Unexpected Elements is the podcast exploring the science behind the headlines.

It's a real melting pot.

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This is Andrew Peach in London and for this week's Happy Pod,

I'm joined by Sheila and Chris in Texas with news of a superhero dog.

Oh my goodness, Moose is the most amazing dog.

He literally saved our lives.

We woke up, Moose alerted Chris and Anya.

They quickly got up and let him out and it was at that time

they realized that our neighbor's boat was on fire.

We were living on a boat in Virginia and our neighbor's fire

had quickly spread to our boat after we got off the boat.

Moose truly is a hero. He saved our lives.

Also on the way, the bra that can spot breast cancer

inspired by the arms of its designer.

I was sitting by her bedside while she was living her last 12 days

with a piece of paper in my hand and I was drawing an electronic bra and she loved the idea.

The Winnie the Pooh sketch that could be worth tens of thousands of dollars.

This wasn't in the library on a wall and they found this in a cellar drawer

in a taped up frame in an old tea towel where it seems to have languished for possibly decades.

And if you're swimming 50 kilometers in the sea, who do you talk to?

I talk to the jellyfish as well sometimes. I see you going under me.

That's guite good fun and I love looking at the nature. It's lovely.

Those stories on the way in the Happy Pot.

First they're back to Texas and the dog who came to stay on a houseboat owned by Sheila and Chris for a few days.

Lucky he did because in that time he saved the whole family from a fire.

He now has a new permanent home in Franklin with Seora.

So what kind of dog is he?

He is a great Pyrenees, a great big white dog.

His personality was just the best.

Actually, I'm not really a big dog person, honestly,

but we needed something fun for the kids to do because they were kind of being grumpy.

So I'd heard about this program where you could check out a dog for the day

and that's all we were going to do.

And we walked past a lot of dogs who were very loud in there.

It's a long guarter of dogs.

And when we got to the end was Moose and he was just chilling out

and kind of had a smile on his face and was like, Hey, what's going on guys?

Just a gentle giant is the best way I can think of to describe him.

Of course, we lived on a boat.

We knew we would never be able to adopt Moose full time,

but the leash from the Humane Society says, please adopt me.

Every person that came by rubbed his head.

He's just that kind of really approachable dog.

He sounds a dream, I have to say.

Now tell me about how Moose saved you at home.

You've taken him in just for a short period of time.

What happened?

Moose came home for a second night on the boat and it was going to be his last night with us and woke up early on Sunday morning, much earlier than we would normally get up.

And he got my daughter and myself up and he had us get off the boat.

And that's when we noticed that the boat next to us was on fire.

And we went immediately back on the boat and got everyone awake and we were able to evacuate the boat.

And it happened really quickly in terms of how flammable everything was.

The fire spread and became a really big inferno within a matter of minutes.

The truth of the matter is, if Moose had not gotten us up,

the fire came in right where the kids were asleep.

So it just really would have been a catastrophic situation.

Moose truly is a hero. He saved our lives.

Like having some kind of guardian angel.

Yes. I'd like to think that, yes.

Obviously Moose saved you and you got a lot to deal with,

but you still had the whole situation of Moose being adopted.

And that's where you come in, Siora.

How did you first come across Moose, this incredible dog?

My husband and I were hanging out on our back deck around the pool

and I was scrolling through my phone and I saw the Humane Society had made a post saying that he had been returned to the shelter because his adoption just didn't work out.

So when I told him that he had been returned,

the first thing he said to me was, well, go get him.

And I was like, all right.

So that's exactly what I did.

And he just fit right on in with everybody from the moment that they were introduced.

So we have seven other dogs, not including him.

He made eight.

Excellent. That sounds like guite a collection for Moose to fit into.

Sounds like a pretty good home, Siora, doesn't it?

Oh my gosh, we couldn't be more thrilled.

One of the first pictures we saw that Siora posted was Moose by the pool.

And there he was on this five acre farm, chilling out by the pool.

And I said, yes, this is exactly the kind of life that Moose deserves.

It sounds like you've got visitation rights sorted though.

We hope so.

We can't wait to come visit the farm.

Absolutely.

Sounds like you need like a framed photo of Moose somewhere around you until you get to go and see him.

Yes, exactly.

It's amazing.

You know how when you get a new car, you see that car everywhere?

Yes

Well, with Moose, I mean a number of places that use Moose in their name.

We saw a Moose in Colorado.

We were at a national park.

We saw a Moose.

We went to a baseball game and one of the players nicknamed was Moose.

We just kept seeing Moose everywhere.

Yes.

Our lives are forever.

We've been, we've been Moosed.

Thanks to Sheila, Chris and Siora in Texas.

And there'll be a bit more Moose magic at the end of the podcast.

The rescue of the American caver Mark Dickey made the headlines earlier this month.

Despite being experienced, the 40-year-old got stranded deep inside Turkey's Moorja cave system after becoming seriously ill.

He sent this message from a thousand meters below ground.

It is amazing to see how many people have responded on the surface.

I mean, I need a lot of help to get out of here.

So I'm hoping to see many people from many countries all coming together.

We take care of our own.

And it's really special to be taken care of.

And it was indeed the international community of cavers who joined forces,

led by the Croatian Dinko Novicell,

head of the European Association of Cave Rescuers.

We need four hours to reach the location in very, very full roads.

It's very, very far and distant place.

Cave itself is very deep and technically very demanding

to reach the location where the casualty was.

It's a cave just for elite people.

Like in climbing, if you want to go in for Everest,

it's equally the same challenge.

And for listeners who aren't familiar with this,

when you're going into a deep cave like this, an unexplored cave,

you leave a rope trail that you can then follow back to get out.

Yes, you have to rig the cave to put the rope just to reach that side.

Tell me about the operation to get Mark out,

because you're there at the entrance to the cave.

But meantime, the whole global caving community is involved,

offering expertise, offering ideas about how to get Mark out quickly. Well, this is very demanding operation, we will say, never seen before.

But the big difference is the health problems of Mark,

he had strong bleeding in the stomach, he lost so much blood

and this bleeding did not stop till the end of the rescue operation.

So doctors were constantly with Mark because he was not able to eat,

so transfusions were necessary each six, seven hours.

And what was also very important that we were in a far distance area

and logistic was really challenging to build the camp in this area

and to provide logistic support for 200 rescuers was really demanding.

So first of all, you've got to get to Mark and get medical help to Mark inside the cave.

Tell me about the process of getting him out, how did you get him out?

The first was that the doctor should say now he's ready for transport.

So very narrow passages just to get out in total 57 hours and 7 minutes and we consider this very, very fast.

Mark got out of the cave and came back to the camp where you were.

What conversation did you have with him?

How did you feel when you saw him and the whole thing had been a success?

Well, honestly, he visited me once in my hometown

and somehow my son, he did not want to have friends or something like that

but he felt okay with Mark and they together went in one restaurant to eat chelabchichi

and then I said to Mark, you know that I promise that I will rescue $my\ son$

because you have to pay him a chelabchichi.

And the chelabchichi that we were hearing about there from Dinko is a Croatian type of meat kebab, by the way.

Breast screening for early signs of cancer usually relies on mammograms

which involve the breast being compressed between two x-ray plates to try to detect abnormalities.

It's not particularly comfortable, hasn't changed much over the years.

Now researchers at MIT in the US have designed a wearable ultrasound scanner

that can be attached to a bra.

It takes images of the breast tissue from many different angles,

picking up any problem at an early stage.

Its designer drew inspiration from her late aunt Fatma

who was diagnosed with late stage breast cancer at the age of 49.

While at her bedside, Kain and Dagda Riven made the first drawing of the device that's now a reality.

She's been talking to Gareth Barlow.

When they have this technology at home, it will be a piece of a bra that they wear almost every day and they also have a phone and this technology will guide you how to take the image again with just simply clicking a button and all the time when you get these images

it will be fed to your doctor or oncologist and then if there is a question mark in your breast tissue then you will be called and asked for an additional screening which is mammography.

So the main goal of this technology to avoid the need of frequent screening at hospitals

because mammography is very painful and it is radiative and that's why you cannot have that every single year

and by the time you are scanned almost 55% of high risk women, the survival rate decreases to 22%. But with a simple bra and a phone, you will be able to increase the survival rate up to 98%.

That's a remarkable figure.

I'm interested then and that might be the answer, what motivates you

because improving patient experience, improving survival rates is a huge thing to be able to say you do

as a course of your work.

Yeah, this research is inspired by my late aunt who passed away because of breast cancer and I was sitting by her bedside while she was living her last 12 days.

At that time I was just trying to comfort her with a piece of paper in my hand

and I was drawing an electronic bra and she loved the idea and she even gave me great feedback and it was a dream on a piece of paper but now it's real in my hands

and the technology has potential to save 12 million lives per year globally like my aunt.

So it will be an amazing profound impact not only for patients as well as for the family members like me

so I'm just hoping that it could help many more women all around the world.

You say the number 12 million in almost the trip of a tongue.

Do you ever stop at Point Single Day or on an evening

and consider the impact that you and your team are making to people's lives?

Yeah, I would say like every single morning when I wake up

I have the motivation and patience to work on this technology

because I know many, many people are waiting for this technology

which will make profound impact on society and we are very much excited to make this change in the century.

You have the final product but I have to ask do you still have that piece of paper that you drew that picture on

and you shared with your aunt all those years ago?

I do and it is in a frame in my drawer

like whenever I have a failure in any experiments I hold it in my hands

and try to remember that moment so that it can reach hard to me and I can go ahead and work again.

I even show this to my students whenever they have a question mark about anything that we are doing

so I just show them and say this was dream now it's real and we can make many more dreams real so let's go for it.

The electronic bra that can detect breast cancer.

We love it when you get in touch with us with your happy news from your part of the world or with the sounds that you love to hear.

I wonder if you can identify this one from Catherine.

There is no sound that I am so fond of as the song of the loon.

As I've lived abroad so many times in my life this sounds reminds me of home, the lake, the forest and the crisp air.

At dusk when the loon wails it says I'm here the water is clean enough for me to stay.

Welcome to your happy place.

It's also one of the most Canadian sounds you can hear other than a hockey puck on a stick perhaps.

And the loons from Catherine got us thinking about the sound you love because it reminds you of home.

Like this one from my colleague Anbarasen Ethirajan it's an instrument called anadaswaram.

Music

This is part and parcel of the South Indian culture.

This music has been there for centuries together.

So I grew up listening to this music from my hometown.

Every morning a temple nearby will be playing this anadaswaram.

Early morning you can't avoid it.

Sometimes you wonder at five o'clock oh my god can they stop it.

But then it becomes part of your culture and you see that being played in a religious processions.

And also at home like a naming ceremony or a year piercing ceremony for the kids or even a housewarming party.

This music will be part of it especially during weddings they play this music.

You know what happens is about a thousand people in the wedding hall.

People will be chatting and for the children they will be catching up with their cousins living in another town.

Different things will be happening.

But when this particular music played then everyone will be focused on the bride and the bridegroom.

And people will be throwing rice mixed with petals wishing this couple a long life.

So this music means always a happy thing a happy memory whenever someone plays this.

So it transports you basically back to happy occasions.

Yes indeed.

In fact this is that instrument which will always associate yourself with the happy thing because the families come together in India.

And it is a moment of joy for the families and also for the relatives and friends who come there.

So whenever it is played it is a happy memory which means that the music means a lot.

So this was played even for my wedding.

So it takes me back to that scenario when it's happy music.

This is the happy occasion.

Some social event, a big event.

You play this Kathima.

Even better.

Still to come we'll go back to Canada for a cycle ride through the foothills of the Rocky Mountains.

The future is ahead of us.

A very sensitive to the choices that we make today.

If we don't start fixing it we're going to be victims of it.

Get engaged.

The climate question from the BBC World Service.

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The 53 km swim from Northern Ireland to Scotland is considered one of the toughest in the world.

Johnty Warnkin is the first solo amputee to battle the strong currents and the jellyfish to do it.

I love open water swimming for a number of reasons.

One, I love swimming.

Two, I love getting out in nature.

Three, do you do my sort of disabilities?

It's one of the only times I'm pretty much pain-free is when I'm doing normal swims out in the water. And four, you find, once you do it, you find a community of people that's really quite an exception of anybody.

It really doesn't matter what, you know, colour, creed, faith, body shape.

Everyone is just so welcoming and just wants you to do the swim that makes you happy.

It doesn't really matter if you swim five metres or five hundred or five miles.

No one cares.

You lost a leg in a car crash.

So just describe how you swim, how you swim differently than other people might.

The bits of me that are missing or that are a bit broken that matter when swimming is my left leg is missing below the knee.

My right ankle is pinned.

I nearly lost my right leg as well.

So my right ankle is pinned and severely arthritic.

So I don't get a huge amount of movement in the ankle.

So they don't get much of a kick to help with buoyancy and propulsion.

And then the big issue for open water swimming and certainly sea swimming is that when I get tipped over onto my left,

I don't have the mechanics or enough of the mechanics to push down my left leg to push me back to right me.

So I'm unbalanced in the water.

I think I've got a bit of insight into this because one of my very close friends, Quadriplegic,

smashed a few world records sailing.

And she used to hate it when people said to her,

well, isn't life hard enough?

Haven't you got enough to deal with without taking on these physical challenges?

Give me your take on why that's the right thing for you to do.

Because why should able-bodied people have all the fun?

These things are tough swims.

The North Channel is known as the toughest of the seven classic channel swims.

So whether you've got legs missing or not is a really tough gig.

The fact that I live with pain on a daily basis, well, so be it.

That's just my life.

I would be living that if I wasn't swimming.

I like being outdoors.

I love swimming.

I love a challenge.

And I think I can do it.

As you were doing the swim, I'm guessing you always thought,

I'm going to do this.

I'm going to conquer this.

If you didn't have that kind of mindset, the whole thing might be hard to take on.

No, you'll be surprised actually.

I was two to four.

I was guestioning my sanity because I'm not really into the rhythm of the swim.

Not only the rhythm of my stroke, but the timetable of the day.

So there's a routine to it all.

And then there's just the melodic movement of your arms.

Half the swim you don't remember.

I certainly don't.

I go into a place where I think about literally nothing.

So really, all you're focusing on is swimming and swimming.

And I love that.

I've talked to the jellyfish as well sometimes.

I can see you going under me.

That's quite good fun.

And I love looking at the nature.

It's lovely.

What did you say to the jellyfish?

Were you talking to them?

Oh, I was.

I can't say.

I can't say necessarily on this.

But you just say hello.

You go your way.

I won't disturb you.

You just don't disturb me.

John T. Swam the North Channel in 15 hours, 24 minutes.

He's now preparing to compete in the ice swimming championships in Romania.

The friendship between the children's characters Winnie the Pooh and Piglet is known around the world.

A rare original sketch by the book's illustrator Ernest Howard Shepherd has been discovered hidden under a tea towel in a drawer in the library of the late businessman and bookshop owner Christopher Foil.

And it could be worth tens of thousands of dollars.

The auctioneer is Chris Albury.

It's a nice, wistful scene of Winnie the Pooh and Piglet with their backs to us walking into the sunset. And it's in the book at the moment when they turn back into toys effectively.

And the final concluding scene is Winnie the Pooh being dragged up the stairs by Christopher Robin bump, bump, bump up to his bed.

It's nearly a hundred years old, the original sketch.

And there can't be too many people from around the world who don't know the characters.

But it's certainly one of the more iconic images from the series.

And we all treasure it.

How was it discovered?

Well, it's quite magical in itself.

We're selling the library of Christopher Foil from the famous Foil bookshop.

And it's a fabulous library with books going back to the 13th century.

And this wasn't in the library on a wall, but was found by Christopher's widow Kathy and bookseller Matthew Butler looking in drawers.

And they found this in a cellar drawer in a taped up frame in an old tea towel where it seems to have languished for possibly decades.

Well, there's an advert there for wrapping things up and preserving them in tea towels, isn't there? Because that seems to have worked phenomenally well.

Yes, whether it was put there because it wasn't light or to keep it safe, we can't guess.

So when I looked at it, Kathy said, is this original or do I give it to charity?

And I was expecting it to be a reproduction.

But even through the taped glass, I could see this was pen and ink for sure and absolutely genuine as I am standing.

So that's how you got hold of it. But do we know how Christopher Foil got hold of it?

Well, I've had to speculate and it's not certain, but his aunt ran the Foils Enterprise and she'd set up a series of Foils literary lunches and they had guest speakers.

So my assumption is that it was perhaps done as a gift by Yates Shepard when he was guest of honour at one of the literary lunches back in 1958.

The original, most recently, that sold in New York for \$220,000.

We can't find evidence of another original of this specific scene having sold before.

So we think at a tenth of that price, it's a bargain.

I mean, these characters are universally known and loved.

This is a magical piece which will undoubtedly inspire hundreds of collectors worldwide.

Auctioneer Chris Albury.

On the Global News Podcast this week, we met Roger.

Roger listens in Calgary in Canada while doing his morning exercise routine.

Roger got in touch to share the sound that makes him happy.

It's the sound of an e-tandem.

Well, when I was 12 years old, I learned to ride a two-wheel bike and my brother was way ahead of me

He was riding a two-wheeler when he was five, but since I was blind, I wasn't totally blind.

I had a little sight, but after I crashed my mother's bike a couple of times, my father decided that he should get me a tandem.

You were introduced to a tandem pretty early on in life.

Tell me about the tandem that you've got much more recently.

Describe it to us.

When you get a bit older, we were finding that we were struggling to get up the hills.

So for my 80th birthday, we got an e-bike and we've loved it.

And one thing that's happened as a result of getting your e-tandem is it's become a way of spending more time with your son.

Well, that's true, yeah.

He suggested this back in May.

He said, why don't we take it out and visit a couple of the many, many brew pubs.

And particularly with men, I think this is fair to say, sometimes in order to spend time together and chat and catch up,

we need to be doing something, right?

And this is such a good example of that.

This is true, yeah.

We're not into deep discussion while we're riding because we're pedaling madly along the pathway and he's pretty strong.

And so we gather a lot more speed than we do when I'm riding with my wife.

When I'm riding with her, we tend to be rather sedate.

Thanks to Roger, Isabel listens to the podcast in the Swiss mountains, but this is the sound that makes her happy.

And Isabel told me where she recorded it.

I was in North Germany on the East Friesland Island of Northern Nile.

I was sitting in a beach chair and watching the tide, the waves.

Then I thought I could record it so I could still hear it when I'm at home.

It reminds me of how beautiful our planet is and the nature and I find it amazing.

And because I live far away from the ocean, for me, every time when I'm there, though, it is a very special moment.

I like observing the nature of the ocean, the animals and the plants.

And I like watching the tide as it comes and goes and I haven't had much opportunities to observe that and it is very special.

Thanks to Isabel, Global Podcast at bbc.co.uk, our email address.

If you'd like to get in touch.

Now finally, back to Moose, the dog who saved Sheila and Chris from a fire.

There's a dog that will steal your heart away and by the end of the song you learn how to save the day.

Now what you need to know is that Chris is the musician and Moose the dog has his own Facebook page, of course.

So if you'd like to hear more of this, Moose the Musical, if you like, performed Overlooking the Pacific Ocean, you know where to go.

The happy pod was mixed by Pat Sissons, the producer was Anna Murphy, the editor was Karen Martin.

My name's Andrew Peach. Thanks for listening.

Don't you worry your cause alarm will shut it up and get in a farm.

Moose is the dog that saved the day.