

[Transcript] Conversations / What happens to us while we're under anaesthesia?

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Catching a plane these days is for most people a pretty boring experience.

You walk aboard, you get an inflight snack, maybe watch some TV, a snooze, and then you're there.

Here's another way to describe that journey.

You and 100 or so people get into a metal tube, strapped to a bunch of rockets, which ignites and fling you into the sky at tremendous speed.

And then you fall to earth in the centre of a big city.

This is an amazing thing that seems so dangerous.

It's become so safe, you hardly think twice about it.

Now, I think it's like this when it comes to having a general anesthetic as well.

If you think about it, that's an extraordinary thing.

There's the countdown, you become unconscious and yourself, your mind, your consciousness is seemingly just obliterated.

It's as though you've just stepped outside for a while

so you can endure something that would otherwise be agonisingly painful and then you just sort of pop back.

But where have you been all that time?

Anesthesia, it hardly needs to be said, is one of the greatest blessings of modern medicine and modern life.

And the profession is just getting better and better at it.

But it's still a very weird process.

Kate Cole-Adams discovered so much of the business of anesthesia is mysterious, even to the anesthetist.

She wanted to know, do patients retain any memories of the operating table?

Can they hear what's going on in the theatre?

How does the unconscious mind deal with the body being opened up and moved about?

Kate Cole-Adams book is completely fascinating and it's called Anesthesia, the gift of oblivion and the mystery of unconsciousness.

Hi, Kate.

Kate-Hi, Richard.

I've been waiting for someone to write a book about this because it's so, so interesting.

Isn't it weird how little people talk about this very strange experience?

Kate-It is really weird and to be honest, I've spent a long time researching and I kept on thinking, someone else is going to be talking about this, someone else is going to be writing this book, and no one did.

And I have this theory that anesthesia is kind of like a bit of a blank spot in our psyche and that, you know, we don't think about it very much.

You know, just when I met you just now, I mean, I think before you could even get two words out, I just had to blurt out my own experience of general anesthesia, which was really good.

My experience of general anesthesia for surgery was excellent

and my dad's experience, other people's experience, is everyone like that with you now?

Do people just walk up to you and blurt out their experiences having a general anesthetic?

Kate-They do.

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Well, not everyone, but I'm amazed at how many people do come up to me, people come up to me at work, people come up to me, you know, if I do readings. I have this list, I mean, yes, there's stories, there are so many stories. And I kind of feel like it's this amazing process that, as you say, is like getting on a plane. We don't really think about it. And yet, unlike getting on a plane, I mean, people talk about being scared of flying. The thing about anesthesia is people don't talk about it. And I think what's so sort of strange about, and you know, being someone like myself who starts saying, well, what is this about? This is such a strange thing. I'm going to ask questions. And suddenly I've got, yeah, suddenly there are people coming up to me all the time. So you were going to have an operation, a pretty serious operation for your back in 2010. And this is what got you asking these questions. You had general anesthetics before. Why were you more troubled about the prospect of a general anesthetic this time round? I think partly because by the time my own surgery came up in 2010, I'd actually been researching anesthesia for six years already. So, you know, I think the reason I was so nervous was partly because I knew a whole lot more than I had before. And... Hang on, does this mean you've been researching this for about 13 years now? Is it? Or are there abouts? Yes, that's officially I have been researching this for 13 years. And the first interviews I did for this were the first one is in 1999. So this has been a ridiculously long project. So what was troubling you the most about the prospect of having an anesthetic this time round? I was, well, it was very hard for me to put into words. I was really terrified. And I kind of just had this idea that somehow I would disappear and that I would disappear and that I wouldn't be able to find my way back. You know, and I kind of had this idea that I'd be... I'd walk into this dark room and then I'd be locked in this dark room and that I wouldn't be able to get out until someone else let me out. And that then when I came out, I might not actually be the same person who'd been in the room anyway. And yeah, I was really scared. I did think after I'd had mine, where did I go? Where did I go in that time? Was any of me still there? Was a tiny bit of me still there? Where did I go in that time? Maybe that's the question we all want to know the answer to when we have a general.

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Yeah, and I think that that's really the question that kind of bugged me over a long period of time.
And, you know, partly because my, you know, I had always assumed that really an anaesthetic was just like a nothing.
It was like a nothing space.
You got an injection or you got some gas and you disappeared.
And then once I started researching,
I realised that it was far more nuanced and complicated than that.
And that just because you don't remember anything doesn't mean that there wasn't anything to remember, for instance.
I think that was what really did my head in.
We're going to talk about things that can go wrong, have gone wrong for people who become accidentally aware, all sorts of things that go on during anaesthetic.
But it's probably good at the outset to say that for the vast majority of people, their experience of general anaesthetic is like mine.
It's really good, isn't it?
Yes, I think for the vast majority of people, it's at least benign.
Some people really love it and some people it's OK.
It's a bit weird, not sure, but basically OK.
And then there's a very small proportion of people who have kind of really awful experiences.
And those are the ones that tend to get the publicity.
But by and large, and I think about it, it's like getting on a plane.
You know statistically that you are almost certain to get off that plane at the end and it's going to be great.
But you also know in the back of your mind that every now and then someone doesn't get off that plane.
And I think for me, thinking about anaesthesia is a bit like that.
I mean, it's an enormous thing that happens.
One of the things that fascinates me about this is it's like I sort of feel with anaesthesia, we've kind of done a deal as a society and as individuals where we've gone, we're going to trade, we do this trade.
And the trade is that I as a patient hand over my consciousness, my consciousness, myself, the thing that makes me know that I am me.
I hand that over to, let's say you're my doctor, Richard, I hand that over to you.
And in return, you open up my body and do things inside it that would otherwise be, you know, possibly fatally painful.
And then you close me up again and I know nothing about it.
So pretty good deal, but it's still a deal and we don't talk about it.
Yeah, it's probably an unwillingness to look at gift horse in the mouth.
Perhaps that's it too.
It is such a blessing.
It is such a blessing.

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And yet, you know, I actually think that they've and from my research and talking to people that there are some costs for us in not asking some questions. The history of anaesthesia, it's a really recent thing.

I mean, just tell me a little bit about what you understand, what was going on before we had the general anaesthetic or the anaesthetics we have today.

I mean, you know, we've a lot of us have seen period dramas or something where some poor chap in the Crimean Wars got to have his arm or leg locked off and he's given a half a bottle of whiskey and something to bite down on.

That's pretty much it, wasn't it?

Well, look, people have been trying all sorts of different things.

But prior to 1846, I think the first, you know, sort of publicly, there was the first successful public demonstration of what's now known as general anaesthesia. You know, in the in the lead up to that, probably the most effective technique was hypnosis, which of course, the minute anesthesia came along, everything else just went by the by because suddenly there was this magical thing that could take away pain.

How powerful was the dread of surgery before there was a general anaesthetic?

The dread of surgery for very, very good reasons was so intense that a lot of people chose to die rather than have surgery.

And you sort of go back into into the history.

And there are terrible, terrible stories of people being tied down on on operating tables.

I mean, they were generally tied down.

There are terrible stories about people actually climbing off halfway through the operation and kind of running down the corridors, being chased by the doctors to be brought back for the surgery to continue.

I mean, really, it was horrendous.

But think about it.

That's what you do, isn't it? Yeah, that's yeah.

Still, we've had modern medicine.

We've had modern anesthesia for many, many decades now.

And yet, I think I got from your book is that after all these years, millions of patients successfully inethetized, how well does medical science understand how it works?

Well, up to a point.

Certainly, certainly, you know, we understand a lot more than than we did 170 years ago.

Yeah, but there are still things, you know, there are things that happen in the brain, in the neurons, and there are things that happens in the kind of electrical activity in the brain.

And, you know, doctors kind of know about that, but they don't really know what it is that causes the unconsciousness all.

And they don't really know why different drugs do it in different ways.

Although, I think they're getting closer to figuring out some pretty clear markers of that.

But then there's kind of all sorts of bigger problems, because in a sense, you're asking, well, you know, what causes unconsciousness?

So to ask that, you've kind of got to say, well, what is unconsciousness?

That's right. And then it's like, well, no one, no one agrees on what unconsciousness is.

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And so then, you know, so then this is why my head exploded while I was trying to do this research. You know, what I thought was going to be, you know, a couple of years worth of interesting research became this huge,

huge process, because then of course I had to go, well, what's consciousness?

And of course, that's, you know, still probably the single biggest question in certainly in the human sciences.

And no one can agree.

So suddenly you've wandered out of the realm of medical science into philosophy all of a sudden, and there's the mystery of the mind as well.

I mean, the mind's a bit like art, isn't it? We can't define it really, but we know when we see it.

I just recently interviewed Henry Marsh, the British neurosurgeon who has conducted many brain surgery operations.

He said, after all this time of operating in the brain, he never even came close to understanding what the mind is and how to define it and where it lies.

So in a way, is this whole of knowledge?

Is this about because we don't really know what the mind is yet or we can't talk about it in biomedical terms?

Is that what that is, that whole of knowledge?

Yes, I mean, I think partly, I mean, partly there's a kind of definitional problem and the whole, you know, the whole question about what the mind is, is just impossible.

But even if you just leave out the fact that we don't know what the mind is, we don't really know what consciousness is and we don't know what unconsciousness is,

we still don't know what happens inside the brain even.

Well, we know things that happen, but we still don't know what the things are that happen inside the brain that make us, that anesthetize us so that we're not going to try and climb off the table while we're being operated on.

So tell me, Kate, what are the three main elements in an anesthetic cocktail?

Because it's cocktail drugs these days.

Yeah, it is these days.

Back in the day, it was a single drug like ether.

But these days, there's what they call a cocktail and the sort of the main part or the part that takes away your consciousness or sort of messes with your brain or mind is called the hypnotic, which is quite appropriate.

Right, and that's like the ether or something, is it?

Yeah, it's the thing that takes away your consciousness so that you lose awareness of what's happening.

Then there's usually also a strong analgesic, a strong painkiller that actually helps your body not respond to the pain or not experience the pain.

And the third aspect, which isn't in all surgery, but in sort of, I think, 40 to 50 percent of surgeries, certainly from my understanding in the West, is what's sort of called, slightly euphemistically, a muscle relaxant.

But really, these are drugs that do relax the muscles.

They relax the muscles to the extent that you're completely paralyzed.

You're paralyzed to the extent that the muscles between your ribs no longer work, so you need help

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to breathe.

But also to the extent that clearly, if you are on the operating table and you do have some awareness, you're certainly not going to be able to communicate it.

Right, but the muscle blockers are there to stop you sort of moving around and squirreling.

Yeah, they've helped in all sorts of ways.

I mean, these days, one of the things they help with is when anaesthetists put a breathing tube down your throat.

But also, they were to stop people wriggling on the table because you lose consciousness well before your body stops protesting.

And also, there's a whole lot of abdominal surgery that couldn't have been done at all.

Those deep muscles need deep relaxation to be able to get in and close them up again.

So the sort of relaxant paralytic drugs are really important and they've also allowed doctors to use a lot less anesthetic.

Right, so in the past, they would have had to give you a lot more of the hypnotic drug to really bomb you out so you wouldn't wriggle.

So now the muscle blockers do that, so you need less of the rest of the anesthetic drugs in order to keep you still.

Yes, initially, you would have needed a lot more of the drug to bomb you out.

That's right, so that you wouldn't be moving around.

Tell me about the experiments that were conducted by a man named Bernard Levinson in the 1960s in South Africa that you called the Unrepeatable Experiments, please.

I love this experiment.

And this I came across early in my research.

And Bernard Levinson, he was a South African psychiatrist who became very interested in the 60s in the whole sort of question of,

well, he was interested in consciousness and unconsciousness, but he was really fascinated in what happens when we go under an anesthetic.

And he was wondering, you know, is there something else going on just because people look unconscious or look completely inert, might something else be happening?

So he set up and he decided he'd do an experiment and so he kind of, you know, set up an experiment with a dental surgeon and the anaesthetist.

And it was all very casual and, you know, they didn't even have a consent form really.

But basically the experiment was that 10 patients were all went under anaesthesia for, you know, for their dental surgery and then halfway through the operation.

The anaesthetist basically stopped the operation and read from this prepared script and the script said something like, I'm not sure if it was stopped the operation,

but it was something's not quite right. I don't like the patient's color. The patient's much too blue.

Let's, you know, give them some more air.

Right, so it's an alarming conversation.

It was an alarming conversation.

Not true, not true.

No, no, it was a completely fake crisis.

Right.

And so, and then they do a little sort of bit of pumping sounds.

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And then after another, you know, a couple of moments, he says in a reassuring tone, oh, no, look, it's all fine.

You know, the patient's okay. Let's continue and on they go.

Now, the patient, it bombed out on anesthetics should not have been able, in theory, not have been able to hear any of this, not been aware of any of these, this kind of fake crisis that's being played out.

You think anyone.

So, but what did the experiment show?

Well, what this experiment showed was was a month later when Levinson took each patient individually back to his rooms and questioned them.

And first of all, he said, you know, how was the operation?

Did you remember anything?

And they said, no, no, no, no, no.

And then he hypnotized them.

And under hypnosis, four of the 10 remembered at least parts of that conversation verbatim and repeated it.

Another four kind of remembered snatchers, but got quite distressed.

And two were like completely fine, nothing, nada.

Right.

They'd heard this.

They could repeat snatchers at this conversation verbatim.

This sounds quite unscientific in a lot of ways.

There's not a control group.

It's not a very large group of people.

There are problems with that as an experiment out there.

There's all sorts of problems with that.

I mean, the thing about this is, yeah, that's right.

It didn't adhere to the scientific method.

There were all sorts of reasons why this experiment was imperfect.

But the problem was that because the results were so startling, it's now completely, you know, it is now ethically impossible to repeat that kind of experiment in a scientifically controlled environment

because you might be doing harm to the patients.

Even though conversations like that happen every day in the in actual operating theaters.

So do we know that that patients can hear what's going on?

Even if they don't remember it, what's going on under a general anesthetic?

We know that we know that the we know that patients can keep hearing for quite some time under, particularly under some anesthetics.

And we also know that they can retain some of that information.

So the memories they've got aren't based around sight as well.

It's just based on hearing pretty much then, is it?

Hearing these conversations.

Well, mainly because when you're anesthetized, yeah, you can't see,

but also because the auditory part of the brain stays awake basically longer than the other senses.

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So, yes, there's processing going on.

Quite what that means is debatable.

But there were certainly experiments in the, you know, in the sort of late 90s.

And I think there've been some previously where they actually put in a far more measured and scientific way.

They put patients under anesthetic and then they because they could no longer say exciting things like,

you know, stop the operation, they would say really boring things like boy girl, bittersweet, ocean water.

And would the patient remember that afterwards?

Well, they wouldn't know that they'd remembered it.

So if they'd asked them later and they'd say, no, they remembered nothing.

But then they would do these things they could do.

Like there's all these tests you can do, which are like sneaky tests.

And so they're not tests for conscious memory, but they're tests for unconscious memory.

And unconscious memory, they kind of can measure because it's ways in which your behavior has changed,

even though you don't know it.

And so they might like, you know, with that, that sort of word pair thing.

When you wake up, they just read through, you know, they'd say the word ocean.

And then they'd wait to see and then they'd ask you to free associate with the first word that came to mind.

And what they found was sure enough, if you'd been if you'd been read ocean word water while you were under anesthetic,

you were more likely to say water as your as the first thing that you said after ocean.

Is there something about the active actually being cut under surgery that activates a part of the brain

that he is better or responds better to or remembers things better under surgery?

There's certainly evidence that and again, so much of this is controversial,

but there are certainly experiments that have shown that during surgery when you're actually being cut,

and I don't know whether it's because it makes you remember more,

but it actually pushes you towards consciousness because your entire body,

I mean, the thing under surgery, I mean, under anesthetic, it's like your body is, you know, your body still flinches.

There's a whole lot of stuff still going on.

And there's one theory that that basically pushes the rest of you closer to consciousness.

And when you're closer to consciousness, you're more likely to have those kind of unconscious or sort of subconscious memories

or learning or awareness or whatever you want to call it.

And that can be problematic.

You spoke to a whole lot of anesthetists all over the world.

You spoke to a whole bunch of different anesthetists.

No, I went around the world and spoke to anesthetists.

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And this is, you know, this is me who did no science, who basically, you know, failed maths in form four.

But I was so fascinated.

And, yeah, so my sort of journalist, me, went around the world and sort of said, what do you do? What is this?

And by and large, they're pretty open with you and happy to talk about these things.

Did many of them have conversations, have stories to tell about patients who remembered what was said in the operating theatre after surgery?

Some did.

I talked to a number of medical psychologists and, you know, there was a guy called Hank Bennett who I...

And he was interesting because he was the sort of guy who, when someone doesn't come good after surgery

or, you know, when people are sort of quite distressed, he's a medical psychologist.

He would sometimes get patients sent to him.

And, you know, and he had a couple...

He had this one story about a woman.

This was sort of in the 80s or 90s.

But a woman who, after her surgery, had been...

She'd run him and told him about this story.

She'd been very, very distressed.

She'd come out of her surgery convinced that she was going to die.

And she'd gone back to the surgeon and the surgeon had said, you're fine.

And she said, no, I'm going to die.

And he said, well, look, I think you should go and see a psychiatrist.

So she went and saw a psychiatrist who basically said, I don't know what's going on.

She went back to the surgeon and, you know, and repeated the conversation.

And he said, you're fine.

It was all fine.

And she suddenly burst out and found herself shouting out.

But you didn't get rid of the black stuff.

Didn't get rid of the black stuff?

You didn't get rid of the black stuff.

I should have said that it was a surgery.

It was a...

Remove a tumour.

Remove a tumour.

And there was this pause.

And the surgeon went, oh, my God.

Turns out that as they were sewing, sort of, you know, towards the end of the operation, he had started chatting to the people, to the other people in the operating theatre about the difficulties, how difficult it was to remove the stains on the grout in his bathroom.

The black stuff.

The black stuff was mould in his shower cubicle?

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The black stuff was mould in his shower cubicle.

And...

She'd overheard this?

She had overheard this under anesthetic.

And the thing...

Because I know, I know, it's like mind-blowing, really.

But the thing that really fascinated me about this was, of course...

I shouldn't laugh because it's really traumatic.

It's horrible for him.

The explanation is so banal, wasn't it?

It's so banal.

And I think that this is one of the things that has really fascinated me because this...

I mean, you know, there are stories about doctors saying terrible things when people are under anesthetics

and, you know, it used to happen, I think, quite a lot and it still happens sometimes.

But I think the real thing is that under anesthetic, people become incredibly vulnerable.

This is Conversations with Richard Fidler.

Now, earlier on, you were just saying before we had anesthesia, hypnosis was one of the few ways of diverting people from the pain of surgery.

Hypnosis is another incredibly weird thing.

No one really knows quite how and why it works.

Tell me about this study you encountered from Sinai Hospital in New York where an experiment was set up to treat women before an operation who were undergoing a breast cancer operation with a little bit of hypnosis to prep them for the general anesthetic.

Please tell me about that story.

I was really blown away when I read this story.

And to me, it sort of speaks to how powerfully unconscious processes kind of operate.

So to speak.

But basically, they got a group of women who were about to have their surgery and they sat them down beforehand and I think one group, they had a control group who they just kind of said nice soothing things to.

And the other group, they kind of did a bit of a sort of hypnotic kind of conversation, which was really, I think, talking very slowly and in a meandery sort of way.

What was suggested to them while they were in this kind of hypnotic state?

Basically, I think that they'd kind of recover well that they'd come through with sort of less nausea and less pain and generally that they'd just come out of the operation feeling pretty good.

Now, unlike the 11th study, this was a proper scientific study.

This was a very proper scientific study.

200 women over a period of time. There's a control group.

What did the results show for the condition of the women who went in

who'd had a little bit of hypnotic suggestion, soothing hypnotic suggestion before the operation

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as opposed to the women who didn't?

What it showed was that they were basically, they were a great deal better coming out of the surgery

than the women in the control group.

They used less pain drugs.

They were in surgery for a shorter amount of time because partly because they needed less pain drugs.

They woke up feeling happier.

Less distressed, less nausea too.

Yeah, so basically, yeah, they were much happier bunnies.

But also, when they did a kind of, you know, a cost calculation, they estimated that they had saved for each of those women, they had saved \$770 in theater and medical costs.

So massive saving all right, all around.

Human saving, cost saving.

So why are we not getting all these preoperative hypnotic suggestions?

Why are we not all getting this?

Yeah, go figure.

And they asked the people who did the study kind of ask that.

They sort of said, well, look, if there was a drug that could do this, everyone would be buying it.

Here's this thing that's basically free.

And look, I think we are very nervous about things like hypnosis.

I think we're nervous about the mind.

We're nervous about things we don't understand.

And maybe that's one of the reasons people don't really like to think about anesthetics and anesthesia too much,

because that's all of those things together.

It's the sheer weirdness of it once again.

Here we are once again at the weirdness of it.

You know, there's that famous scene in the movie Lawrence of Arabia,

where, you know, Petra Tools, they're doing the trick of putting his hand over the open flame.

And there's this scene and he seems to be able to do it for a long while.

And these other officers are watching him and they go,

here, let me try that.

And they try it.

They go, ow, ow, it hurts.

And he goes, yeah, how'd you do that?

How do you can do that for so long without the pain?

He goes, oh, no, I feel the pain.

He says, the point is not minding the pain.

Is that how hypnosis works?

It sort of kind of diverts you from pain rather than numbs it perhaps.

Look, again, more mystery, but certainly it diverts the brain.

And they kind of, they've done, you know, EEG sort of scans.

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So certainly it does kind of divert your attention.

But also there is some evidence that it actually changes the messages coming up and down the spot, the pain messages coming up and down the spinal cord.

So it can be incredibly effective.

I mean, people, you know, people today still have surgery occasionally, entirely under hypnosis.

And it's completely painless.

I mean, it's stunning.

You have to be pretty hypnotizable for it to happen.

I reckon.

I really wonder about it.

Like, you know, when you hear those stories and did patient after it was great,

I feel fine or recovered really well, felt no pain.

You think, oh, do you wonder if I got the nerve if that would need to do that?

I know.

I know.

That's what I think I'd change my mind halfway through.

But, you know, there's a doctor in Adelaide who I think still does this, who certainly has certainly has done it in the past.

You know, hypnosis is pretty extraordinary.

And it's a little uncannily like anesthesia in the things it does.

It alters pain perception.

It alters memory.

Right.

So you move away from all those memories of it.

Messes with consciousness.

Messes with consciousness.

Now we come to the kind of the odd range of horror stories that comes from a general anesthetic.

Tell me about your friend Rachel and how you heard her story.

Okay.

So in fact, my starting point for the whole kind of anesthesia project was a conversation that I had like way back last century, 1999.

And I met this woman called Rachel, Rachel Benmayer.

And she told me the story about the caesarean birth of her second child.

And she basically had to go under a fairly rushed emergency general.

And she, you know, they put the drugs in, she passed out, and then she woke.

And she basically woke into complete confusion and extraordinary pain.

She had no idea what was going on except that she thought she must have been in a car accident.

And she thought that the car must have been reversing backwards and forwards over her.

And so she kind of lay there in complete panic for a while.

And then she started hearing voices.

And she started hearing voices and kind of incredibly banal conversation.

And she realized that she was in the operation.

She'd woken up, but she was utterly unable to move.

And what, they had that effect or psyche being completely paralyzed by the anesthetic?

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Well, I mean, the experience at the time was, was completely horrific.
And she actually said that she was pretty sure she was going to die.
But she then, I mean, what interested me in Rachel's because I mean,
I don't like to go on about these stories too much because they are so scary and they're very, very rare.
But in Rachel's situation, she actually decided to try a technique that someone had told her about years ago,
which they'd said, look, if you're in extreme pain, you can't avoid it.
The best thing to do is to go into it.
And so because she thought that the alternative was death, she said, and she described it.
She said to me, I turned myself around and I borrowed into the pain.
And I kind of said, well, and did the pain lesson?
I said, hopefully.
And she said, no.
She said it got more and more intense.
But then at a certain point she said she felt that she pushed through something.
She pushed through some threshold and she found herself in a completely other space.
And she called it an enormous library.
And she said in this library, she felt powerfully that everything that had ever been known and that ever would be known by humankind was in the library.
And she also knew that she wasn't meant to be there.
And in that kind of space, she received a sort of series of messages or something.
And she has no idea whether they were from outside, from inside.
But to me, the whole, I mean, to me, that whole story was so fascinating
because he was someone who in fact wasn't unconscious,
but who in extremis actually went into a completely altered state of consciousness.
While a baby was being taken out of her open belly.
While a baby was being taken out of her abdomen.
And while she could hear the doctors saying, ah, you know, here she is.
It's a little girl.
Was she traumatized by that experience?
Yeah, she was extremely traumatized for a long time.
She did a lot of a lot of counselling,
although she didn't actually get any assistance from the hospital.
Because this was 1991, I think, not that long ago.
So this is, this is, you found out more stories along these lines
where of people who had found themselves not quite given the right amount of anesthetic
or the right balance of anesthetic.
They've had that awful traumatic thing of being aware, somewhat aware,
but paralyzed during surgery.
Yeah, yeah.
And it's only a problem if you're paralyzed,
because if you're not paralyzed, you can let people know pretty quickly that you're not happy.
So this is really, I suppose, the trade-off for making anesthetic much safer.

[Transcript] Conversations / What happens to us while we're under anaesthesia?

Because as you said, you know, the muscle relaxants added to that cocktail, the thing that the paralyzing agents.

So you need less of the other stuff, which is actually more dangerous to your life.

And since the introduction of this muscle relaxant, the fatality rate when it comes to anesthetics has just dropped enormously as a result because you need a lot less of these drugs.

So it's made it safer in terms of mortality.

But you're not quite so far below the surface of consciousness as you were before with these other drugs.

Well, yes, yes.

And also no one can know, because it is actually almost impossible to know whether someone is unconscious or not.

And anesthetists will acknowledge that, although they say they've got, you know, they've got monitors, they've got all sorts of ways of telling.

And I mean, there is actually an anesthetist in Hull in the UK

who kind of developed this pretty amazing way of telling

where he actually puts a, when, before he paralyzes patients,

he actually puts a blood pressure cuff around their arm

so that their hands can still move so that the paralyzing agent doesn't go into their hands.

And he...

He's pretty clever.

I know, pretty clever.

In fact, it was someone who taught this technique to him.

His mentor taught it to him.

He, you know, in the 90s, did this experiment that was rather shocking where he put, again, a group of...

It's always women and they're always having got a lot of logical procedures.

I'm not sure why, but he put them under.

But then during the surgery, he would squeeze their hand...

Well, he would hold onto their hands and he would say, you know, hello, Jane, you know, this is Dr. Russell.

If you can hear me, I want you to squeeze my hand once.

And then if they squeezed, he would say, if you're in pain,

I would like you to squeeze my hand twice.

And he actually stopped that operation, that experiment halfway through because a really high proportion of those women were both awake, indicating they were both awake and in pain.

Now, this is not within that...

This is not an anesthetic regime that is used anymore, probably partly.

I mean, partly because of that experiment, not used by itself anyway.

But he's done it more recently with more recent drugs and people keep squeezing, yeah.

I've seen it happen.

You've seen this happen in surgery.

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I saw him do it.

I mean, I saw...

Yes, yes, I went to Hull and I watched it from the side
and I watched this kind of, you know, hand squeeze conversation with a woman.
It was right towards the end of her surgery.

She was coming...

She wasn't deeply anaesthetised.

She was sort of coming to the sort of very shallow end.

But she was still anaesthetised enough
that she was within the range of the acceptable surgical range.

And she was fine. She was comfortable.

The only memory I have at the end of my general anaesthetic
is coming to slightly and being in pain and being asked.

I have a vague memory of nurses, I think,
doctors standing over me going,
are you in pain? Are you in pain?

Can you...

And I asked me to give that number.

Again, I gave a high number and bore mothers out again.

And then when I woke up, you know, I was in the land of morphine,
I think, or something like that.

I was quite happy and calm once I came up again.

So there seems to be a greater consciousness of this.

But it does seem to beg the question,
maybe we do experience or some people experience
a high degree of pain during surgery.

We just don't remember it afterwards.

What do you think of that?

Well, I think it's one of the great...

I mean, you know, this whole conversation I've found
is like a piece of string and whichever bit you pull,
something else gets tighter.

And, you know, I think the things that people aren't aware of
about anaesthesia are, one, the paralysis.

And two, the memory question and particularly
some of these new, very effective, kind of lovely,
because you feel good afterwards,
shorter-acting anaesthetic drugs.

They're also...they're extremely powerful amnesic agents.

So they do. They obliterate your memory.

So you're kind of left in this kind of very strange position
where, you know, if you were kind of...

if you agree that what you want from an anaesthetic
is to lose consciousness, pain and movement and memory,

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the only two parts of that you can actually measure are memory and movement.

And if you're paralyzed, you can't measure the movement.

And if you've taken a drug that takes away your memory...

Did it really happen?

We're a bit like those androids in Westworld, you know, which wake up every day having their memory rebooted and even though something terrible might have happened in kind of a gunfight or something like that, they wake up the next day and it's all been wiped clean and it's fine.

We should say that most of the time in surgeries

this really doesn't happen.

And some people come to remembering very funny things from surgery.

Really? Like what?

Well, I mean, one woman actually woke up while her child was being delivered and she was delighted because she was kind of there and she wasn't in any pain.

And the thing about waking is often people wake and they're not in pain and they're not distressed.

But it's also true that it's the paralysis

that the paralysis is problematic

because people get very, very frightened.

And I think one of the reasons why it's important

to actually open up this conversation

is that if people know that it's possible

that they may wake up and just for a little bit

and they may be paralyzed, if they know that that's okay,

they're going to feel much, much better.

What often happens is people wake up and they think they're dying

or they think there's a lot of research showing

they think they're dead.

And there's some strange afterlife.

Yeah, or something.

And all that their spinal cord's being cut.

And so there's a very high rate of PTSD

after these sorts of experiences, even without pain.

So information really can be power.

You've discovered that this is an ongoing conversation

amongst peak bodies, amongst anesthetists.

And anesthetists are talking about these things all the time

in their conferences and quite so.

And you found that actually just talking to the patient

before the operation, hypnosis or no hypnosis,

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can be enormously helpful.

Yeah, well, I mean, I found that for myself.

But also, I mean, yes, there's plenty of research.

Or no, not plenty.

And in fact, when we say there's a lot of anaesthetists researching this, there are some anaesthetists researching this a lot.

I think a lot, particularly aware of all of the conversation.

There's been a big English study.

And, you know, the combination of information and reassurance.

And also, if something does happen and all go wrong, listening respectfully makes a massive, massive difference.

You went out to Ann Arbor in Michigan in the United States to meet a really interesting guy called George Mishor, who's an anaesthetist or an intern.

I'm not quite sure what his medical status is now.

Well, he's a neuroscientist and now a very, very senior anaesthetist.

Okay.

But he was a kind of intern anaesthetist at that point.

He was a very, very, he was in his 30s, extraordinarily bright.

It was like his third degree or something.

So he's got this idea, this kind of, this model, if you like, of what unconsciousness is.

Is it emptiness?

Is it a quietness?

Is it an absence or something?

He's a really interesting and a different idea.

Tell me about what he told you.

He's really fascinating, yeah.

He developed this theory that being under anaesthesia wasn't necessarily just, I mean, traditionally, the idea has been that the anaesthetics sort of turned down the brain like a sort of dimmer switch.

And he developed this theory and he was building it on research other people had done, but he came up with this idea that maybe anaesthesia was more like it dismantled the brain.

And there's a theory that had been around called the theory of cognitive binding, which is this idea that actually consciousness, we become consciousness when all of the kind of bits of our brain are communicating

[Transcript] Conversations / What happens to us while we're under anaesthesia?

and there's a level of communication in your conscious.
And he said, George said,
well, maybe actually what anesthesia is,
is a process of unbinding.
And the sort of metaphor he used,
which was really helpful for me,
was he said, look, it's like, imagine an orchestra.
And so, you know, the thing about an anesthetic
is a general anesthetic is the messages still get through
from, you know, your finger or your toe
or wherever it's being cut.
It's not like a local which deadens the response
in the finger.
That message goes all the way up into the brain.
And the Georgia theory is that essentially
the anesthetics stop the brain.
So all that information is there.
It's like in jigsaw bits,
or it's like the individual players in the orchestra.
They're all sitting there.
They're kind of tuning up.
They've got their instruments.
The instruments all work fine,
but they can't play together.
And if they start to play, it's just noise.
It's not music.
So consciousness is music.
Right.
Consciousness is music.
It's all the parts of the orchestra playing together
with one another.
With one another.
With one another.
But unconsciousness, according to his theory,
is kind of like a tuning up process
or just banging around in the corner with their instruments.
It's not coherent then.
It's not coherent.
It's not coherent.
And in fact, he's taken that analogy further now
and now he's not talking about an orchestra anymore.
Now he's talking about jazz.
The last conversation I had was all about jazz.
So that's a whole other thing.

[Transcript] Conversations / What happens to us while we're under anaesthesia?

So finding out all this stuff and what you know anyway,
ahead of this operation you went in for your back.
What do you now want to happen if you go in again,
say, for another operation
and you have the anaesthetist comes around to you
to meet you or talk to you as they do,
which is a very nice conversation.
What would you say to the anaesthetist
in terms of what you'd like to happen before you go under?
I would say,
I mean, I think there are different sorts of people,
but for me, I'm the sort of person who likes information
and I would like to know what monitors the anaesthetist might be using.
I'd say I'm nervous because if you tell someone you're nervous,
they're going to pay particular attention to you.
If you've had any kind of previous experience of being aware
or anyone in your family has, it's really worth mentioning.
Again, I think it's about communication.
You know, I would like my anaesthetist to ring me
before I'm in the hospital terrified
and actually say,
would you like me to talk you through some of this?
And I would say yes.
Some people might say, maybe not so much,
but I do think that to have that conversation
about the remote possibility,
particularly of waking up paralysed, is really important.
And also, I would like them to...
I would like to know that during the surgery,
as some anaesthetists do,
I would like to know that they would be talking to me,
not to each other, or to me as well as to each other.
I would like to know that they would be using my name.
And I met this beautiful anaesthetist last night in Brisbane.
And she said that...
She said, oh, you know, towards the end of operation,
when the patient's still unconscious,
she said often, staff start talking about the patient.
They start talking about the prognosis.
And she said...
And she said, they think I'm a bit nuts,
but she said, I go and I put my fingers in their ears.
I block their ears so they can't hear.
The patient's ears, right.

[Transcript] Conversations / What happens to us while we're under anaesthesia?

In the patient's ears.

So I, you know, myself,

I think they could have a sign on the wall
of the operating theatre saying,
you know, the patient can hear.

The patient...

They may not be listening,
but they may well be able to hear.

How did you go with your operation anyway?

Well, the operation's one thing,
but I suppose how did you go with the anesthetic
and the operation?

Well, I had a completely delightful anesthetist
who was probably terrified of me,
because I told him how much I knew about anesthesia.

And if that, what then?

Yeah, yeah.

Oh, look, you know, I came out and I was just so happy.

I was so delighted to be alive.

And then I had to get on with, you know, recovery,
which was a whole nother question.

Did you ask questions about what was happening to you
and what you were saying as you were going under
and coming up again?

Yeah, I do.

And my mum, my mum was with me when I was waking up,
and I'd briefed her before the operation.

I said, mum, I want you to ask me the minute I come out,
I want you to ask me if I remember anything,
because people often do remember things,
and then they forget very quickly.

Right.

And mum was like, yeah, okay, whatever.

And so I can remember being on the...

Oh, no, I don't remember being on the trolley.

I remember asking her afterwards,
and I said, mum, did I say anything?

And she said, well, yes.

And I said, well, what?

And she said, well, most of it I couldn't make out.

And all I could really make out was you kept saying
bad playground.

Sorry.

Yeah.

[Transcript] Conversations / What happens to us while we're under anaesthesia?

Do you have any idea why you would have said that at all?

Well, I sort of do,

because in a sense it made sense,

because I think, you know,

the drugs can make you feel pretty amazing,

but also playgrounds are full of metal and...

Oh, the operating theatre's the bad playground.

Yeah, the operating theatre.

I think that that was the operating theatre.

It's off the mark today.

I see now, right.

So the operating theatre is the bad playground.

I reckon.

Right, full of sharp edges.

I'm thinking.

Who knows?

That was what I said.

I never remembered saying it.

This is one of those things

where the humanities intersects with the science

really well, I think, writing a book like this,

is that you sort of hone in on something.

You come closer to a mystery there.

Overall, what do you know now that you didn't know before?

Kate, can you think of how you're different

about this stuff now?

Well, I know how much we don't know.

I know that there is mystery

at the heart of this,

and I think it's fine to have mystery.

I think one of the things that happens is we tend...

You know, the sort of medical model tends to be

to try and make things clean and neat

and with sort of quite sharp edges.

And there aren't sharp edges in this conversation.

You know, and I think it's...

And as far as I'm concerned, going into an operation

is...it's a process that you go into

and should be able to go into

with your doctor and your anaesthetist,

and it's something you're doing together.

It's not just something that is done to you

and that as a patient, you remain a person.

How have Anaesthetists responded to this, to your study?

[Transcript] Conversations / What happens to us while we're under anaesthesia?

I've had some really good feedback so far,
and, you know, this...
Anesthetist who was in the audience last night
and she put up her hand at the end and said,
I'm an anesthetist and I thought, oh, no.
And she said, no, that was great. I completely agree, you know.
But she also said, you've got to know,
we really, really are very aware of this stuff these days.
We work very hard to communicate.
We work very hard to look after our patients.
And, you know, basically everyone in the audience said,
oh, we want you as our anesthetist.
Ask for your by name.
What a fascinating story.
And it's been so great to speak with you, Kat.
I really appreciate you coming on the program
to talk about all this fascinating stuff. Thank you so much.
Thanks, Richard. I've enjoyed it.
You've been listening to a podcast of Conversations
with Richard Feidler.
For more Conversations interviews, please go to the website
abc.net.au
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