

# Off Menu – Ep157 – Prof Brian Cox:

#### **Ed Gamble**

Welcome to the Off Menu podcast. Taking the cod of humour, dipping it in the batter of chuckles, and then deep-frying it in the hot oil of the net.

#### **James Acaster**

That was the voice of Ed Gamble. My name is James Acaster. We own a dream restaurant and we're inviting in a guest every single week. We ask them their favourite ever starter, main course, desserts, side dish and drink. Not in that order. And this week our guest is-,

#### **Ed Gamble**

Professor Brian Cox.

#### James Acaster

Professor Brian Cox.

#### **Ed Gamble**

You've got to say the professor bit, man.

# **James Acaster**

Otherwise they think it's the guy off Succession.

#### **Ed Gamble**

Yes. It's Professor Brian Cox.

# **James Acaster**

Yes. Prof Brian Cox.

#### **Ed Gamble**

Or, that's who you thought it was going to be.

### **James Acaster**

Yes, that's why I've been saying, 'Fuck off,' all morning-,

#### Ed Gamble

You've been shouting, 'Fuck off,' all morning, haven't you?

# **James Acaster**

Yes, everyone told me I was being rude. I was, like, 'Come on. Clearly everyone else isn't a fan, when I know what's going on.'

#### **Ed Gamble**

No, it's the Professor Brian Cox.

# **James Acaster**

Yes.

#### **Ed Gamble**

I mean, first scientist we've had on?

#### **James Acaster**

First scientist we've had on-,



Man, I hope we're clever enough-,

# **James Acaster**

Very exciting to have a scientist on the podcast. I think, look, I reckon scientists appreciate inquisitive minds. I think we just go into this fully, you know, we just be inquisitive.

#### **Ed Gamble**

We've got a lot of questions.

# **James Acaster**

Yes.

### **Ed Gamble**

Professor Brian Cox is on tour. He's going to be chatting about that a little bit. He's doing an arena tour, James.

# **James Acaster**

Yes. Briancoxlive.co.uk for tickets. It's very exciting.

#### **Ed Gamble**

It's a world arena tour. He's all over the world.

#### **James Acaster**

A world arena tour. I mean, I'm looking here. Brighton, London, O2 Arena, Edinburgh, Cardiff Motorpoint, Dublin Free Arena-,

# **Ed Gamble**

An arena tour the likes of which we-,

### **James Acaster**

Belfast.

# **Ed Gamble**

Can't even imagine. The universe is infinite and so is that tour.

#### **James Acaster**

Yes. But don't think that there are infinite tickets available.

# **Ed Gamble**

No, you need to snap up your tickets quickly.

#### **James Acaster**

You need to get in there.

# **Ed Gamble**

Very excited to speak to Professor Brian Cox but, of course, if he picks a secret ingredient which he have agreed upon he will be removed from the restaurant.

# **James Acaster**

Sorry.

# **Ed Gamble**

We're turning off the gravity and kicking him out.



This week the secret ingredient is Space Raiders.

#### **Ed Gamble**

Space Raiders.

# **James Acaster**

Hey, we were spoilt for choice this week when it came to, you know, foods that we could associate with Brian Cox-.

# **Ed Gamble**

Milky Way, Mars, Galaxy, yes.

# **James Acaster**

Star Bar.

# **Ed Gamble**

Mini Eggs.

# **James Acaster**

What? There were a lot. I mean, you really do realise when you sit down and think about it how many chocolate bars are named after, you know, the planets and the solar system. I don't know why that is.

# **Ed Gamble**

No. Weird.

# **James Acaster**

Also, Cox Pippin, I suggested.

#### **Ed Gamble**

We've gone with Space Raiders which is a doubler for me because I hate Space Raiders.

# **James Acaster**

Wow.

#### **Ed Gamble**

I hate any corn-based crisp posers.

# **James Acaster**

Interesting.

# **Ed Gamble**

Hate it.

# **James Acaster**

Interesting. I like them, because-,

#### **Ed Gamble**

Yes, course you do.

# **James Acaster**

Also, recently-, what? Yes because what?



Of course you do.

#### **James Acaster**

Yes. Recently I watched-, ever watched Snack Wars on YouTube?

#### Ed Gamble

Yes, I have watched Snack Wars on YouTube, yes.

#### **James Acaster**

Yes, when they get people and try and, like-, British snacks versus American snacks.

#### **Ed Gamble**

Yes.

### **James Acaster**

Steve Carell did it. He chose Space Raiders as his favourite of the whole-,

### **Ed Gamble**

Did he?

#### **James Acaster**

Yes. But he called them Martian crisps. He couldn't remember the name.

#### **Ed Gamble**

That's funny.

# **James Acaster**

So he said, 'I like the Martian crisps.'

#### **Ed Gamble**

Yes, well, it's the perfect secret ingredient for Professor Brian Cox.

### **James Acaster**

Yes. Perfect.

### **Ed Gamble**

But hopefully he doesn't pick them because we'd love to chat to him and pick his brain.

### **James Acaster**

Yes, we're going to come out of this wiser and cleverer, I think.

#### **Ed Gamble**

I'm on tour. Ed Gamble Electric, doing the Edinburgh Fringe in August and also all over the country again from September. Check it out. Big shows in London, Manchester, Dublin, Belfast, Glasgow, but many, many more besides.

# **James Acaster**

You can buy James Acaster's Guide to Quitting Social Media, Being the Best That You Can Be and Curing Yourself of Loneliness Volume One wherever you get your books, or pre-order. I don't know when this is going out.

### **Ed Gamble**

But now, this is the Off Menu menu of Professor Brian Cox.



Professor Brian Cox.

#### **Ed Gamble**

Welcome, Brian, to the dream restaurant.

# **Professor Brian Cox**

It's a pleasure to be here-,

#### **James Acaster**

Welcome, Brian Cox, to the dream restaurant. We've been expecting you for some time.

#### **Ed Gamble**

Here we are.

# **Professor Brian Cox**

I'm not sure about the décor, actually.

# **James Acaster**

Oh yes?

# **Professor Brian Cox**

Can we start with that?

#### **James Acaster**

Oh, yes. Let's talk about it.

# **Ed Gamble**

The thing is, look, you've seen the wonders of space, Brian, and the genie just exploded in front of you and you were, like, 'Give us a second. I want to talk about the decor.'

#### **James Acaster**

Yes.

# **Professor Brian Cox**

Yes, well, I thought, you know, they'd have made an effort. You know, like you said, maybe a view of a galaxy or something like that.

#### **Ed Gamble**

Hey, look, this is your dream restaurant. If you want us to pop in a view of the galaxy you're most welcome.

#### **Professor Brian Cox**

It should be like a Star Trek holodeck. I want to be in space surrounded by galaxies. That's what I think. So, no visible furniture of any kind. That could be invisible. That would be a good idea, wouldn't it? Invisible table.

# **James Acaster**

So, you've got to just, like, judge where the edge is-,

# **Professor Brian Cox**

Yes, you've got to make a judgement.

# **James Acaster**

There is an edge to it.



Well, the universe, we're not sure.

#### **James Acaster**

Oh, you're back to the universe. I'm talking about the table.

#### **Professor Brian Cox**

Oh.

#### **Ed Gamble**

We know there's an edge to the table, right?

# **Professor Brian Cox**

The universe may be infinite.

#### **Ed Gamble**

Don't tell me, Brian, that tables are infinite. You're going to blow my mind too early in the podcast.

### **Professor Brian Cox**

Well, the universe, arguably you could consider it as an infinite four-dimensional table. That's a good point. Although one of the dimensions would be time.

# **James Acaster**

Right. Sure. But, I'm trying to keep up with this. Sometimes, do you lie there at night, and do you think, 'Well, I'm really gutted I'm never going to know for sure'?

# **Professor Brian Cox**

No, the opposite.

#### **James Acaster**

You love it.

### **Professor Brian Cox**

Being a scientist is-, if you do research then the idea is you're excited by not knowing. It's, kind of, an obvious statement in a way. But I know-, I think there are two types of people. There's one sort of person that really wants to know and actually then makes stuff up, which is-, nobody can just say, 'Well, I think.' We don't even know how the universe began. We don't even know if the universe had a beginning. We know there was this thing called the Big Bang 13.8 billion years ago, but the answer to, 'Was that the beginning of everything?' Is we don't know. Now, that's either exciting or terrifying, or you can make something up. But scientists, I think, are people who just think, 'Well, I'm excited there's something that I don't know, and therefore I'll try and find out.'

#### **James Acaster**

That's nice, isn't it. So, do you feel that way about genies as well. Like, you know, with genies like me, I can make any food, get any food from any point in your life, make you your dream meal-,

# **Ed Gamble**

From wherever you want in the universe-,

# **James Acaster**

Is it exciting for you that, like, you can never understand genie law and what makes me so magic?



Yes, I think you violate the second law of thermodynamics, which is one of the most fundamental physical laws, so I actually don't accept that you exist.

#### **Ed Gamble**

Awesome. That's going to make it a very tricky episode.

### **Professor Brian Cox**

Yes, the second law of thermodynamics is the thing that says that everything tends to get more disordered. So, I don't know if you know, but I was in a band called D Ream years ago and we had a song called 'Things Can Only Get Better' and that's wrong. It's the opposite of that. So, the second law of thermodynamics is things can only get worse.

#### **Ed Gamble**

Is that why you stopped doing music? Because you didn't agree with the titles?

#### **Professor Brian Cox**

Yes, I was deeply-, subsequently I found out it was a terrible error. I just, you know, I would not have-, now my integrity would prevent me from playing or being involved in that. I love (inaudible) Peter is probably listening, so I'm just-, I'm joking, Peter. I do love-,

# **James Acaster**

I'm trying to get on to the subject of food, from D Ream, and I'm trying to remember if it was on Shooting Stars or-, no, not Shooting Stars, on-, actually, do you know what I think it was? I think it was-, have you ever been in a sketch with Trev and Simon?

#### **Professor Brian Cox**

No.

#### **James Acaster**

Oh. What was it? It was something that I saw with you on it, and someone was saying, 'I've made you a C Ream cake.' No. Do you know what? It wasn't even that. It was D Ream on Live and Kicking-,

# **Professor Brian Cox**

No, you're right. I think you're right-,

#### James Acaster

And Trev and Simon had made you a C Ream cake. A cream cake.

# **Professor Brian Cox**

You know, we did so many of those strange breakfast programmes and kids programmes, and it was the early '90s so, yes, I-,

#### **James Acaster**

I think Simon made you a C Ream cake and I thought it was really funny as a kid.

# **Ed Gamble**

I think the majority of comedians our age, the first time we really laughed was at Trevor and Simon.

#### **James Acaster**

Yes. They were very funny.



And this is what's happened straight away. You're talking about the infinite nature of the universe and we've immediately shifted the conversation to Trevor and Simon.

### **Professor Brian Cox**

Imagine, though. So, the universe did produce them. It's one of the great mysteries how, not only them, but you know, something as complex as humans.

#### **James Acaster**

If there's anything in life that irks you or vexes you, it's just quite nice to put it in that context of, 'Well, the universe produced this,' and then everything seems wondrous again.

### **Professor Brian Cox**

It's one of the great mysteries. I mean, it's a good question. On how many planets did collections of atoms come together to think and do the things that we do, and eat, and make food, and do comedy, and all those things. And the answer might be on very few. Because there are 400 billion stars in the Milky Way galaxy. There are 2 trillion galaxies in the observable universe. And it's a reasonable assumption that there might be very few civilisations. Maybe one per galaxy on average. A best friend of mine, a great physicist Sean Carroll, I asked him that the other week on our Infinite Monkey Cage. I'll plug that as well because, you know, it's the BBC. And he said on average he thinks there are no civilisations per galaxy. On the average. None. So, it could be just us-,

#### **James Acaster**

Imagine if it is-,

# **Professor Brian Cox**

In the Milky Way galaxy.

### **James Acaster**

That would be mad. But it's all mad, right? Imagine if it is just us. Mad. Imagine if there are other ones out there. That's mad. To think of another planet out there who are knocking about.

# **Professor Brian Cox**

Arthur C. Clarke said that. The great Arthur C. Clarke who, you know, co-wrote 2001 with Stanley Kubrick, and he said there's only two options. Either we're alone or we're not, and each one of those is terrifying.

#### **Ed Gamble**

Yes. You're like Arthur C. Clarke.

# **James Acaster**

I'm like Arthur C. Clarke.I mean, imagine those other planets don't have The Beatles. We're the one that's got The Beatles. That's pretty-,

#### **Ed Gamble**

Imagine if we didn't have The Beatles. I've just had an idea for a film. Benito, write it down.

# **James Acaster**

Yes, put it in. Whoever gets The Beatles.

#### **Professor Brian Cox**

I've got Danny's number. Shall we ring him?



Also, you said you're doing a plug for Infinite Monkey Cage, but also we want people to know about your brand new arena world tour as well.

### **Professor Brian Cox**

That's true. That's actually the reason I'm here, isn't it? I always get confused and never plug the thing I'm supposed to. But, yes, we've just finished, actually, in the States. So, I did two and a half months. Came back last week. And that was 50 shows, or something, in the US and Canada. So, we're well-, we're rehearsed now.

#### **James Acaster**

I mean, for most people a world tour's pretty massive. To you, it must seem relatively small.

# **Professor Brian Cox**

It's limited in scope, yes. There are 20 billion potentially earth-like planets in the Milky Way so there's plenty of room to get out there and do some more gigs.

#### **Ed Gamble**

But it takes so long to do this one. I mean, you've been two and a half months just in one country. You must be, like, 'Oh God, I hope they don't open any venues on planets.'

#### **Professor Brian Cox**

Yes, it's going on until at least March next year, as well. At least.

#### **James Acaster**

And does the tour change a lot as you're doing it?

# **Professor Brian Cox**

It's going to change because there's a telescope called the Webb Space Telescope which is up there. You might have seen it unfurl. It was just this incredible thing that was launched, and then the big mirror unfurled. It's the successor to the Hubble Space Telescope. The most powerful thing we've ever put into space. And the images from that are going to be released next week, the first images, and I heard through my little science back-channel things that they are-, spectacular, so I'm going to have to put those in. Because part of the show is huge LED screens in the big arenas. I think it's 30 metres by 10 metres, or something, of LED, and so you can put those images of the universe on to those screens, and you never see them like that. And, so, I'm told that these images are going to be brilliant, so they'll be in there. So, I did that last time. Last time we were on tour the first ever image of a black hole was released, which is an astonishing thing. There's a galaxy called M87, 55 million light years away, has a super-massive black hole in the centre six billion times the mass of the sun. Imagine that. It's a black hole six billion times more massive than our sun. You can fit a million Earths inside the sun. Six billion of those squashed into something that's essentially nothing, inside of which is the end of time, by the way. So, there's a lot of black holes in the show, but that image, we got an image of the thing.

#### **Ed Gamble**

Sometimes space stuff sounds like a kid's made it up. Six billion-,

# **James Acaster**

Yes. Six billion-.

# **Ed Gamble**

Just throwing numbers like that around.

# **Professor Brian Cox**

Six thousand million times more massive than our sun. I mean, the region that surrounds it is called



the event horizon. If you go in there you can't out. And that's about twice the size of our solar system. Just a bit bigger. So, there's a region around this thing two times or three times the diameter of our entire solar system, out to the orbit of Pluto, from which if you go in you can't escape.

#### **Ed Gamble**

Sometimes I don't get 10,000 steps in.

#### **James Acaster**

Yes. Also, I mean, I can't even comprehend-, you go in there and then you'll get to the end of time. What?

### **Professor Brian Cox**

Yes.

#### **James Acaster**

That's the end of-, what the-, what?

#### **Professor Brian Cox**

It's a weird thing about black holes. When you go across the event horizon of a black hole then space and time swap around and so the thing you used to say is a place, it's the centre of the black hole. That becomes, like, tomorrow. So, the reason you can't get out, one way to think about it, is if I said to you, 'Now, let's run away from the weekend.' You'd go, 'I can't run away from the weekend. Which direction is that?' The weekend is in your future and it's coming. Well, in a black hole the end of time is in your future and it's coming. And there's nothing you can do about it.

#### **James Acaster**

Still or sparkling water is how we always like to start the meal.

### **Professor Brian Cox**

Actually, the restaurant, so, I'm going to change it. I think we should be inside the event horizon of a black hole.

### **Ed Gamble**

But would you be there forever then, or is that not a concept that's-,

### **Professor Brian Cox**

No, inside the big one, the M87 one that I just spoke about, I think you've got about 35 hours. So, we'd have about 35 hours. We'd just be sitting here eating and drinking and drinking the water. Sparkling, by the way, I'll have. And time would end.

# **James Acaster**

On the M87. So, on the hard shoulder?

### **Professor Brian Cox**

The smaller ones you get much less time. So, you're better-, if we're going to go in and have dinner then we go into a big one and not a-,

#### **Ed Gamble**

But there's 35 hours and then it's the end of time-,

### **Professor Brian Cox**

Time ends. Just, literally time ends.



And then what happens to us, then?

#### James Acaster

We don't know. So, Stephen Hawking, in 1974 published a very famous paper which showed that black holes evaporate, called Hawking Radiation. By the way, the equation is chiselled in stone on the floor of Westminster Abbey, because it's so important. And that led to something called the black hole information paradox which I talk about in the show, and ultimately it turns out that-, we now think that everything that falls in ultimately comes out again. Which is very weird, because I just said nothing can escape and time ends. But the black hole evaporates away and our essence-, right, so, you're a genie, so you would be imprinted in the Hawking Radiation and in principle you could put everything into a quantum computer in the far future and reconstruct everything. We think. Which is very weird. On the matrix-,

#### **James Acaster**

We could reconstruct it all again?

# **Professor Brian Cox**

Yes. Almost matrix-like.

#### **James Acaster**

Would we have the same consciousness?

# **Professor Brian Cox**

Yes, I think that's-, in principle, yes. I mean, in practice it's impossible. So, the answer to the question what happens is, we think probably you end up-, all your bits-, all the bits of information that are you get scrambled and somehow imprinted into this radiation in the far future.

### **Ed Gamble**

Do you want, like, a wedge of lemon in it or anything?

#### **Professor Brian Cox**

In the sparkling water?

# **James Acaster**

Yes, not in the black hole.

#### **Professor Brian Cox**

Well, you'd have to send it in. So, now, what we have to do now is throw-, we're inside the black hole eating, so you have to throw everything in.

# **James Acaster**

Into the-, all the food-.

### **Professor Brian Cox**

It crosses the event horizon and then we take it. And ultimately, presumably, it would come out at some point in the far future scrambled and imprinted into the Hawking Radiation, and then we could finish.

#### **Ed Gamble**

And then we could finish it all. Eat it again. Not bad. Good idea for a restaurant.

#### **James Acaster**

Yes, you've got to wait a while but, yes, when they go, 'All the food comes out when it's ready, so, it all comes out at different times, just so you know.'



Space Wagamamas.

#### **James Acaster**

Yes, Space Wagamamas, man. They can chisel that on the floor of Westminster Abbey. Space Wagamamas. All the food comes out when it's ready.

#### **Professor Brian Cox**

It would be called Hawkings' Deli or something, wouldn't it? We should name it after Stephen.

# **James Acaster**

So, are we in the black hole or the event horizon?

#### **Professor Brian Cox**

We're inside now. I think we're inside.

#### **James Acaster**

We're inside it now. And how long have we got for the meal?

# **Professor Brian Cox**

Well, as I said, probably 35 hours. We're going to choose-, if we chose the Milky Way black hole it's a lot smaller. It's only four million times the mass of the sun.

#### **Ed Gamble**

Blimey.

#### **Professor Brian Cox**

So, we'd have a lot less time in there.

#### **James Acaster**

Have we chucked anything into that?

# **Professor Brian Cox**

The Milky Way does. Things fall in.

### **James Acaster**

Have we lobbed anything in there?

# **Professor Brian Cox**

We haven't, no. I think we're in M87 because I would prefer 35 hours to-, well, we could do-, well, I'm not going to do live mathematics. Alright, I am. Six billion divided by 4 million, whatever.

#### **Ed Gamble**

Eight. Yes. It's there, or thereabouts.

# **Professor Brian Cox**

It's about 1,000. It's about 1,000 ish. I think it's about a thousand times less. So, it would be a thousand times less than 35 hours, I think. Although now we'll get letters, because I haven't entirely thought that through. I'm guessing it's something-,

### **James Acaster**

Our listeners are thick as shit. There will be no letters.



They've already gone if they are-, they've turned off. They've erased it and gone to the next one. What's the-, you won't say. What's the dumbest one you've done?

# **James Acaster**

The stupidest episode we've ever done? I mean-,

### **Ed Gamble**

There's a lot to choose from.

#### **James Acaster**

We always drag it down. I mean-,

#### **Ed Gamble**

Yes, we're a constant, you know-,

#### James Acaster

Yes, we're always there.

# **Professor Brian Cox**

(inaudible) that one.

#### James Acaster

Yes, whoever enabled that the most.

#### **Ed Gamble**

I'll let you know my level of intelligence. Ever since you said 'super-massive black hole' I've been thinking, 'That's a Muse song.'

#### **James Acaster**

Yes, that's what I thought. So, here's the saddest thing. When you said 'super-massive black hole', in unison Ed and I went, 'Muse? That's a song by Muse.'

# **Professor Brian Cox**

We didn't name those things after the Muse song though. It's the other way round.

### **James Acaster**

Oh, okay. Interesting, because Muse have a lot of space-themed stuff and I would have thought that would have inspired you guys.

# **Professor Brian Cox**

It's not been around-, the term, actually, was coined by some-, John Wheeler, a very famous physicist, in the 1960s. So, the term black hole, describing those collapsed stars at the centres of galaxies has only been around since the '60s.

### **James Acaster**

A super-massive black hole sounds like not proper scientist came up with that.

#### **Ed Gamble**

Well, it sounds like another kid thing, right?

### **James Acaster**

Yes. Super-massive black hole. 'Yeah, okay, we'll let that-,' Like, a scientist let their kid name it for the-, like, going, 'Come on, you can name this one.'



Yes, like Pluto. Pluto was named by-, I think it was a competition and it was-, I think she was about twelve years old. I can't remember her name now, but I think it was a twelve year old that named it Pluto.

#### **Ed Gamble**

Oh, wow.

#### **James Acaster**

Wow. I didn't know that.

### **Professor Brian Cox**

In the 19-, I can't remember.

### **James Acaster**

That kid must have been gutted when it got declassified as a planet. As an adult.

#### **Ed Gamble**

My one claim to fame.

# **James Acaster**

Not a planet any more? Still not a planet?

#### **Professor Brian Cox**

It's because there are lots of things that big out there that we've discovered since, out there in the far reaches of the solar system. So, if you admit Pluto then you end up with another twenty, thirty, forty-, huge number of them.

# **James Acaster**

Fair enough. Poppadoms or bread. Poppadoms or bread, Brian Cox? Poppadoms or bread?

# **Professor Brian Cox**

Poppadoms.

# **James Acaster**

Now, because we've been talking a lot about planets and stuff, is there a reason why you've chosen poppadoms?

### **Professor Brian Cox**

Nο

# **James Acaster**

It's space.

# **Professor Brian Cox**

It's no deeper than I just fancied a poppadom.

# **Ed Gamble**

Hang on, what reason were you thinking?

# **James Acaster**

Well, I was thinking, like, if I think about the shape of a poppadom I think, oh yes, you're like, the orbiting of planets, a circle. Circles and planets going around.



And it looks a bit like the surface of the moon, I guess.

#### **James Acaster**

Yes. It does, actually.

#### **Professor Brian Cox**

Yes, they are flat like Saturn's rings.

# **James Acaster**

They're flat.

### **Professor Brian Cox**

We could make a little hole in the middle. Then it would be a ring. Can you do-, that would be difficult, wouldn't it? To not break it.

#### **Ed Gamble**

They're very fragile.

### **James Acaster**

Saturn's rings are-, is Saturn a gas planet?

# **Professor Brian Cox**

Yes.

#### **James Acaster**

See, Ed? I told you. Before, Ed was saying it was solid.

# **Ed Gamble**

I never said that. When did I say that?

#### **James Acaster**

He said that. He said solid-,

# **Professor Brian Cox**

Well, the rings are mainly water. Water ice. Frozen water. And they're only about a metre thick, or something like that.

#### **Ed Gamble**

I just want you to know as well, Brian, that you don't need to-, we're not forcing you to connect everything with space. If you just fancy a poppadom you can have a poppadom.

#### **Professor Brian Cox**

No, but I'm now interested in whether-, this is a challenge to listeners, whether anyone can chisel the inside out of a poppadom to make the poppadom into Saturn's rings, a model of Saturn's rings, without breaking it.

# **James Acaster**

Yes, if anyone can do that-,

#### **Ed Gamble**

Well, it'd be incredible.

# **James Acaster**

And send a photo in, then we'd be pretty excited about that.



I guess the only way to get a ring poppadom would be-, the actual raw poppadom, would be to cut the ring out then, and then fry it, and then you could have the ring poppadom-,

### **James Acaster**

But even then-,

#### **Ed Gamble**

Pop an onion bhaji in the middle.

# **James Acaster**

Oh, yes, pop a bhaji in there.

# **Professor Brian Cox**

I'm going to do a competition. Will's sat outside. He'll have to deal with this now. I reckon you're right. If someone can actually show-, and I don't want it to be reconstructed, I want them to actually cut the centre out of a poppadom without breaking the outside. If anyone can do that and send a video in of that, I will give them tickets to my tour. I will go two tickets to any gig in the UK if someone can chisel out the inside of a poppadom without breaking the outside.

#### **Ed Gamble**

I think you've just written one of the tasks from series two of Squid Game.

#### **James Acaster**

Yes, Squid game or Task Master. One of the two. That is exciting. I hope that happens now, and you end up with two people at a show because they cut the centre out of a poppadom.

# **Professor Brian Cox**

I think you'd have to do it with a laser or something.

#### **James Acaster**

You might end up with-, I mean, probably the only people who have equipment to do this are scientists, so you'll end up with fellow scientists there.

#### **Ed Gamble**

And they're not listening to us.

### **James Acaster**

No?

# **Ed Gamble**

They might be listening to this episode, because Brian's on.

#### **James Acaster**

I wonder if any scientists ever listen to us.

# **Ed Gamble**

No way, man.

#### **James Acaster**

No?



Are you kidding me? None of our listeners have got a laser at home. They're not even trusted with a butter knife.

#### **James Acaster**

That's true. I mean, my parents might-, my dad used to be a chemistry teacher and my mum's the one who listens to this podcast.

#### **Professor Brian Cox**

You could cool it down, couldn't you?

# **James Acaster**

The poppadom?

#### **Professor Brian Cox**

Yes. Sort of, freeze it solid. Liquid nitrogen.

#### **James Acaster**

But then would that make it more likely to-, in my head I'm picturing Terminator. So, if we liquid nitrogen-,

#### **Ed Gamble**

I'm still thinking about Muse.

#### **James Acaster**

Yes. If we're liquid nitrogen-ing the poppadom I thought it would just go, poof, even just crumble if you try and cut the middle out.

# **Professor Brian Cox**

That's probably true.

#### **James Acaster**

Oh. Benito, note that down.

# **Professor Brian Cox**

You might have liquid helium it. I don't know. It's a good question. It's another good question, isn't it? What happens if you liquid nitrogen a poppadom. Does it-, I mean, obviously, it'd be brittle but maybe it would be easier to cut. Or maybe it-, maybe you'd be able to heat it up. Maybe you have to wet it.

# **Ed Gamble**

Maybe it's a case of scoring the poppadom as lightly as you can in the middle, right? Before you then liquid nitrogen it. And then you could just punch the middle out where you've weakened it already.

### **James Acaster**

Punch it with your fist?

### **Ed Gamble**

No, just punch it like a hole-punch.

### **James Acaster**

Oh, yeah. Or, do it with a hole-punch. Get a hole-punch long enough, and just do a little hole. You didn't say how big the hole had to be.



These are all options for you, listeners.

#### James Acaster

I'm giving you ideas. Man. A lot of people-, I can't wait, really, to hear about the responsibilities that people neglect in order to try and do this. When they get so absorbed with getting a hole in the poppadom and there are several things they should have done that they don't do. What would you like for your starter? Your dream starter?

# **Professor Brian Cox**

Well, I thought about this, and I thought, I mean, I could just say my favourite food, couldn't I? Or, I could say, following the Martian, that I want potatoes that I grew in my own shit on the surface of Mars. Because I thought that might be interesting because, you know, then I would have to go to Mars, which I wouldn't like to do unless you-, you can arrange it, because you're a genie, so, we could go instantly to Mars, plant the potatoes. Well, actually, we don't even need to use our own shit, do we, then, I suppose? We could actually take some fertiliser-,

#### **James Acaster**

That's what he did.

### **Professor Brian Cox**

He did, yes, so maybe I should do that. So, yes, I think that would be an interesting starter. And then make them into chips. And take some mayonnaise. Or curry sauce, because I'm from Oldham, so it would probably be curry sauce actually, wouldn't it?

### **James Acaster**

You want the curry sauce.

# **Professor Brian Cox**

Chips and curry sauce. But the chips have to be made from potatoes grown on Mars.

#### **James Acaster**

In your own shit. That begs the question what's the curry sauce made out of?

# **Ed Gamble**

I don't know. If I was eating-, you know, if you offered me a bowl of your shit chips and then the curry sauce I'd be, like, hold the sauce. I think. Even though I know it's curry sauce, I need to get it out of my mind.

### **James Acaster**

Yes. I can't-, I'm already trying not to think of the fact that you grew the chips in your own shit. The curry sauce isn't helping matters.

#### **Professor Brian Cox**

Well, mayonnaise is a real problems.

### **James Acaster**

Also, if you're existing on Mars on a diet of the very thing you're feeding me I'm, like, 'If he's eating curry sauce all the time his shits must be awful and then he's growing the potatoes in them.'

#### **Ed Gamble**

There's actually no condiment that wouldn't make me feel ill in that situation.

# **James Acaster**

Sure.



No, I think I like eating the curry-, it's, kind of, a recycling-,

#### **James Acaster**

It's just a constant-,

#### **Ed Gamble**

Would it impart flavour into the potato itself? Would the flesh of the potato then have a curry tang?

### **James Acaster**

Yes, would it have a curry tang?

# **Professor Brian Cox**

It must do, mustn't it, because you do things like, you know, lavender honey, or something, because bees go to-, so, whatever (talking over each other)

#### **Ed Gamble**

I'm not sure those are equatable.

### **Professor Brian Cox**

Because they, kind of, go and eat the stuff and the lavender flavour goes into the honey. So, I assume whatever you grow it in-, if there are any farmers listening, I assume whatever you grow it in, somehow the flavour is transferred.

### **James Acaster**

Yes, it feels a bit Human Centipede-y, in a way. Eating the shit and shitting out the shit.

# **Ed Gamble**

Well, two different opinions. It's a bit like bees with lavender honey, and it's a bit like the Human Centipede.

#### **James Acaster**

Well, if he was interested in insects. And now I'm going to get told that there's-,

# **Professor Brian Cox**

Yes, I'm not very good at biology but-,

#### **James Acaster**

One of them's not an insect, for sure. Or both.

# **Professor Brian Cox**

Is it an insect? A centipede.

#### **James Acaster**

Probably both of them aren't insects.

# **Professor Brian Cox**

It's not, is it.

# **James Acaster**

Centipedes.

# **Professor Brian Cox**

Oh no. I'm going to get in real trouble. I always get-,



It's a legume. The potatoes you're eating. Is it that I'm taking you to Mars, you're growing them using your own shit, or is it that we go to Mars, The Martian Mars, and Matt Damon's made them for us in his shit? Because I would-, with all due respect, Brian, I would want to eat those. I would want to try Matt Damon's potatoes that he's grown in his own shit.

# **Professor Brian Cox**

You'd prefer his?

#### **James Acaster**

Yes.

#### **Ed Gamble**

I don't think 'with all due respect' covers what you just said, there.

#### **James Acaster**

Why?

#### **Ed Gamble**

Why don't you want to eat Brian's shit potatoes?

#### **Professor Brian Cox**

Because he wants a Hollywood shit potato.

### **James Acaster**

Yes. I like imagining Matt Damon up there in his space-suit, and he's made them in his own shit.

# **Professor Brian Cox**

Why? This is getting really weird now. So, you want to imagine-,

#### **James Acaster**

Matt Damon's an actor so I can imagine him in any role and I can believe him as an astronaut, and I think I just see Brian Cox and my-, that's just Brian Cox has took a dump on a potato.

#### **Professor Brian Cox**

No, it wouldn't-, because you've got to grow them, so you wouldn't be-,

#### **Ed Gamble**

You don't do a dump on the potato.

# **Professor Brian Cox**

No. That defeats the object of the fertiliser, doesn't it? You don't put the fertiliser on something after it's grown.

### **James Acaster**

Why not?

### **Ed Gamble**

Is that what you're imagining?

### **James Acaster**

Gets a big pile of potatoes and takes a dump on them..



See, this is why you're getting confused. It's a lack of basic agricultural knowledge now, isn't it? Because why would you fertilise something that's already grown?

#### **James Acaster**

Because-, flavour?

#### **Professor Brian Cox**

Well, yes, and this is why it's causing you problems, because it's not for the flavour-,

#### **James Acaster**

Wash it after, yes. I hope you would wash it.

# **Professor Brian Cox**

Fertiliser's not added for flavour. That's the thing.

#### **Ed Gamble**

No. Brian, by the way, what you just did there happens every episode. Where you looked at me and with your eyes you said, 'Help me. What's he talking about? Help me out here, mate. I can't understand what this guy's on about.'

#### **James Acaster**

People who aren't even scientists have come on and looked at Ed, like, 'I really need your help here, communicating with this guy.'

### **Professor Brian Cox**

It's funny, because the whole strange conversation over the last ten minutes now makes sense. Because he's not been thinking of the shit as fertiliser. He's thinking of it as a garnish. That's why it's all gone strange.

#### **Ed Gamble**

I think it's an interesting idea for a starter. Chips are good. Ships. I'm trying to think of a word for them. I like it.

# **James Acaster**

And it's all your own shit, just to be clear. Not Matt Damon's, or a mixture, and see if you can tell the difference?

### **Professor Brian Cox**

I don't think it matters. He did a mixture, though, didn't he?

# **James Acaster**

Oh, does he?

#### **Professor Brian Cox**

Do you remember, in the film? Because he used all the other-,

# **James Acaster**

Everyone else's shit who was dead.

#### **Professor Brian Cox**

Yes. Well, no, they weren't dead, they-,

# **James Acaster**

Weren't they?



Have you seen it?

# **James Acaster**

A few years ago, when it came out.

#### **Professor Brian Cox**

They didn't die. They left him on the surface.

#### **James Acaster**

What? Wankers.

#### **Ed Gamble**

Great starter.

#### **James Acaster**

Great starter, the chips. Your dream main course.

### **Professor Brian Cox**

So, when I was growing up my favourite meal was steak and kidney pudding, chips, peas and gravy. For everyone-, Haggit Chippy in Oldham, where every Saturday we used to go and have steak and kidney pudding, chips, peas, and gravy. So, I would go-, if I was going back to my childhood I would say I would go back to the chip shop and the rear of my house, and have that.

#### **James Acaster**

That sounds delicious.

### **Ed Gamble**

I love a steak and kidney pudding.

#### **James Acaster**

Yes. Nice and moist. A lot of gravy. I've had dry ones in the past and it's scarred me and I've been upset.

# **Professor Brian Cox**

No. It's the ones in foil. You know, in tinfoil that then they boil or steam in a big pan at the chip shop. So, that's what I would do.

# James Acaster

What was it like growing up in Oldham?

#### **Professor Brian Cox**

I had a brilliant time. It's a great place to grow up. Because it's, sort of, it's in the country, Oldham. It's surrounded by the Pennines. And at the time-, then, when I was a bit older we had a brilliant football team. It was Oldham Athletic. I had a season ticket to Oldham Athletic and they were founder members of the Premier League, and now got relegated out of the league-,

### **James Acaster**

Really?

### **Professor Brian Cox**

Last year.



If they keep getting relegated do they get to the end of time?

#### **Professor Brian Cox**

I wonder what the lowest level of football is that you can possibly-, you're right.

#### **James Acaster**

Do they have to play in, like, a schools league or something?

### **Professor Brian Cox**

I don't know where you can go to.

#### **James Acaster**

Do you watch them still? Do you support them?

# **Professor Brian Cox**

Yes. I'm not in Oldham any more, but I do.

#### **Ed Gamble**

Do you want the whole meal for your main? Do you want the chips as well? And you know what I'm going to ask. What sort of chips are they? Are they ships, or normal chips?

#### **Professor Brian Cox**

No, they're just chips from the chippy now. No, they're not-, we've left Mars.

#### **James Acaster**

Do you want to compare the chips? So, you'll have your chits still, and you've got your chips from the chippy, and do you want to compare them to see-,

#### **Professor Brian Cox**

I've just realised that the starter's chips, and then the-, yes, then I've got chips again. I could go-, the other thing we used to do was half chips, half rice, and curry sauce. So, we graduated to that.

# **Ed Gamble**

What I would also say is you've picked a steak and kidney pudding which is probably the worst thing you could eat after you've eaten something that you've grown with your own shit.

#### **Professor Brian Cox**

Maybe we'll revisit-, alright, we'll have smoked salmon to start.

# **James Acaster**

What?

#### **Ed Gamble**

No, you can't change the chits-, (talking over each other)

# **Professor Brian Cox**

Forget all the Mars thing.

#### **James Acaster**

That's salmon. You can't shit on a salmon-,

### **Professor Brian Cox**

I've just changed my mind. This is a good restaurant-,



Now I'm imagining the salmon trying to make it up the water to its birthplace to lay its eggs and you're shitting on it. You're (talking over each other) the top of the waterfall dropping some nugs and it's avoiding them in the stream. Woah, this is hard enough.

#### **Professor Brian Cox**

No, you see, we can go back in time. Mars, about 3.5 or 4 billion years ago, had rivers. And actually there's a rover at the moment, called the Perseverance Rover, which is in a crater called Jezero Crater. And there's a river delta there, and it was a lake, a lake-bed, and it's currently digging down in the river delta searching for signs that life existed on Mars, and those samples are going to be brought back to Earth. So, we could-, because you're a genie, we could go back to Jezero Crater 3.5 or 4 billion years ago and there would be rivers flowing in there, so we could take the salmon with us, put them in the rivers of Mars, and then we could eat Martian salmon.

### **Ed Gamble**

Ah, yes. That's pretty cool. I'm into that.

#### **James Acaster**

Yes. Martian salmon as the starter.

### **Professor Brian Cox**

Right. So, we've reversed. So, we're going Martian smoked salmon. That's nice. Then I can have pudding, chips, peas and gravy afterwards.

#### **James Acaster**

But you want the chips-,

# **Professor Brian Cox**

No, the chips now are just normal chips. So, we've reversed out of my plan.

#### **Ed Gamble**

Is your shit involved in the menu at all?

### **Professor Brian Cox**

No. No, it's gone now. So, this is good. So, we're-, (talking over each other) So, it's Martian smoked salmon.

#### **Ed Gamble**

Yes. How would you like it to be smoked? Is there anywhere we can bring Mars into the smoking process?

# **Professor Brian Cox**

That's a good question-,

#### **James Acaster**

Can you smoke on any of the planets?

# **Professor Brian Cox**

Because there probably wasn't oxygen in the atmosphere at that point, so you couldn't burn anything to smoke it. You've hit on a problem. Well, we'd have to bring the salmon back. Well, we could smoke it in the restaurant.

### **Ed Gamble**

It's the fox and grain, this, isn't it?



Yes, we've got stuff in the restaurant.

#### **Ed Gamble**

It's fox and grain.

#### **James Acaster**

What?

# **Ed Gamble**

It's the fox and the grain in the chicken, isn't it? You take the salmon there but then you have to bring it back.

# **James Acaster**

Yes, but there's nothing else there, though, eating salmon-,

### **Ed Gamble**

Good point.

### **James Acaster**

Apart from yourself.

# **Ed Gamble**

I mean, you've just got to take something somewhere, is what I meant.

# **James Acaster**

You've got to not eat it.

# **Professor Brian Cox**

Yes, you're in-, now, you've hit on another problem, of course, because now you've pointed out there wouldn't be any oxygen in the atmosphere even if there was water on the surface. Then, what would the salmon breathe?

### **James Acaster**

So, yes, it would just die-,

# **Professor Brian Cox**

The salmon wouldn't live-.

### **James Acaster**

You'd just be chucking a dead salmon in a stream.

#### **Ed Gamble**

Could you give it, like, a helmet? Like, a little suit?

### **Professor Brian Cox**

That's what I was thinking. A little breathing apparatus on it.

### **James Acaster**

Submarine.

### **Professor Brian Cox**

Well, a submarine would be no use to it because it needs water (talking over each other) inside a submarine.



Well, fill the submarine with water.

#### **James Acaster**

Yes, fill it with water. Fill the submarine with water?

#### **Professor Brian Cox**

Well, then why do you need the submarine?

### **James Acaster**

And then put the submarine in the fiver of Mars and then the salmon can drive around in the submarine filled with water.

#### **Professor Brian Cox**

Why not just take the submarine away and give it the breathing apparatus, which was the first-,

#### **James Acaster**

Alright, yes. Okay. A little scuba suit. It's hard though because, like, I think it would be quite hard for the salmon to learn the sign language required for scuba. Because under the water they would have to try and communicate. I think that's quite difficult for a salmon.

#### **Ed Gamble**

Tapping its watch.

#### **James Acaster**

Yes, doing an A-okay sign, and stuff, that would be quite hard with his little fins. He's got to use them to go back to his birthplace, anyway.

### **Professor Brian Cox**

We filmed with a mantis shrimp once, which is this remarkable thing that has really-, it has the best colour vision of virtually anything on the planet, because it uses colours to signal to other mantis shrimps under water. And as you know, because you dive, then as you go down and down the colour gets more washed out, so it has really sensitive vision in order to communicate using colour. So, they're remarkable things. So, there you go.

# **Ed Gamble**

Do you want one of those as well, for starters?

### **Professor Brian Cox**

Yes, mantis shrimp cocktail.

# **James Acaster**

Dream side dish, then.

#### **Professor Brian Cox**

Well, maybe that's the shit potatoes.

# **James Acaster**

I think that's the shit potatoes. It's got to be, right?

#### **Professor Brian Cox**

Well, no, you've got chips. You can't have a potato side with chips, can you?

# **Ed Gamble**

Well, you can if you want. But if you prefer the shit potatoes in another way-,



Aren't the mushy peas the side dish? So, it's-,

### **James Acaster**

Yes, you can have that as a side-,

#### **Ed Gamble**

If you would like the mushy peas as the side dish. They rarely come up.

#### **James Acaster**

Yes, rarely.

#### **Ed Gamble**

And that's weird because I think mushy peas are the most Martian-looking food.

#### **James Acaster**

They're very Martian-looking food, aren't they?

### **Professor Brian Cox**

They're very Star Trek, aren't they? From the '60s Star Trek. A, sort of, green sludge that people eat, yes.

# **James Acaster**

I mean they are nice, but when I used to work in a kitchen, if you've ever opened a cold industrial-sized tin of mushy peas because you work in a kitchen, the smell of that really puts you off them. I can eat them now, but it's because it's been twenty years. But, like, it used to smell of a thousand guffs. You'd open it up and it would hit you and you're, like, 'Well, that just smells like someone's just-, that really does smell like-', (talking over each other)

#### **Ed Gamble**

You've never had a plate of chits, mate, yes.

### **James Acaster**

Yes, if I had a plate of chits I'm sure it would taste just as bad. I don't know how Matt Damon did it. A good actor.

#### **Professor Brian Cox**

They do have them though in, sort of, restaurants in London, but they're called something else, aren't they? They always call them minted peas, or what have you, but they're still mushy peas.

# **James Acaster**

Who are they kidding?

#### **Ed Gamble**

I love a mushy pea.

# **James Acaster**

Yes?

#### **Ed Gamble**

Yes. Really good.

# **James Acaster**

Would you rank it above the garden peas?



Yes, definitely. I'm not a massive fan of garden peas.

#### **James Acaster**

No?

#### **Professor Brian Cox**

No. They're a boring vegetable, I think.

#### **Ed Gamble**

I think the mushy peas, when you get them from the chippy and they're in, like, a polystyrene cup with the little lid and you open it up and they're all just sat in there all nestled together, it's exciting.

#### **Professor Brian Cox**

That's the side dish. That.

#### **Ed Gamble**

A polystyrene cup of mushy peas.

### **Professor Brian Cox**

Yes.

# **James Acaster**

Oh, see, the polystyrene's put me off now.

#### **Ed Gamble**

Why?

### **James Acaster**

It's squeaky.

# **Ed Gamble**

Oh, you don't like polystyrene?

# **James Acaster**

No. Too squeaky.

### **Professor Brian Cox**

Oh, it does squeak.

# **James Acaster**

No thanks. Whatever's in there's not worth it.

# **Professor Brian Cox**

I don't know. What would you have yours in then?

# **James Acaster**

Good question. I'd probably like mine in a thermos.

# **Professor Brian Cox**

A thermos flask?

# **James Acaster**

Yes.



But they can squeak when you take the top off.

#### **James Acaster**

No, not in the same way that polystyrene does. I'd unscrew it, they'd be the exact temperature that I wanted, and then I'd either pour it onto my plate or I'd glug it out of the flask.

#### **Ed Gamble**

I don't think mushy peas are the right consistency to pour or glug.

# **James Acaster**

What?

#### **Ed Gamble**

How do you feel about that, Brian? Do you think you could glug mushy peas? I think you need to spoon them out, really, don't you?

#### **Professor Brian Cox**

Yes, I don't think you could glug mushy-, there's another challenge.

#### **James Acaster**

I think they'd move fast enough.

#### **Professor Brian Cox**

Some of them are different consistencies, though, aren't they? It is true. So, you could have more liquid, kind of, mushy peas.

### **Ed Gamble**

You know when you see astronauts, like, they're showing off when they squeeze their food in the air and then chase it round and catch it round with their mouth-,

# **James Acaster**

Brilliant.

#### **Ed Gamble**

And that is showing off, isn't it?

#### **James Acaster**

I love it when they do that.

# **Ed Gamble**

Mushy peas are that consistency all the time, I think. They feel like they could float away and you could chase them.

### **James Acaster**

Have you ever done that? Have you ever been-,

# **Professor Brian Cox**

In the space station?

### **James Acaster**

Eaten food, and-,



I have been in zero gravity-,

#### **James Acaster**

And chased a Malteser?

#### **Professor Brian Cox**

Yes, we did a zero-G flight, which was just-, we were supposed to be filming, supposed to be professional, and I was supposed to be talking about Einstein's great insight that led him-, he called it the happiest thought of his life, that led him to general relativity in 1915, was to realise that when you're falling gravity has gone away. It's not there at all. Which is completely different to Newton. So, the reason, Einstein would say, that astronauts float inside the space station, he said, if they get some water or some mushy peas, whatever it is, it just stays there, is because there are no forces acting on anything. Everything just stays where it is. Which is a completely different view of gravity. And so Einstein, he called that the happiest thought of his life. So, we're supposed to be doing that.

So, the point is when you go into zero-G you just laugh because it's so incredible. Suddenly, you're weightless and just floating around like an astronaut, so the whole sequence that we filmed-, it's in one of my films that I made years ago, but it's just basically spinning around and laughing, and then the camera's spinning around because the camera man's spinning around, and everyone's-, just absolutely nonsense. It had no educational value at all. Because I had this romantic idea that I would explain Einstein's general theory of relativity. You only get about 30 seconds or so of weightlessness, and then the plane has to go back up again and you get another 30 seconds, another 30 seconds. So, I had it all planned out. I had these 30 second little bits, and I would film, and it would be a very coherent explanation of this beautiful theory. But it wasn't. It was like I was just pissing around, basically, in zero-G. It's a wonderful thing to do. It's incredible.

# **James Acaster**

Einstein's legend? He's a legend, fair to say?

#### **Professor Brian Cox**

Yes.

# **James Acaster**

OG. The OG scientist.

#### **Ed Gamble**

No. Probably not the OG scientist.

### **James Acaster**

Yes.

#### **Ed Gamble**

There were probably scientists before Einstein, weren't there, Brian?

# **Professor Brian Cox**

Yes.

### James Acaster

But he's the OG.

### **Professor Brian Cox**

Newton. Galileo.



But, like, Einstein, number one.

#### **Professor Brian Cox**

It's difficult, you know. It's difficult to rank these people. Newton was clearly a genius.

#### **James Acaster**

An apple fell on his head, Brian.

### **Professor Brian Cox**

Yes, and you know the-, so, Newton would have said that the apple fell on his head because there was a force between the apple and the Earth. So, that was his great insight, was Newton's theory of gravity. Einstein would have said exactly the opposite. Einstein would have said, 'No, Isaac, you accelerated up to head-butt the apple.' It's completely the opposite view. Because when the apple's falling off the tree, in Einstein's picture the apple is just not moving in a real sense. It's not accelerating. It's just minding its own business. The thing that's accelerating is the ground. It's a completely different-, so, the reason that everyone's listening now and we're sat on chairs, we're getting pressed into the chair, Newton would say because there's a force pulling us down towards the centre of the Earth. But Einstein would say that what's actually happening is our trajectory through space should be towards the centre of the Earth. That would be just free-fall. So, we should be freely falling. And the ground's in the way. Or, the chair's in the way. So, the chair's exerting a force on us that's stopping us-,

#### **Ed Gamble**

Oh, that one makes me feel weird.

#### **Professor Brian Cox**

Moving freely through space, and so we're accelerating. So, you're being pressed into the chair in the same way that you're pressed into the back of your car-seat when you're accelerating your car.

#### **Ed Gamble**

Then why isn't my face all pulled back?

### **Professor Brian Cox**

Well, it is. It, sort of, is. It's at one G.

#### **Ed Gamble**

Oh no.

# **Professor Brian Cox**

So, Einstein would say that in this room now-, it's called the equivalence principle. So, he would say that if there are no windows in the room, basically you can't see out, then you could not tell, there's nothing you can do to tell whether we're just accelerating with a big rocket at one G through space, or we're sat on the surface of the Earth. Exactly the same sensation.

### **James Acaster**

What's the happiest thought you've ever had?

### **Professor Brian Cox**

That's a good question. It's understanding something. I find that sometimes I'm quite slow to understand things. I'm writing a book at the moment on black holes, and there's loads of black holes in the live show, and they're really difficult to understand. And so, you can sit there, or I can sit there for months trying to understand something, and it's that my happiest thoughts are when it suddenly becomes obvious. It's a strange sensation, actually, because it clearly isn't obvious because you're sat there-, so, you sit there for months trying to understand it, but once you understand something,



or find your own way of understanding something, then it becomes obvious. And those are happy moments. I always say that to students, you know, whether they're at school or at university. That some things are really hard to understand, and a lot of people-, I think one of the problems people have, when they say, 'I can't do maths,' or, 'I can't do science,' or, 'I can't do physics.' What that really is, is just giving up too early. And you have to be persistent. And if you're persistent there's a great reward at the end of it. So, it's not-, you don't have to be, you know, Einstein-, I mean, even Einstein, there's a great story about Einstein when he was at school and everyone's going, 'It's Einstein,' you know, and he said, 'When I was your age I was no Einstein.' Which is true. Like, he didn't know that stuff when he was six years old, but he spent a lot of time thinking about it.

#### **James Acaster**

Ed, the same question of you?

#### **Ed Gamble**

Happiest thought.

#### **James Acaster**

Be honest.

#### **Ed Gamble**

Still thinking about Muse. I don't think I think very often, you know?

#### **James Acaster**

No?

#### **Ed Gamble**

No.

### **James Acaster**

That's fair enough.

#### **Ed Gamble**

What's your happiest thought?

# **James Acaster**

Ice-cream or sex. Brian, your-,

#### **Professor Brian Cox**

That's not a thought, that's a question.

# James Acaster

I think about it all the time. Brian, your dream drink.

#### **Professor Brian Cox**

Dream drink. I used to like Guinness a lot, but as I've got older the number of drinks I can drink without getting a headache has reduced. So, I'm pretty much reduced to a-, I like white wine now, actually. I really particularly like white wine and I like champagne-,

# **Ed Gamble**

It's another proof that things don't only get better.

### **Professor Brian Cox**

Yes. If I drink, like, two, three pints of Guinness now, it's not good.



That's the closest drink to a black hole, would you say?

#### **James Acaster**

Yes, that's why you love it.

# **Professor Brian Cox**

That's a good point. The darkest drink.

# **Ed Gamble**

And if you drink three of them or more, time ceases to exist?

### **James Acaster**

Yes, that's true.

# **Professor Brian Cox**

Okay. Shall we go with Guinness then? Because it's good stuff.

### **Ed Gamble**

You've sold it to him.

# **James Acaster**

Yes. Guinness. If I could drink black hole.

#### **Ed Gamble**

Yes. Oh, I love Guinness.

# **James Acaster**

If you could drink a black hole-,

#### **Ed Gamble**

That's my nicest through.

### **James Acaster**

Oh, yes, drinking a Guinness?

#### **Ed Gamble**

Yes.

# **James Acaster**

I'm glad we found it.

#### **Ed Gamble**

Yes. And sex.

# **James Acaster**

Yes.

# **Ed Gamble**

We love sex. It's really interesting you asked what's the dumbest episode, Brian, because we've been the dumbest we've ever been, on this episode.

# **James Acaster**

Yes. Easily.



This is balance, isn't it?

#### James Acaster

It's all about balance, yes. If, like, I've used my genie powers to get a black hole and make it into a drink, would you drink it?

#### **Professor Brian Cox**

I'm trying to think-, you see, the thing about a black hole-, so, if it's what's called an eternal black hole, so one that's been around forever, that's a technical point for the listeners that are well-versed in these things, an eternal black hole. Then that seems really small, so it would fit in your mouth, right? A tiny little tiny black hole. You could all hold it in your hands. And if it's a spinning black hole, called a Kerr black hole, you'd be holding an infinite number of infinite universes in your hand. So, it's called a Kerr wonderland. So, there is very, very weird internal geometry even in an eternal non-spinning black hole, which is called a Schwarzchild black hole, then there is a worm-hole in there connecting two universes. So, the science fiction worm-holes, Einstein discovered them in 1935 with a colleague called Rosen. Einstein Rosen bridge worm-hole. So, inside black holes, if they existed forever, is an infinite complexity of space-time. So, that's what you'd be drinking.

#### **Ed Gamble**

What would happen if you drank that?

# **James Acaster**

What do you think would happen to you?

### **Professor Brian Cox**

But, the thing about very small black holes is that they're also very hot. So, tiny microscopic black holes-,

#### **Ed Gamble**

So, you'd have to blow on them before you took a sip.

# **Professor Brian Cox**

Are extremely hot and they evaporate away very quickly. So, well, no, that wouldn't help. It might make you feel better, but it would do nothing to the black hole. So, it might be quite dangerous. It depends how big it was. How massive it was.

#### **James Acaster**

A pint.

# **Professor Brian Cox**

A pint of a black hole, you'd be in real trouble-,

#### **James Acaster**

So, I managed to, like, condense it into a liquid pint.

### **Professor Brian Cox**

So, the event horizon of a black hole was the same size as a pint glass then it would be colossally massive, that black hole. It would be billions of tons. So, you wouldn't be able to lift the glass up.

#### **James Acaster**

Straw? Yes? I know we're meant to be getting rid of those these days but, like, give you a straw?

# **Professor Brian Cox**

It wouldn't help, would it?



Wouldn't help at all?

### **Professor Brian Cox**

No. Because if you put the straw across the event horizon of a black hole then you wouldn't be able to suck anything out of it. You'd have to suck faster than the speed of light in order to get anything.

#### **Ed Gamble**

Stop it. I'm having one of my nice thoughts again.

# **Professor Brian Cox**

No-one has ever thought about-,

# **James Acaster**

To Ed? He loves this. It's happy thoughts. His happy thought just got even happier.

#### **Professor Brian Cox**

I was just thinking, actually, this is-, no-one has ever considered this physics-,

# **James Acaster**

No, it's pretty exciting-,

#### **Professor Brian Cox**

In the history of physics, no-one's ever-,

#### **James Acaster**

And he could us into some labs to pose these questions.

### **Professor Brian Cox**

You couldn't get the straw across the event horizon. The problem with approaching the event horizon of a black hole is, when viewed from outside, time stops on the horizon. So, you never see anything fall in.

# **Ed Gamble**

What if we've discovered a black hole you can drink?

#### **James Acaster**

Yes, but then it's interesting about the whole time stopping thing, because people have Guinness because that's all about tick follows tock-,

# **Professor Brian Cox**

So, if the glass-,

#### **James Acaster**

So, tick follows tock and good things come to those who wait.

# **Ed Gamble**

You'd have to wait a long time.

#### **James Acaster**

You'd have to wait a long time because time's stopped.

# **Professor Brian Cox**

So, if the glass of Guinness was the black hole then you have to get your hand to it, and as you



move your hand towards the black hole then from your vantage point then time slows down and it would freeze on the horizon. So, I think you can't pick the glass up if it's a black hole.

#### **James Acaster**

Wouldn't even be able to pick it up.

#### **Professor Brian Cox**

Not withstanding the fact it's very heavy, but we'll forget about that. Even then, if you've got a place on the horizon where time stops, you'd never reach it.

#### **James Acaster**

So, does the same apply for the person who's trying to draw the little shamrock in the foam on the top? Would they have a problem doing that?

#### **Professor Brian Cox**

If they're inside the event horizon with the Guinness then no, but then from outside you'd never know whether they'd done it.

### **James Acaster**

Would you drink it, or not?

#### **Professor Brian Cox**

Well, we haven't established that you could physically drink it.

#### James Acaster

Yes. If you could-,

# **Professor Brian Cox**

We think there are physical problems.

#### **James Acaster**

Yes, physically you can't, by the sound of things.

# **Professor Brian Cox**

Yes, I think we're going to have to say-,

#### **James Acaster**

The white wine?

# **Professor Brian Cox**

Knowing what we know about Einstein's theory of general relativity then, yes, you're not going to be able to drink a black hole. I suppose you could ingest a small enough one but, as I said, it would evaporate away very quickly.

#### **Ed Gamble**

I think you can drink it. New cocktail. It's called a plug-in baby.

# **James Acaster**

till thinking about Muse?

#### **Professor Brian Cox**

So, let's go for a glass of champagne, shall we?

# **James Acaster**

Yes, why not.



But it's good to consider these things, isn't it?

### **Professor Brian Cox**

We've learnt a lot.

#### **Ed Gamble**

Whether they're possible. Yes, we've learnt a lot.

### **Professor Brian Cox**

About relativity.

### **Ed Gamble**

Any particular type of champagne?

#### **Professor Brian Cox**

I would go for a Dom Ruinart, because I like Ruinart, because it's 100% Chardonnay blanc de blancs. I would go for the vintage Ruinart, which is Dom Ruinart, and I would probably go for 2008.

#### **Ed Gamble**

This is good. We've never had this specific a choice.

# **James Acaster**

Again, it's weird. Every time Brian mentions something that's, like, time-related, like 2008, I'm just, like, 'There must be a scientific reason why it's 2008.'

# **Professor Brian Cox**

No, it was a good year.

#### **Ed Gamble**

Yes, if it's a good year and it's a good vintage, I suppose that is a scientific reason in a way, because so many things have to coincide to make it a good vintage for wine, right?

# **Ed Gamble**

I suppose that is a scientific reason in a way, because so many things have to coincide to make it a good vintage for wine, right?

#### **Professor Brian Cox**

Yes, I once talked to a wine maker and he said that the grape is the means by which the season and land talk to you.

#### **Ed Gamble**

Oh, I love that.

### **Professor Brian Cox**

Which is beautiful, so it's the landscape but also the season. Did it rain in late August and all the messages are in there and then the grape and the wine are the medium by which they talk to you.

#### **Ed Gamble**

I love it.

# **James Acaster**

Seems to be other jobs like scientists or, like, this thing, you know and whatever, there's just so much joy and happiness in it and we're comedians and it's just awful.



As ever, you speak for yourself.

#### **James Acaster**

Yes. Your dream dessert?

### **Ed Gamble**

Black hole gateaux.

#### James Acaster

The same problem though, Ed. I think you would barely pick it up.

### **Ed Gamble**

Oh interesting.

#### **Professor Brian Cox**

I like dark chocolate and I don't like dessert too much actually. I don't like sweet so much, but I like dark chocolate.

#### **Ed Gamble**

How dark are we talking?

# **Professor Brian Cox**

Very.

#### **Ed Gamble**

100%?

# **Professor Brian Cox**

Not quite no. I go for about 80.

# **Ed Gamble**

Nice.

### **Professor Brian Cox**

So dark matter. We don't know if that exists, we suspect it does. The large Hadron Collider has just switched on actually again and it's now looking for dark matter, really seriously trying to. Because we thought we'd have discovered it. Dark matter is something that we think is out there in the universe because we see its gravitational effects and so we're pretty convinced there's something out there which is a kind of subatomic particle that we haven't yet discovered. And we thought LHC at CERN would discover it, but it hasn't done. But we're switching on again with much more capability. That's one of the things that's the top of the list.

#### **Ed Gamble**

Do you ever worry that some things you just shouldn't go looking for?

# **James Acaster**

Like what?

### **Ed Gamble**

Because you'll wake something up and it will be evil. Dark matter seems to me, 'Leave that stuff well alone.'



No but if you haven't been there, assuming it's there so we're pretty sure it is, assuming it's there then it played a central role in the formation of galaxies in the early universe, so we wouldn't exist.

#### **Ed Gamble**

Yes, but it doesn't want to be found. You can't find it,

#### **Professor Brian Cox**

Well it's just a particle though, so it's doesn't have-

#### **Ed Gamble**

I don't know, it feels like it's going to be a Venom situation.

# **James Acaster**

Yes, and addressing Ed's original question, what if it is evil?

#### **Professor Brian Cox**

Well it's like saying what if a grain of sand is evil? It isn't is it?

### **James Acaster**

Well answer that then.

### **Professor Brian Cox**

It's not, it's a grain of sand. It's got no consciousness, nothing it's just a grain of sand. So dark matter would be like very small grains of sand. So there's no possibility at all that it could be evil so we can rule that out.

### **James Acaster**

What if you're in a lab, right? And one of the scientists is looking in a microscope at some sand that you've got, and they look up and their face is ashen white, and you're like "everything okay?" And they went "Brian, this sand is not like any sand I've seen in my life before" and you say "what are you talking about?" And they say "there is evil in this sand, it is evil" and they say that to you, what's the next step?

# **Professor Brian Cox**

They're sacked. Throw them out, in every scientific society they're a member of just throw them out.

#### **Ed Gamble**

But then we know from films they're the ones who are right. (talking over each other) Jeff Goldblum yes.

# **James Acaster**

Life finds a way, do you agree with that?

# **Professor Brian Cox**

Yes, I do agree with that actually. Well interestingly, Mars is a good question because we think life may have begun on Mars three and a half billion years ago, because the conditions were right. And we're pretty certain that it probably isn't there today. We're pretty certain, we tend to look for signs that life existed. But it's interesting that we do think there may be water sub surface and if there is then that life finds a way. You know, it does seem that if life can survive then it will. That does seem to be the case. So maybe, maybe, I go with life finds a way. That's not anything to do with sand being evil though, is it? Because sand isn't alive because it's just sand.

# **James Acaster**

Evil is a force isn't it? Just like gravity is.



It's a property of living things isn't it? A property of consciousness.

### **James Acaster**

Spirit.

### **Professor Brian Cox**

No.

#### **Ed Gamble**

And vice versa, I'm either way on this. I see your point, Brian and I see James'.

# **James Acaster**

You bought it up, how come it's me versus Brian now? I'm yes anding your thing.

### **Professor Brian Cox**

But he hasn't got a point.

# **Ed Gamble**

No I'm saying because dark matter clearly doesn't want to be found, so are you worried-?

### **Professor Brian Cox**

No, it's "want". I'm objecting to the use of the word want.

### **Ed Gamble**

But have we found it?

# **Professor Brian Cox**

Well that's not because it doesn't want to be found, it can't want.

#### **James Acaster**

But what if it is like Venom?

# **Professor Brian Cox**

It's just a subatomic particle, so subatomic particles don't want anything.

### **Ed Gamble**

Yes they don't want to be found.

# **Professor Brian Cox**

No there's no such concept as want, it's a basic building block of matter.

#### Ed Gamble

What if you touch it and it goes all the way up your arm and then you're evil.

# **James Acaster**

Goes up your arm and now you're evil.

### **Professor Brian Cox**

Well it wouldn't do that.

# **Ed Gamble**

How do you know? You've not found it.



Because it's a sub atomic-

#### James Acaster

What if you find it and it is evil and then you've unleashed that on the world?

### **Professor Brian Cox**

See, let's just think about a grain of sand because it's easier to visualise, which is a lot of subatomic particles right? So in principle a grain of sand has got more possibilities open to it than just a single subsonic particle.

# **James Acaster**

So they're more likely to be evil than the dark matter.

# **Professor Brian Cox**

No, even then-, go and get a grain of sand and have a look at it and see if you think it's got sufficient complexity to be as intelligent as you.

#### **Ed Gamble**

But what if they were all loads of sand not just one grain?

### **Professor Brian Cox**

Loads of sand.

#### **James Acaster**

And also I'm going to just tiptoe back a little bit, I've never heard the phrase "as intelligent as you" said with such - You put a real spin on that when you threw it out. As intelligent as you.

### **Ed Gamble**

Yes fair enough.

#### **Professor Brian Cox**

I thought someone would pick it up. You're comedians, it's an open net that, isn't it? And you didn't go for it.

### **Ed Gamble**

I was worried about the sand in all honesty.

### **James Acaster**

It is quite worrying.

# **Professor Brian Cox**

It's a good question, so you could ask, so look at a human brain, so that's remarkably a collection of atoms and molecules that can think. So you could ask how complex does something have to be to have that property. I mean, as I said it's a reasonable assumption that nowhere else in the Milky Way galaxy are there collections of atoms that can think because it's a big ask. It's astonishing. But all these things that you're talking about, so evil or love or fear or science or music and art, all these things are things that emerge from these remarkable collections of atoms. So you could ask the question, 'How much stuff do you need and how complex do they have to interact together to produce those what we call emergent properties?' The answer is we don't know, it's one of the great questions. So it's not an entirely stupid question to say if grains of sand could interact with each other and you could build them into some enormous structure that could process information.

# **Ed Gamble**

Spiderman Two.



Then would it become-, yes there is a sandman. I think that's scientifically inaccurate as well. Yes, I think someone should have said something. I was a consultant on a science fiction film once with Danny Boyle, going back to Danny Boyle and the Beatles film. So he created a film called Sunshine.

#### **James Acaster**

Yes. I love Sunshine.

# **Professor Brian Cox**

Well the audio commentary on the Sunshine DVD is me.

#### **James Acaster**

Is it? I've got the DVD, I'm going to go home and listen to it.

# **Professor Brian Cox**

So you never listen to those commentaries. I did a commentary and then Danny did a commentary. And that was before I'd been on telly or anything. Actually it was the first thing I'd done, Horizon, which is on BBC2. It was years ago, it was the first one I'd done and Danny saw it and thought he looks a bit like this character that I got in Sunshine, it was the Cillian Murphy character. How he envisaged him to be. So they got in touch and said do you want to come and work on the film.

### **Ed Gamble**

That's so cool.

# **Professor Brian Cox**

So I did that film.

### **James Acaster**

I love that film.

#### **Professor Brian Cox**

I did the commentary. It's a great film, I think it's an underrated masterpiece.

# **James Acaster**

It is, it is underrated. I think just because at the end it changes genre and people find that difficult in films, but it's great.

# **Professor Brian Cox**

Well Alex Garland wrote it, he wrote 28 Days Later and The Beach.

# **James Acaster**

And those are great films, directed his own brilliant films as well. Did Ex Machina.

# **Professor Brian Cox**

Ex Machina is a fantastic film.

# **James Acaster**

Fantastic, here we go now we're on the same page.

### **Ed Gamble**

We've changed genre right at the end of the podcast.

# **James Acaster**

Changed genre at the end of the podcast, it's a film podcast.



I want to get to the bottom of this dessert though.

#### **James Acaster**

Dark chocolate.

### **Ed Gamble**

Dark chocolate, how would you like this dark chocolate presented, and also don't feel that you have to have a dessert. If you don't want anything sweet for dessert there's always other options.

# **Professor Brian Cox**

I also like cheese on toast for dessert. That happens in certain restaurants.

# **Ed Gamble**

A rarebit.

### **Professor Brian Cox**

Yes.

#### **Ed Gamble**

St John, a fantastic restaurant has a wonderful rarebit on the dessert menu.

### **Professor Brian Cox**

Yes, and I like that. I often go that way actually because I don't like sweet things, so I often go for the rarebit.

### **Ed Gamble**

Well this is the dream restaurant, if you want to have a lovely bit of rarebit.

#### **Professor Brian Cox**

Rarebit with, yes, Worcestershire sauce on it.

### **Ed Gamble**

Yes, lovely. Uh oh.

### **Professor Brian Cox**

What?

# **Ed Gamble**

James is our resident dessert head and he doesn't like it when people pick something savoury for dessert.

### **James Acaster**

Wow, after all that chat about what is and isn't evil, let me tell you Brian Cox, a savoury dessert? Scientifically evil. And anyone who orders one falls into that category as well. You and that rarebit may as well have been touched by the venom that you don't want to find in space.

### **Ed Gamble**

Oh dear.

### **Professor Brian Cox**

The rarebit can't be evil, we've gone through this.



It is evil Brian.

# **Professor Brian Cox**

It's not sentient, no one thinks that rarebit is sentient. You can't have a conversation with cheese on toast.

#### **Ed Gamble**

Sometimes it feels like the cheese is so mature it's having a chat with you.

#### **Professor Brian Cox**

Yes.

# **James Acaster**

What? Don't even joke, someone just ordered cheese on toast as a dessert Ed.

#### **Ed Gamble**

I think it's amazing, no one's ever ordered cheese on toast before.

# **James Acaster**

Put Worcestershire sauce in to make it even more savoury.

#### **Ed Gamble**

This is perfect, I love this.

### **James Acaster**

Sat here, listen, we have sat here and we have indulged this man in every crackpot theory he's throwing at us. I draw the line at cheese on toast for dessert. I have grinned and beared it, through every thing you've gone on about. None of it makes any fucking sense. I will not let this go,

#### **Professor Brian Cox**

What happens if we go sweet for a starter then? I mean is that-?

### **James Acaster**

What, are we making that salmon swim through sugar now? That salmon's gone through enough.

### **Professor Brian Cox**

Is that even worse?

### **James Acaster**

No, I'd feel better about that, if we're changing the starter again.

#### **Ed Gamble**

Changing the starter again?

# **Professor Brian Cox**

No no, let's stick with the salmon.

# **Ed Gamble**

Let's stick to your guns Brian.

### **James Acaster**

I'll tell you what, Brian if there's one of your courses that should be shat on, it's this one.



And I can't stress enough, Brian was never shitting onto the potatoes.

#### **James Acaster**

I'm going to squat over this.

#### **Ed Gamble**

You're going to fertilise this are you?

#### **James Acaster**

Yes, I'm going to fertilise it. I hope you like it fertilised.

### **Professor Brian Cox**

Rarebit, what's the other one with dates with bacon wrapped around it, what's that called?

# **Ed Gamble**

Devils on horseback.

#### **Professor Brian Cox**

Devils on horseback, evils on horseback.

### **James Acaster**

Evil.

#### **Ed Gamble**

Evil.

### **James Acaster**

I mean, the clue's in the name Brian, the devil's there. Oh god, well I'm going to read your menu back to you now, I'm not happy about it. Sparkling water, poppadoms for poppadoms or bread, starter we settled on Martian smoked salmon, but shout out, honourable munchion to the chips serve in the chitz. Main course steak and kidney pudding, chips and gravy from the Oldham chip shop, side dish of mushy peas. Drink, 2008 Dom Ruinart champagne.

# **Professor Brian Cox**

Goes very well with steak and kidney pudding, many a sommelier will say that.

#### James Acaster

And the dessert, proof that you don't have to be sentient to be evil. Rarebit, with Worcestershire-, I can't even believe I'm reading that. This is a man of science, has chosen a savoury for a dessert. He goes on about all the laws of the universe and he has a savoury dessert.

#### **Ed Gamble**

For me this is great ammo. Our smartest guest ever picks cheese for dessert.

### **James Acaster**

It is, you're playing into his hands. This is a constant debate on the podcast and now he's going to go "Brian Cox said have a savoury dessert", it's going to make-, oh you've got to be joking. This is the worst thing that could have happened.

#### **Professor Brian Cox**

Will that make him feel better if I had a Sauternes with it?

# **Ed Gamble**

Yes that might make you feel a bit better.



A what?

#### **Ed Gamble**

Sauternes, a dessert wine, the best dessert wine.

### **James Acaster**

No, it doesn't make me feel better

#### **Ed Gamble**

Do you want to talk about it?

### **James Acaster**

No, I'm just going to have to live with this for a while, and I have to think a lot about it which feels bad. Didn't see it coming at the end there.

### **Ed Gamble**

I loved it.

# **James Acaster**

Oh you loved it.

# **Professor Brian Cox**

It's magnificent.

#### **Ed Gamble**

I saw it coming on the horizon.

#### **James Acaster**

God-damn rarebit. I cannot believe that's the dessert.

# **Ed Gamble**

Brian, quickly before we go, Dara O'Briain says you're friends is that true or is he lying?

# **Professor Brian Cox**

No it's true, it's very true.

#### **James Acaster**

Be honest, how often is that dweeb ringing you up, and going, like please be my friend.

# **Professor Brian Cox**

We had such a great time, Stargazing Live, it was just a great fun thing to do.

### **Ed Gamble**

You know every time we see him he's like Brian Cox, Brian Cox.

# **James Acaster**

He doesn't stop talking about you. And you've not mentioned him once. We've had to bring him up to you.

# **Ed Gamble**

Right at the end. I gave you enough chance to bring him up.



He's done this podcast, Benito says the edit was mainly editing out him just talking about you all the time.

#### **Ed Gamble**

I was really hoping to make fun of him more but you're too nice for that Brian.

### **James Acaster**

Yes, trying to get you to make fun of him.

#### **Ed Gamble**

Thank you very much for coming to the dream restaurant Brian.

# **James Acaster**

Yes, thank you Brian.

#### **Professor Brian Cox**

I'd like to say it was a pleasure but it soured at the end, didn't it? I messed it up.

# **James Acaster**

I'm absolutely livid, thank god we're heading towards the centre of a black hole and time will soon be over.

# **Ed Gamble**

Right we ruined that. We had a great opportunity to chat to a genuinely clever intelligent man, one of the science minds of our generation, James, and we ruined it didn't we?

# **James Acaster**

No, we asked what people are too afraid to ask scientists. We got the proper questions. Proper answers.

#### **Ed Gamble**

That stuff, I wasn't messing around about that stuff about dark matter, it's called dark matter, why are we fucking around with it?

### **James Acaster**

I think it's about time scientists addressed evil and you can tell he was shook.

# **Ed Gamble**

Yes, he was shook.

# **James Acaster**

He was shook when I asked him about it.

#### **Ed Gamble**

He was shook to his molten core.

# **James Acaster**

Yes, I think we did a good job there.

### **Ed Gamble**

Yes, alright okay sorry. I was just worried.



You've got to ask the big questions, we asked them and it's not our fault he couldn't give us a definitive answer.

# **Ed Gamble**

Yes, but he likes that apparently, he likes not knowing stuff because it means there's always stuff to discover which I liked. He didn't say Space Raiders.

### **James Acaster**

No, so we didn't kick him out.

# **Ed Gamble**

No we didn't kick him out, good. Don't forget to go and see Brian Cox on his world arena tour. Where can people find out about that James?

# **James Acaster**

Briancoxlive.co.uk, Horizons is what the show is called.

#### **Ed Gamble**

Go and check it out.

### **James Acaster**

A 21st century space odyssey to take audiences on a dazzling cinematic journey. Very exciting and as you heard him say, there's going to be stuff added to the tour as it goes along as well, as new science is released.

#### **Ed Gamble**

New material baby.

# **James Acaster**

Yes. Comics are doing new material, it's quite scary. When scientists are doing new material, it's the best stuff.

### **Ed Gamble**

I wouldn't do it on this tour though, I'd save it for my next tour.

#### **James Acaster**

Yes.

# **Ed Gamble**

Yes, stupid to do new material on a current tour, wasting it.

## **James Acaster**

You'd do that in the pubs.

### **Ed Gamble**

Yes, exactly.

# **James Acaster**

Do that in the pubs and clubs.

### **Ed Gamble**

You can update people on the new science, you know, at the Bill Murray or something.



Yes, save it for the O2 when you've honed it.

#### **Ed Gamble**

I'm on tour of course as well, I take people on a journey through space and time.

#### **James Acaster**

You do.

# **Ed Gamble**

In my show Electric, well yes in that they walk into a space and I'm on for some time. Come and see me anyway, edgamble.co.uk for details, big shows all over the place.

# **James Acaster**

And please get my book, James Acaster's Guide to Quitting Social Media, Being the Best You You Can Be and Curing Yourself of Loneliness Volume One wherever you get your books.

#### **Ed Gamble**

Thank you very much to people who have been sending us stuff, we've had some lovely food from some wonderful food producers including, rather appropriately for this episode, James, Dark Matters Brownies.

# **James Acaster**

Mad, mad that we didn't remember that during the episode.

# **Ed Gamble**

We should have told him, we spent all this bloody time looking for it, we've been sent it mate.

# **James Acaster**

Yes, we've already got some in the kitchen.

#### **Ed Gamble**

Well let me tell you it's not evil, it's brownies.

# **James Acaster**

It's not evil mate, you should go through and get some.

#### **Ed Gamble**

Dark Matter Brownies of course sent us some because Kiri had Dark Matter's brownies on her dream menu.

# **James Acaster**

Thank you Kiri.

### **Ed Gamble**

Thank you Kiri.

# **James Acaster**

Much appreciated.

### **Ed Gamble**

Much appreciated.

# **James Acaster**

Maybe we'll get sent some actual dark matter from the cosmos because Brian Cox mentioned it.



That would be good, wouldn't it?

#### **James Acaster**

Yes.

### **Ed Gamble**

Some space treats.

### **James Acaster**

But then it would attach itself to us.

#### **Ed Gamble**

And then we turn into Venom.

#### James Acaster

Yes, then we're Venom.

#### **Ed Gamble**

Yes that's what I took from the conversation.

### **James Acaster**

Yes, speaking of stuff that we've got because guests have shouted it out, Adam Buxton shouted out Gü Desserts (talking over each other).

#### **Ed Gamble**

Yes please. I felt like I was living at my mum's again. That was our treat, Gü Desserts. When I saw she bought the Güs.

### **James Acaster**

I thought your mum's treats were putting muffins in the freezer.

### **Ed Gamble**

That was later on when we were both trying to be healthy and she bought some mini white chocolate and lemon muffins, and then she was like no, we're just going to eat these too quickly, put them in the freezer and then we worked out they're just as delicious if you eat them rock hard. But Gü's great though. Absolutely great.

### **James Acaster**

Love the Gü, love the ramekins.

#### **Ed Gamble**

And also Treat Kitchen sweets.

### **James Acaster**

They're very nice, I've been picking at them in the office sneakily when you guys aren't looking. And yes, I like them a lot.

#### **Ed Gamble**

Why do you think you have to hide this from us, James?

### **James Acaster**

Well because you'll look at me and roll your eyes and go of course he is.



Yes, it's not a shock to me, it's not a surprise.

# **James Acaster**

No but I'd rather surprise people and then shock them instead they go oh there he is eating sweets in the corner.

# **Ed Gamble**

But they're nice, you like them.

# **James Acaster**

Yes very nice, yes.

# **Ed Gamble**

Great. Thank you very much for listening, we'll be back again next week with another scintillating episode of the Off Menu podcast.

# **James Acaster**

A universe of food.