk in and you turn to your left and it literally goes from the head down. You have neurology, otolaryngology, cardiopulmonary, gastroenterology, female reproductive, male reproductive, nephrology, proctology, and extremities and then the middle section is just as I liked.

DR. MICHAEL GREENBERG:

Now, what I understand by Gretchen Worden was she was like someone phenomenal in museum.

ANNA DHODY:

She was not just in the museum well, but in the medical field as well. She was here for 30 years and she really is the one that put this museum on the map. When she first started working here, it was almost 100% medical professionals and may be a few 100 visitors a year. By the time, she finished her 10 years, unfortunately when she passed away, we had over 60,000 visitors a year and that was due

to her really getting the word out, just being this wonderful charismatic entity that really made the Mutter Museum so popular.

DR. MICHAEL GREENBERG:

So, since we can't show all of our listeners the body, lets get to the rats, what are they doing here?

ANNA DHODY:

Well of course, animals, dogs, rats were also very important in the medical training, of course, and what we have is just like this middle section here, just kind of a miscellaneous area, where we put stuff that is just interesting that people might find interesting to look at it. So, these are the rats that were used in dissection.

DR. MICHAEL GREENBERG:

Oh, they are the one who did not make it through the maize?

ANNA DHODY:

Yes. You know you have to do something with the slow learners. Of course, you know, rats mice still use in pharmaceutical research and they play an important role. The surgeons would often operate on dogs many years ago to try and perfect certain techniques. We have very few, relatively speaking very few animal specimens, almost everything we have is here and then we thought the rats are kind of interesting and so we felt we put them on display.

DR. MICHAEL GREENBERG:

And its huge down here or largest gallstones.

ANNA DHODY:

Well, it is actually an ovarian cyst. It is dried and stuffed now, looked like a straw or horse hair but that was an ovarian cyst and I believe at the time of extraction it was about 70 or 80 pounds.

DR. MICHAEL GREENBERG:

It is about a foot and a half by a foot and a half, it is huge, it look like a footstool

ANNA DHODY:

Little mystery is here we have not one but two separate conjoined twins. Now, these are thoracopagus conjoined twins, they are conjoined mostly at the thorax. You can call them dicephalic, bicephalic. Now you notice here very interesting one has a cleft palate,

one doesn't.

DR. MICHAEL GREENBERG:

Why the cleft palate on one?

ANNA DHODY:

Exactly, why does one have a cleft palate and one doesn't, because you would think they are identical twins. Same thing with the one down below here, one cleft palate, one normal palate.

DR. MICHAEL GREENBERG:

No, I know we are taking kind of an audio tour if people cannot see things, but what I need to point out to our listeners is when looking at these cases, there is an abundance of the most amazing specimens that we are not even talking about, just everywhere, it is an embarrassment of riches.

ANNA DHODY:

Well, to kind of give this, you know audio, visual frame of reference. This room itself is about 720 square feet and in this we are having about 300 specimens, so you can imagine that. Again, artifact to a square foot ratio. It is extremely high. So, we estimate that if some would come in here and take their time and read those labels, even though we are small museum, it will take you over 3 hours.

Thanks for joining us on the road today from Philadelphia at the Mutter Museum with our guest Anna Dhody, curator, who has shown us not simply, an interesting museum of the dead but a living institution of medical education. ReachMD is here for you, the health professionals who care for your patients. We welcome your questions and comments. Please visit us at www.reachmd.com, where our newly redecorated website with its on-demand and podcast features will allow you to access on entire program library including the show. Register on the website and enter promo code radio for 6 months of free podcast and we thank you for listening.