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concrete, kris, professor, called, mara, questions, laughs, cement, jim, portland, mile, cbc, pantheon, dave, hardened, hoover dam, coarse aggregate, good, kitty, world

SPEAKERS

Beth Oljar, Mara Livezey, Announcer, Kris McLonis, James Tubbs, Dave Chow, Matt Mio



Announcer 00:02

The University of Detroit Mercy presents another brand new episode of Ask The Professor. Today's program was recorded using Zoom video conferencing technology.



Matt Mio 00:21

The University to wer chimes ring in another session of Ask The Professor, the show on which you match wits with University of Detroit Mercy professors in an unrehearsed session of questions and answers. I'm your host, Matt Mio, and let me introduce to you our panel for today. She's in the upper left of my screen for what it's worth, Professor Mara Livezey.



Mara Livezey 00:40

Hello.



Matt Mio 00:41

What's going on?



Mara Livezey 00:43

Oh! So much stuff. I'm like, on YouTubes all day, uploading my cliff lectures, publishing them to YouTube, just getting stuff done.

M

Matt Mio 00:53

It's not like you're in the middle of - you know - planning your own wedding or anything.

M

Mara Livezey 00:57

None of that is also true.

M

Matt Mio 01:00

(Laughs)

D

Dave Chow 01:01

Elope! Elope!

M

Matt Mio 01:02

And - And who knows how many feline friends will pass by your camera during our recording session today.

B

Beth Oljar 01:08

I hope so.

D

Dave Chow 01:09

Hey, Mara: I don't know if I told you, but last summer during COVID I actually performed my first wedding ceremony. So if you ever need a stand-in -

M

Mara Livezey 01:09

Hopefully.

M

Mara Livezey 01:17

Hey, that's great to know. We're going to meet the priest tonight. If he's like, "Nah, I'm not going to do it," I call you up.

D Dave Chow 01:23
Dibs. Dibs.

M Matt Mio 01:26
Oh, my gosh.

B Beth Oljar 01:27
I would pay money to see that service.

M Matt Mio 01:30
Yeah. Right. This is Mara's wedding episode number two. Let's try this again. Yeah, where's the director clapboard, right?

D Dave Chow 01:40
I can storyboard it out.

M Mara Livezey 01:42
Sweet.

M Matt Mio 01:43
Those, of course, are the dulcet tones of Professor Dave Chow, who's with us today.

D Dave Chow 01:47
Pleasure to be here, as always.

M Matt Mio 01:49
How's it going? Dave?

- D** Dave Chow 01:50
A little frazzled. I was just telling Mara, before we jumped on line, that I got about 16 hours of sleep the last week.
- M** Matt Mio 01:57
Oh, well. Because I was thinking, if you said 16 and you meant the previous day, that would be pretty good.
- D** Dave Chow 02:02
No. 16 The last week. I got - They're pushing Super Bowl again on me. So
- B** Beth Oljar 02:07
How are you not having a psychotic break?
- D** Dave Chow 02:10
Who says I'm not. (Laughs)
- B** Beth Oljar 02:12
I got a six and a half hour sleep last night and felt kind of icky, hence the nap. I couldn't exist the way - I mean, when I was in my 20s. Yeah, maybe I could do that. Or be at a party until two in the morning and then get up at five and go to work. You know, but not anymore.
- D** Dave Chow 02:31
I still do it. I don't know why. I don't know how. I'm not gonna question it. So -
- M** Matt Mio 02:36
Keep the caffeine coming,
- D** Dave Chow 02:37
You're darn right. No, actually, I - believe it or not, I do lots of Gatorade on all-nighters.

M Matt Mio 02:42
Oh, sure, that makes sense.

D Dave Chow 02:43
Gatorade and - You're gonna laugh: Tic Tac's actually come in handy.

J James Tubbs 02:48
Hmm.

D Dave Chow 02:49
My mom always taught me that - if you have something in your mouth, you're not liable to fall asleep in fear of choking.

B Beth Oljar 02:54
I have not found that to be true, actually, but - Okay.

M Matt Mio 02:58
(Laughs) Someone with a deep interest in the choking reflex Professor Beth Oljar. How do you like that transition.

B Beth Oljar 03:04
It's not quite that way. But okay.

D Dave Chow 03:06
Yikes!

B Beth Oljar 03:07
Good to be here.

M Matt Mio 03:08

I'm with you, though. Beth. I want to say at some point, not a small child, but maybe like a tween, if you will, I would have been chewing gum and accidentally fell asleep and basically almost choke myself to death. And that had to happen at least once, right?

D Dave Chow 03:22
Yikes.

J James Tubbs 03:23
Well, when I was growing up, the threat was it would end up in your hair - If you were chewing gum. Yeah.

B Beth Oljar 03:29
And when I was kid, I had to get haircuts because I'd gotten something in my hair. So yeah, that seems more likely.

M Matt Mio 03:36
You gotta be really careful about that. We also we're joined today by Professor Jim Tubbs.

J James Tubbs 03:41
Hello, hello.

M Matt Mio 03:43
How you doing Jim?

J James Tubbs 03:44
Good, good.

M Matt Mio 03:45
Excellent.



James Tubbs 03:46

Just watching the storm pass over.



Matt Mio 03:49

Yeah, I was about to say the trees are eerily not moving outside my window.



Beth Oljar 03:53

Yeah. I think the worst is past me.



James Tubbs 03:56

Yeah. I think the brunt of it's gone by



Dave Chow 03:59

I hope. It's that - Uh, we're in the eye of the storm, so -



Matt Mio 04:03

Exactly. Oh, great. We're just in the eye of the storm. You know, we're joined today by a guest panelist, Associate Librarian, Kris McLonis. Thanks for joining us today, Kris. We're glad to have you. How have things been?



Kris McLonis 04:15

Well, I'm finishing up a block of vacation time, as Matt mentioned, I'm a librarian and I get roughly the same amount of days off as professors do. Um, It's been surreal. It'll be good to be back.



Matt Mio 04:28

Absolutely. Absolutely. We don't know what it's gonna look like; but damn it, it's gonna be good to be back.



Beth Oljar 04:35

Oh, and we have to wear masks in the classroom. Right. So -

M Matt Mio 04:38
Ah, the first - the first veil has fallen. Yeah, exactly. So we've got a lot of work to do. But I think a lot of us are anxious to get that energy from young people being around us and being loud walking through the halls and things like that.

J James Tubbs 04:47
Mmm-hmm.

J James Tubbs 04:54
For dang Sure. We'll tell you what, folks, this is a program where you can send us questions regarding anything. If you stump the panel, you win a prize, you can send the questions to us in a number of ways. You can email us at ATP at UDMercy dot.edu. You can find us on Facebook or Instagram, or listen on your favorite smart speaker by asking it to play Ask The Professor at University of Detroit Mercy. So I have a set of questions - um - sent in by - sent in sort of by Anonymous, but it's gonna be real obvious who sent them in within the first few words of me reading the intro here. I'm being asked to read the intro as myself. That's sort of a little bit of a tip off here. "These are questions about cement and concrete. My grandfather owned a concrete business, so you might say I have it in my veins. My dad has been watching my new home get built and sending out updates to the family. So my mom suggested I make up this set of questions. Don't take any of the questions - for granite." Oh, gosh.

J James Tubbs 05:53
(Laughter)

M Mara Livezey 05:54
Ohh! Which kid of yours -

M Matt Mio 05:58
No, these were actually submitted by my dad, who is - (unclear what is said here, because of cross talk).

B Beth Oljar 06:02

Oh good! That's kind of cool.

- M** Matt Mio 06:04
All sorts of interesting things about concrete. Maybe you didn't think your afternoon was gonna go this way, but here we are. What -
- D** Dave Chow 06:11
Concrete it is.
- M** Matt Mio 06:12
- are the four main components of modern concrete?
- D** Dave Chow 06:17
Payment.
- M** Mara Livezey 06:19
Water.
- J** James Tubbs 06:20
Water.
- M** Matt Mio 06:21
Water.
- D** Dave Chow 06:22
Lime. Lime.
- M** Matt Mio 06:23
Water, sand, and when you say lime, you could mean actually cement as the mineral.
Mmm-hmm.



Dave Chow 06:31
And - elven magic. No?



Matt Mio 06:34
No. No magic



Mara Livezey 06:36
Probably rock .



Matt Mio 06:37
Water, lime or cement -



Mara Livezey 06:39
Pebbles.



Matt Mio 06:39
and then a fine aggregate or sand. But maybe we also need to add some -



Mara Livezey 06:44
Pebbles.



Matt Mio 06:45
Yeah, rocks, or coarse aggregate. So all those things together make modern -



James Tubbs 06:50
Coarse aggregate. Mmm.



Beth Oljar 06:52
That sounds so sexy.



Dave Chow 06:55

That's that sounds like a class Mara should be teaching right about now, isn't it?



Beth Oljar 06:59

Exactly. Yeah. Sounds like some weird form of chemistry we've never heard of.



Dave Chow 07:04

There you go, Mara. We'll come up with titles for your classes.



Matt Mio 07:06

I mean, we need a course in coarse aggregate.



James Tubbs 07:09

A course in coarse aggregates.



Dave Chow 07:11

Or Kris, is this an aisle in the library? I mean -



Matt Mio 07:14

Oh, my gosh.



Kris McLonis 07:16

It'd be somewhere in the T's, I think for technology.



Matt Mio 07:19

I love it. I love it. So - this is one of those ones you may not know, but you'll know in just a few seconds. What's the term that's used to describe how viscous concrete is. It can be thin can be thick, but they use a very specific word



Mara Livezey 07:34

Turbidity.

J James Tubbs 07:35
Dense.

M Matt Mio 07:36
Ah, describe the process by which they determine it. They put the concrete in a fixed length tube, and measure the distance that it takes for it to collapse fully.

D Dave Chow 07:52
You know, like porosity, density.

M Matt Mio 07:56
Um, I've been accused of this because I really don't have - physically speaking, um, any -

B Beth Oljar 08:02
A kitty!

M Matt Mio 08:04
Oh, there's a kitty.

D Dave Chow 08:05
Sorry.

M Matt Mio 08:06
Oh, so cute.

B Beth Oljar 08:07
We're getting distracted by the cat. Sorry.

- M Matt Mio 08:10
It's all right.
- D Dave Chow 08:10
We're so easily distracted. Okay.
- M Matt Mio 08:13
So - a brooding teenager will take their seat, and then they will do this with their body.
What is that called?
- K Kris McLonis 08:19
Lunge.
- D Dave Chow 08:20
Turn on their cell phone?
- M Matt Mio 08:22
It's called slump - slump.
- D Dave Chow 08:24
Oh, slump.
- M Mara Livezey 08:25
I love it.
- D Dave Chow 08:26
That sounds like a Dr. Seuss character, doesn't it?
- M Matt Mio 08:28
(Laughs) Well, there are benefits to having sort of a more liquidy version and then a more

solid version. So -

J James Tubbs 08:37
Three.

M Matt Mio 08:37
How long does it take - in days - for modern concrete to harden to its full strength? And just to be clear, not fully hardened, but hardened to full strength?

J James Tubbs 08:37
Hmm.

B Beth Oljar 08:38
48 hours?

D Dave Chow 08:49
Two weeks,

M Mara Livezey 08:51
Two weeks.

B Beth Oljar 08:51
Five days.

M Matt Mio 08:53
I'm going to give this one to Kris. It's, uh, seven days is what it takes to reach full strength. And just so we all know, because it's one of my favorite pieces of trivia, and I hope I'm not scooping later on in the question set here - but the internal concrete of the Hoover Dam will take over 1000 years to fully harden - because it's not exposed to the air. I just find that absolutely fascinating. absolutely fascinating.

D Dave Chow 09:17
You guys have been to it before, haven't you? Jim?

J James Tubbs 09:19
Yeah.

M Matt Mio 09:20
It's fun.

D Dave Chow 09:22
I have a twisted morbid fear of heights, and I love that thing.

J James Tubbs 09:26
It is so wierd to go -

K Kris McLonis 09:28
And now that you know that it's not fully hardened, it adds to the thrill. Doesn't it?

B Beth Oljar 09:30
You should go to the Space Needle, Dave.

D Dave Chow 09:33
Oh, yeah. I've been. I love that thing, too.

J James Tubbs 09:35
In the Hoover Dam it's is so weird. You go all the way down in it where the turbines are and the whole room is kind of vibrating. And you think about the settling cement, (Laughs). And then you get back on the elevator to go back up.

M Matt Mio 09:51

So I guess one of the things that we're supposed to take away from this is that, even if it's not fully cured, it can have strength and that goes literally all the way back to the Roman Empire because they were pretty big fans of concrete back then.

B Beth Oljar 10:05
Oh, what did the Romans ever do for us?

D Dave Chow 10:07
Aqueducts?

B Beth Oljar 10:08
Just sayin'

M Matt Mio 10:10
How strong is modern concrete? As in - How many pounds per square inch will it support?
It's pretty amazing.

B Beth Oljar 10:19
3000

M Matt Mio 10:20
Yeah, I'm giving it to you. It's 2800. 2800 psi per square inch. That's incredible.

D Dave Chow 10:26
Wow!

M Matt Mio 10:26
absolutely incredible.

B Beth Oljar 10:28

And all our civil engineers are busy learning the chemical formulas and everything to mix concrete. Right? Wouldn't that be part of their training?

M Matt Mio 10:37
I would say so. then, you know, they take a whole class called Slump, so they better be working on it.

B Beth Oljar 10:42
For real? That's cool.

M Matt Mio 10:45
No, I'm just -

B Beth Oljar 10:46
And Mara's getting hassled with her course titles.

M Mara Livezey 10:48
Come on.

B Beth Oljar 10:50
That's just wrong. Oh,

M Matt Mio 10:52
Aw - so funny. Um, there are eight steps for concrete installation. Do you think you could name four of them?

D Dave Chow 11:01
Four?

M Mara Livezey 11:02

Only four? Like no more? No less?

M Mara Livezey 11:05
Pouring is probably one.

J James Tubbs 11:10
Pouring, Leveling. Let's see what else?

B Beth Oljar 11:13
Getting out the air pockets.

M Mara Livezey 11:15
You gotta lay down the wood.

B Beth Oljar 11:16
Yeah. Framing.

M Matt Mio 11:20
I'm gonna give you preping the site and I'm going to give you forming. So you got two for sure.

D Dave Chow 11:25
Okay,

M Mara Livezey 11:25
Cutting. You cut it after -

D Dave Chow 11:28
Yeah, yeah, yeah, yeah.

- M** Matt Mio 11:29
I'm gonna give you - Finishing is what it's called.
- D** Dave Chow 11:32
Leveling? Would that be finishing?
- M** Matt Mio 11:35
Um, Let's think about the extremely ancient tool that's used for that leveling.
- D** Dave Chow 11:41
Troweling?
- D** Dave Chow 11:42
Troweling. Yes, troweling.
- D** Dave Chow 11:44
And when I also mentioned pour (poor), I was talking about the homeowner that's got to pay for it, too. So - Trust me. I'm real poor.
- M** Mara Livezey 11:55
What about when they scrape it with that big brush thing?
- D** Dave Chow 11:58
Mm hmm. So that is -
- M** Matt Mio 12:00
- what is referred to as early finishing. Early finishing. And then there's final finishing. So there's lots of different levels.
- D** Dave Chow 12:00

Feathering?

D Dave Chow 12:07
So is there mid finishing?

M Matt Mio 12:10
No, actually.

D Dave Chow 12:11
Oh, darn.

M Matt Mio 12:11
The one that I think Professor Oljar was referring to was called floating, where they kind of - it has the consistency of Jello. And they kind of press it to get all the bubbles to raise to the top.

D Dave Chow 12:21
Gotcha.

M Matt Mio 12:22
Yeah, I used to go with my grandfather on site. And that was one of the only things he would let me do is, um - floated, because not many people know - and again, I hope I'm not going too far here, but one of the other main components in the water of modern concrete is hydrochloric acid, so you really should not get that on your skin. it'll it'll hurt sooner or later. So -

B Beth Oljar 12:42
(Laughs) Really?

D Dave Chow 12:43
Uh-oh! Oops!,

M Matt Mio 12:45
Please - do not eat unset concrete.

D Dave Chow 12:49
Okay, so what about all those Hollywood people that put their handprints and footprints and all that stuff?

M Matt Mio 12:54
Well, the one thing I'll tell you is when you go and buy a bag of Quikrete, which - let's be serious, that's probably what they're doing. There are several idiot-proof ingredients. Let's just leave it at that.

D Dave Chow 13:07
Okay.

M Matt Mio 13:07
When and where was the first mile of concrete road poured?

D Dave Chow 13:14
Six to Seven Mile on - Between Six and Seven Mile on Woodward.

M Matt Mio 13:18
That is exactly correct. between Six and Seven Mile of Woodward Avenue. first mile of concrete 1909.

B Beth Oljar 13:25
Oh, I thought you were talking about the country I didn't know it was Detroit specifically.

M Matt Mio 13:29
No, no, no. I'm sorry, Beth. This is actually anywhere in the world. The the marker says that is the first mile of concrete road ever poured on planet Earth.

B Beth Oljar 13:38
Really?

M Matt Mio 13:39
That's a big deal. Yeah. In terms of the full mile. Yes.

M Mara Livezey 13:42
Wow.

B Beth Oljar 13:43
I'm not sure I've seen the marker. Maybe I have and not registered it.

M Matt Mio 13:48
It's really weird. It's only southbound as across Seven on the other side on Six Mile, which is a little bit weird. So check it out sometime. Drive this every day. Who - uh, let's see here - what famous person was on the road commission that thought pouring that mile of concrete would be a good idea?

K Kris McLonis 14:08
Probably someone named Woodward.

D Dave Chow 14:11
Or Henry Ford?

M Matt Mio 14:13
It was Henry Ford. Yeah. He knows what's best for between Six and Seven Mile on Woodward. Let's just be serious here. You know? Oh, gosh, I knew this question was coming, because I had to flip the page here. The way my dad thinks - How much was the bill for the one mile both ways of pouring that concrete? Hi kitty.

M Mara Livezey 14:35

\$1,000.

B Beth Oljar 14:35
20 bucks

M Matt Mio 14:36
Hmm - Um -

B Beth Oljar 14:42
a billion dollars

D Dave Chow 14:44
We're still paying for it, right?

M Matt Mio 14:46
I was wondering what he was gonna do. No, no, no, this actually is mildly affordable, considering the size of the project. It was just about \$13,000. That's all it costs.

D Dave Chow 14:56
I paid more for that for my driveway, dog gone it.

K Kris McLonis 15:00
Well, inflation considered that? Yeah.

M Matt Mio 15:02
Oh, yeah.

K Kris McLonis 15:04
These days, it would be a billion dollars.

- M** Matt Mio 15:08
Okay. What was the country where the first concrete road was poured before Woodward Avenue in 1909, but it wasn't a full mile?
- D** Dave Chow 15:23
Do we dare go with the Romans again.
- M** Matt Mio 15:25
Um, you wouldn't be too far off with the Romans. But it wasn't Italy. It was a outer territory of the Roman Empire.
- J** James Tubbs 15:32
Britain.
- M** Matt Mio 15:34
Yeah, I'll give it to you Genoa, Scotland is what it says in the 1860s. They started mixing concrete in with the road aggregate. And, of course, after a little bit of rain, it hardens and everybody gets real happy after that. So -
- D** Dave Chow 15:47
I think that other ways of getting happy in Scotland too, so.
- M** Mara Livezey 15:52
Whiskey.
- M** Matt Mio 15:56
What is the world's largest single piece of concrete in a structure? Where is that?
- D** Dave Chow 16:05
The Hoover Dam?

- M** Matt Mio 16:06
It's not Hoover Dam, but I'll tell you this. It's a dam. And maybe if you just tell me it's a dam in a certain country will be good.
- D** Dave Chow 16:12
Three Gorges in China.
- M** Matt Mio 16:14
Three Gorges in China.
- J** James Tubbs 16:15
Ah, Yeah.
- M** Mara Livezey 16:16
Nice.
- M** Matt Mio 16:16
Yes. He adds a little, you know, snide commentary about American workmanship here. "Yes, we've all heard. Apparently it's full of cracks if you go check it out. So it's not doing very well. Three Gorges Dam." What river does the Three Gorges Dam - uh - uh dam?
- D** Dave Chow 16:33
The Yangtze?
- M** Matt Mio 16:35
Yes, it's the Yangtze.
- B** Beth Oljar 16:37
That was my guess too. Just saying.

M Matt Mio 16:41
Who invented Portland cement? And what year was that?

D Dave Chow 16:46
Bath, Come on. You're a Portland gal, aren't you? Oh, no. You're a West Coast gal. Yeah.

B Beth Oljar 16:51
Yeah, I'm not sure which Portland it's referring to. Not McAdam, Right.

M Matt Mio 16:59
This person named int Portland Cement because the finished polished surface reminded him of stones he had seen on the British island of Portland, so I'm afraid this has nothing to do with Portland, Maine or - or Portland, Oregon or anything like that.

D Dave Chow 17:13
Darn.

M Matt Mio 17:15
How about I just tell you - there was a very famous mason at the time Joseph Aston, but what year do you think it was that Portland cement was invented? So this is on our way to having like, Quick Set concrete like we can buy at the store today?

M Mara Livezey 17:29
1901.

D Dave Chow 17:31
Yeah.

M Matt Mio 17:31
Way earlier.

B Beth Oljar 17:33
Yeah. Early 19th century, right. Like, in the 1820s or something? 1810s?

M Matt Mio 17:39
Yeah, 1824. spot on. Yeah. There you go. People have been putting fence posts in with quikrete as long as we can remember. Let me tell you. What famous person built the largest cement plant in the world in 1902 in a little village in New Jersey.

D Dave Chow 18:05
Hmm. Fat Tony, uh No.

J James Tubbs 18:10
Famous person.

B Beth Oljar 18:11
Rockefeller?

M Mara Livezey 18:12
The only person I know from New Jersey is Bruce Springsteen.

D Dave Chow 18:15
Yeah, (laughs) Billy Joel.

M Matt Mio 18:17
I think you need to go a bit deeper than that, Mara.

B Beth Oljar 18:22
His daughter now has a silver medal in the Olympics. So that's pretty cool.

M Matt Mio 18:27

Yeah, that is kind of cool. I think that you may be overlooking a relatively famous person who, let's just say, did a lot of business in New York.



Kris McLonis 18:34

Uh, Capone, Al Capone. No?



Dave Chow 18:37

Rockefeller, Astor.



Matt Mio 18:40

No, it was your friend and mine - Thomas Edison actually built it in 1902.



Dave Chow 18:46

What!



Beth Oljar 18:46

You said that. Didn't you Jim?



Beth Oljar 18:48

Sorry, Jim.



James Tubbs 18:48

Yeah, that was the first thing I said but everybody was talking at once, so -



Matt Mio 18:52

I apologize. So yeah, do you know, Jim, what he was going to do with that plant? It didn't work out, but it was a cool idea.



Beth Oljar 18:59

Bury Thomas Westinghouse - alive?

- D** Dave Chow 19:01
or Tesla?
- D** Dave Chow 19:02
Probably build power plants.
- M** Matt Mio 19:04
He wanted to make a modern,um, I'm trying to think of the right word, but everything I -
- D** Dave Chow 19:11
Tomb?
- M** Matt Mio 19:12
He was thinking that houses were going to be made of concrete going forward and in the end that really didn't pay off - so.
- D** Dave Chow 19:19
Okay.
- D** Dave Chow 19:21
Oh, and for a while during the Cold War, we might have thought about it, but -
- M** Matt Mio 19:24
Sure. Sure. I'm feeling like we could pop one of those down in the Henry Ford next to the Dymaxion house, you know, concrete, aluminum, you know, good ideas, but maybe not. So, where is the oldest concrete that we know that humans actually mixed themselves and the world found?
- D** Dave Chow 19:44
The basement of Briggs.

B Beth Oljar 19:49
Rome?

D Dave Chow 19:50
Yeah. Rome.

J James Tubbs 19:52
Athens.

M Matt Mio 19:52
You know, it actually is a little bit closer to Athens. It's in Greece. Yep. It's in Greece in a place called Tiryns. So as far as can date it - 1400 bc - if you can believe it. Oh another kitty.

B Beth Oljar 20:06
Hello. Mia says Hi.

D Dave Chow 20:09
Jim, you and I we need to get cats in order to be on the show. You know that?

J James Tubbs 20:12
Yeah.

M Matt Mio 20:14
What was Roman concrete called in Latin?

K Kris McLonis 20:18
Concretus?

M Matt Mio 20:22

I think concrete has to be for partial credit.

M Mara Livezey 20:25
Concretus.

M Matt Mio 20:26
You know what it was though? I love this. I love this to death. Opus cementium. So that basically means -

J James Tubbs 20:33
Work of cement.

M Matt Mio 20:34
My great work of cement.

D Dave Chow 20:38
Oh, my goodness,

B Beth Oljar 20:39
It really sounds like Monty Python to me.

D Dave Chow 20:42
Or wily Coyote.

M Matt Mio 20:44
But seriously, Let's see how well you all know, at least as we refer to it now Western history. What characteristic about their mix was so historically important. It gave the Roman Empire a huge technological advantage that allowed them to spread out as far as they did, because that concrete did something very specific. What was it?

D Dave Chow 21:06
It set quicker than others?

D Dave Chow 21:08
It set in a place where other concretes wouldn't set.

D Dave Chow 21:14
Underwater.

M Matt Mio 21:15
Underwater. Yes.

M Matt Mio 21:17
So, within a couple days, you could be Aqua ducting, you know, it was like the new version of the suburbs. You could send water out anywhere you want. It's a big deal. Big deal. Yep. Okay, what building in Rome has the largest unreinforced dome in the world? if you ever actually look at it, it's got no rebar because of course, there was no rebar at the time.

M Mara Livezey 21:17
What!

J James Tubbs 21:17
Oh!

B Beth Oljar 21:40
The Colliseum?

M Matt Mio 21:41
No, it's not the Colliseum.



Dave Chow 21:43
The Pantheon?



Matt Mio 21:45
Pantheon.



Dave Chow 21:46
I knew it was one of those in Greektown restaurants.



Beth Oljar 21:47
The Parthenon is in Greece.



Matt Mio 21:49
Yeah.



Beth Oljar 21:50
Not Rome.



Matt Mio 21:51
Isn't the Pantheon the one with the eye like -



James Tubbs 21:54
the Oculus. Yes.



Matt Mio 21:55
Yeah. And then the sun will pass over.



James Tubbs 21:58
Yeah. That was fascinating being in there when it rains, because it's also it's also got sort of gutters around the edge of it on the inside. So the rain

- D** Dave Chow 22:06
Really?
- D** Dave Chow 22:07
Runs down. Yeah. washes the floor.
- M** Mara Livezey 22:10
Smart.
- M** Matt Mio 22:12
So here we go. Um, what year was the Pantheon, according to tradition, finished?
- J** James Tubbs 22:19
Was it 425, or something like that? Um, Let me think.
- M** Matt Mio 22:23
I can give you the hint that it was on the positive side on the Common Era side, not in the -
- J** James Tubbs 22:30
Yeah. Was it Hadrian - did the - Let me think - who built the -
- B** Beth Oljar 22:36
He built the big wall.
- J** James Tubbs 22:38
No, it was Agrippa, I believe. That's - the name on the front? Um -
- D** Dave Chow 22:44
Jim, you were there. I mean, not not, not when it was built. But you know, you've been there.

J James Tubbs 22:48
I wasn't paying attention to the year though.

D Dave Chow 22:51
Oh,

K Kris McLonis 22:51
Maybe 200 A.D.

M Matt Mio 22:54
I'm gonna give it to you, Kris. It was basically about 128? But, it's a little bit of a trick question, because they had actually completed the Pantheon many decades previous. And the dome was made of wood. But of course, it burned completely down. And you know, they said, "well, let's build a roof that that's not going to happen to" and that got them into the world of concrete. Tests have indicated - the last little fact here on this list of Ooh, interesting prime number 19 questions - that there is some concrete in that dome that is still hardening to this day. That is weird, wild stuff.

D Dave Chow 23:31
They're just waiting for the last mortgage payment.

B Beth Oljar 23:34
Although given what you told us about the Hoover Dam, that's actually not very surprising to me now. So

M Matt Mio 23:39
Exactly. Something about being exposed to oxygen, not just the fact that the water would evaporate, but being exposed to oxygen sort of helps it cure, but again, it can hold its strength, even if it's not completely hardened, which is also kind of odd. Okay, Kris, welcome to our crazy circus of weird things. What we usually do to end our show is that we had a listener of ours, Frank Burroughs from Valencia, California, send us in a set of what he calls - I have to make sure I always get this right - The Imponderables. Yes. So we're asked to supply a favorite around the horn here on the panel. And what we've got

for today is, "What is your favorite source for the daily news?"

D Dave Chow 24:26
Ooh,

D Dave Chow 24:27
I'll let you all think and say, I learned to read by reading the Free Press. I love the Free Press to death - just based on the sort of things that it does, but it is a pale, pale, pale comparison to what it used to be. The features page is now only one page long and there are hardly any features on it.

B Beth Oljar 24:45
I think I rely on MSNBC primarily. That is -

M Matt Mio 24:49
Sure.

J James Tubbs 24:50
Yeah. I think either MS NBC or CNN, one or the other.

M Matt Mio 24:54
Okay.

M Mara Livezey 24:56
I have kind of two answers.

B Beth Oljar 24:59
Okay.

M Mara Livezey 24:59

NPR, but also everyday - first thing in the morning, I read this Facebook post by a history professor, Heather Cox Richardson, and she always summarizes the most important pieces of news. And it's great, because you can connect it to points in history to what is so interesting.

M Matt Mio 25:19
Cool.

K Kris McLonis 25:20
Well, I have to confess - I - these days I get my news from Facebook. I know it's a terrible thing to say. But during the worst of the pandemic last year, CBS was my go to.

M Matt Mio 25:30
Sure. Sure.

D Dave Chow 25:32
I think - I'm sorry.

M Matt Mio 25:33
I'm sorry, Dave. I saw this morning, by the way, Kris, just as a little heads up - because my wife is a pretty big user of CBS News as well. That former Lions wide receiver Nate Burleson is joining the CBS This Morning crew.

D Dave Chow 25:47
Yep. He couldn't let Michael Strahan be the only NFL com - you know, commentator player. Yeah, exactly. So -

D Dave Chow 25:56
I was gonna say NPR just because it's always in the background for me. I can listen to it while still working. As opposed to - like -reading, you know, so I'm a huge NPR. And then just for my own sanity, I guess if you want to call it that. I also check in with BBC and - you know, CBC as well, just to get other countries' takes on what's happening here.

M Matt Mio 25:56
What were you gonna say Dave?

J James Tubbs 26:14
Right.

M Mara Livezey 26:14
Yeah,

J James Tubbs 26:15
yeah.

M Matt Mio 26:16
I've gotta say that I very, very much enjoy - less so for summer - but the CBC's coverage of the Olympics. It's frankly, the the only choice when it comes to Winter Olympics. As far as I'm concerned.

B Beth Oljar 26:27
Kathy would say the same thing. She was a big CBC fan for the Olympics.

M Matt Mio 26:33
Yeah, I wish I could pick it up. TV wise here without antenna though. I gotta get an antenna in order to pick it up.

M Matt Mio 26:39
Really?

D Dave Chow 26:40
Yeah. Because right about - I don't know if you know Matt, I ditched cable a while back. And CBC, I can't pick it up on a live stream, because I think it's called Gem TV. And because I'm out of the country, I can't pick it up. Yeah , as far as live streaming it. So - it is

what it is?

- M** Matt Mio 26:56
How the heck are we going to watch the French language Sesame Street if we can't pick up the CBC? I mean, seriously.
- D** Dave Chow 27:04
I love my CBC. So.
- M** Matt Mio 27:06
Well, I think we had a pretty good array of sources - news sources, a number of news sources that weren't mentioned at all and, you know, we'll we'll deal with those in the future when they have to go to court to prove things -
- D** Dave Chow 27:17
What, you mean like idle gossip and yelling at one another?
- M** Matt Mio 27:22
Exactly. Profs, you know, I'm looking at the time here. I'm so sorry. The time has come for us to say goodbye. So I'll start with Jim.
- J** James Tubbs 27:32
Goodbye,
- M** Matt Mio 27:33
Beth.
- B** Beth Oljar 27:34
Farewell,



Matt Mio 27:35

Dave,



Dave Chow 27:36

See ya,



Matt Mio 27:37

Mara.



Mara Livezey 27:38

Good to see you. See you later.



Matt Mio 27:40

And Kris.



Kris McLonis 27:41

Farewell. See you all soon.



Matt Mio 27:43

And now these words.



Announcer 27:45

You can email Ask The Professor at atp@udmercy.edu or visit the Ask The Professor Facebook page.



Announcer 27:54

Ask The Professor is produced and directed by Michael Jayson and Brian Maisonville, and our executive producer is Professor Jason Roche. Until next week. I'm your host, Matt Mio.