

Bianca

Have you ever wondered what lurks in a house of slime hidden in the middle of a forest? Is there a place for psychedelics in our medicine cabinets? Why are scientists talking about the formula P Doom and what does it mean for humanity? Hey, it's Bianca here from Science Write Now. I'm excited to share a bonus episode on the podcast this week coming to you live from Books. It's a local indie bookshop in Brisbane where I recently hosted an in-conversation event with two incredible humans of the science and storytelling world to celebrate the launch of The Best Australian Science Writing. This much-loved anthology, now in its 14th year, selects the most riveting, urgent science stories from Australian writers, poets and scientists.

As the book says, the best science writing doesn't just answer questions, it cracks them open, dissects them, probes them and solves their mysteries. It takes you on a journey of discovery. In this conversation I'm joined by co-editor Carl Smith and contributor and co-founder of science right now, Dr. Amanda Niehaus to celebrate the 14th edition of The Best Australian Science Writing. Well, what are you waiting for? Let's go on that journey.

Bianca (Live event begins)

Hello everyone and welcome to Books at Stones. On this balmy December. Eat the fact that you've shown up tonight. It's December, we get it. Kind of a crazy season but also supporting brick-and-mortar bookstores as well. It really is the heart of the community. So, thank you. So, my name is Bianca Milroy. I'm a freelance writer, editor and podcaster with a passion for science communication and I host the events and the Crime Book Club here. I would like to open this event by acknowledging that we meet tonight on Yuggera and Turrbal Country. I pay my deepest respects to elders past and present and I would also like to acknowledge that this always was and always will be Aboriginal land and a place of community, continuing culture, storytelling and of course, scientific discovery.

Now, I hope you're all strapped in and ready for a voyage tonight because not only are we putting on our very own Brisbane launch of The Best Australian Science Writing 2024. Don't think that's been done before, so we're incredibly excited about it. But we also had the rare

opportunity to hear from one of its esteemed editors and a talented contributor and finalist for this year's Bragg Prize for Science Writing.

I'm going to introduce our special guest in a moment, but firstly, you're probably wondering why you've got bingo sheets on your chairs. And no, this isn't seniors' night at the RSL. You're in the right place. We've got a free copy up for grabs for the first person to mark off four words in a row in any direction.

We're going to scatter the words throughout the conversation tonight, so make sure you're paying attention. Cross off the word and I'm about to give you your first. Instead of shouting out bingo, shout out P Doom. And for an extra point, you can let us know what your statistical probability of doom is. Next to me, here is Carl Smith. Carl is a science journalist working for ABC's Science Unit and Radio National. He makes audio documentaries, podcasts and written features with original photography. He's won a Young Walkley Award for Long Form Journalism and jointly won a Eureka Prize for science journalism. Carl's been an ABC News cadet, a geneticist, a reporter. How do you have time? A geneticist, a reporter on Behind the News, a journalist in residence in Germany, and an animated presenter on the ABC education series Mini Beast Heroes. His most recent audio series are Strange Frontiers, which I can highly recommend as well as Particular Pacific Scientific. He also co-writes and co-hosts the Ethics podcast for Kids, Short and Curly. Please give a warm welcome to Carl and Carl is the co-editor of the anthology.

And also joining us in the chair in a moment, but I'll introduce you now as well is Dr. Amanda Neehaus and Amanda is the co-founder and editor in Chief of Science Right now as in W R I T E. She is a writer, scientist and author of the novel the Breeding Season, a story of resilience based on the reproductive biology of northern quolls. And the bookshop will be happy to order in a copy for you if you haven't read it. Also, I can highly recommend I've read that one a few times. Her essays and stories have been published in Griffith's Review, Overland, the Guardian, Creative Nonfiction, Best Australian Essays and more. Amanda was runner-up in the 2024 Bragg Prize for Science Writing and her essay Dog People, originally published in the Griffith Review, is published in The Best Australian Science Writing 2024. Please give a warm welcome.

So, to begin with Carl, could you just tell us, give us a bit of background about this anthology? How many years has it been published for and how are submission sort of made and selected?

Carl

Yes, it's been running for 14 years The Best Australian Science Writing anthology, and I think it's so wonderful to be a part of that history. The project was set up by New South to celebrate science writing with the goal of like bringing more science stories to the public in a successful format. Comes out every year before Christmas and the idea is maybe a little Christmas stocking stuffer. You would grab this and give it to your science-interested friends or your non-science-interested friends. And we had hundreds of submissions, Jackson and I, the other co-editor and I, we split them up initially and then we cross-referenced a couple until we got our eye in and then we picked a long list and and ran them past one another so that we were reading the top maybe 60 or so.

And it was so fascinating for us seeing the breadth of formats represented because I think you might think of science writing as being kind of news articles and maybe some feature essays and not too much else. But we had a stack of poems, we had a libretto submitted to us and we featured a libretto for the very first time in The Best Australian Science Writing anthology. It's a beautiful piece and we also had pieces that were geared towards younger audiences. We've got a piece from India Shackleford in this edition called Indigimoji and those that were pitched to general audiences. Oh, look at this.

Bianca

I think we've got an engaged audience.

Carl

I didn't even realise I was doing this.

Bianca

I was like, just keep going, this is great.

Carl

That's sort of the process and then Jackson and I working together, we went through the selection process. We had a week where he came up and stayed with me at a rental in Brisbane and we spent the time selecting our top 30-odd pieces that we wanted. The right mix, the right structure in terms of how we wanted to kick off the edition and how we wanted to finish it and so on.

And we also went through the judging process to figure out which were going to be our shortlisted pieces for the Bragg Prize, which were going to be the runners up and which was going to be the winner. And that's the process behind it all.

Bianca

With the Bragg Prize. There is a panel, isn't it, sort of comprised of yourself and Jackson and then other, I should have double-checked the who who was on the panel, but that's sort of made up of other science journalists or industry. Maybe people have been part of the anthology before.

Carl

Yeah. So, our role in that is to select the top six that we think are going to be shortlisted and contenders for the two runners-up slots and the winner slot. And then each of us separately judges. And so, it was Jackson and I and then three renowned scientists who chipped in with their own views on what they thought the order of the top six would be. Then we took the average and went from there and I picked Amanda's. Pretty fortunate that you get to hear from her tonight.

Bianca

Did you want to sort of tell us know what. What kind of resonated not only with Amanda's, but perhaps with what you were looking for? What were your sort of guiding lights in terms of the anthology?

Carl

Yeah, well, I think there's two different parts there definitely for the anthology. The thing that I went for was and Jackson I were pretty aligned on this. Like, we wanted stories that did what all great stories did, that really transported you, that took you out of yourself and into a different world to kind of live the world of the scientists or the people affected by it. We also picked pieces that were just cracking stories, not just about action and transportative nature of stories, but which is really excellent ideas, excellent storytelling. We picked pieces that really kind of tearjerkers in there. We were talking about this before we got going and I think the winner of the Bragg Prize this year was a real tearjerker with a really compelling story. And what stood out about Amanda's piece for me was, I think part of it was the format, like thinking broadly about, like how to, you know, how to pick the best science writing of the last year. Looking beyond news stories and, you know, the big features, you know, what can science writing be? And we were really challenged on that because you with poems and the bread and everything else.

But what I loved about Amanda's piece was that it's this really beautifully crafted braided essay. And I think if you describe that piece to someone, if you said, here's what I want to pitch, you might get editors being like, okay, well those are three different ideas that you're talking about. I don't really see how they hang together, but it's so beautifully crafted. It's this story. I don't want to go into too much detail, I won't foreshadow too much, but it brings together three different threads really, really beautifully and seamlessly and in a way that shouldn't make sense, but it just does, and it works so well.

Amanda

Thanks, Carl.

Bianca

And I'm interested as well in you've spoken about a little bit about the collaboration between yourself and Jackson in the co-editing together. You've known each other for a while now in sort of different industry roles as well as working within these Science Journalists association of Australia with Jackson as the president. So, when I was listening to a recent episode on The Science Show which announced the Bragg prize winners and featured a live recording of the award ceremony earlier in November, there was this natural camaraderie between you both, which I can just instantly pick up on it's so nice when you can do that on audio as well. And what struck me is when you were sort of just sort of standing next to each other, I think, and saying, oh, you know, we're friends, but also enemies. And, like, how did that collaboration go, especially if he was coming up to Brisbane? And so, can you just tell us a little bit more about what the role of co-editor looks like? And did you sort of, I don't want to say butt heads, but, you know, was there a little bit of deliberation? Healthy deliberation?

Carl

I think so. We actually met at The Best Australian Science Writing in, like, 2019, I think, and we became instant faux arch nemeses.

Bianca

I believe they're called frenemies.

Carl

But it was like we got along just straight away and hit it off and we were really good mates. But online we decided to present this narrative that we were archnemeses. We were both finalist for the Eureka Prize for Science journalism that year. And so, he actually made this very funny video talking about me as his arch nemesis and how, like, the world needs to unite behind him so that he can beat me. And so, from that point onwards, we became like, very visibly arch nemesis, but actual just good friends. And we worked together in a lot of different contexts. So not just through The Best Australian Science Writing this year, but also, he's the president, I'm the vice president of Science Journalist Association. We work on that committee. We've worked on that committee for several years. We've done a lot of cool stuff there as well, including setting up

Australia's very first-of-its-kind Science Journalist in Residence program at UQ this year. We're just about to announce who's going to be the winner of that later this week.

Amanda

Very exciting.

Carl

Very exciting. Yeah. So, yeah, like, we've worked together in a lot of different contexts and in the context of this book, I think he and I are very aligned, especially aesthetically in terms of, like, what we enjoy about writing. We definitely have, like, different things that we like and different preferences, but I think the process is one where you really want to weigh up, like, a few different opinions, because it is so difficult to figure out, like, how to weigh up a poem against a libretto against a braided essay, like and so, you want, I think, a few different voices in the room, and we encourage that in the judging process and the selection process as well.

Bianca

And were you also both deciding the order in which the pieces were structured throughout the book?

Carl

Yeah, so I think we did a little bit of divide and conquering at some different points. So, like, from memory, like, I did a first draft of the introduction, he did a first draft of the order, and then we, like, swapped over and jumped in and, like, played around with those things from there and then sorted back to check if we were okay with it all. So we, It was definitely like a very practical. You know, you've only got a certain amount of time you can throw at a book like this around other stuff. And so, we just divided and conquered. But, yeah, we found it very easy to do that. I think, like, we're both on board with each other's, like, approach to the book as well.

We talked a lot in the early stages about what we wanted to see. And I think that really helps the process. Like having clear ideas from the beginning rather than, like, figuring it out on the fly.

Bianca

Yeah, it's an interesting process. And particularly, were you writing the the introduction Voyages all between yourselves? And did you do that after everything was compiled in the book? And that way you could sort of go through and because you mention every piece and every contributor.

Carl

Yeah.

Bianca

In that introduction.

Carl

Yes. In that intensive week where you came up and stayed with me in Brisbane, that was where we sat down together and talked about what we wanted to say in the introduction. We also worked really closely with Corey Tutt, the CEO and founder of Deadly Science, and he does the forward for this one. And so, we worked. Oh, did I get another one? Great.

Amanda

You weren't supposed to announce that.

Carl

But we worked really close to him through that week and although remotely, because he's just become a dad, which is very exciting. And so having that opportunity to kind of work together in that week was where most of the work happened, where we decided to order and yeah, from memory I wrote a very scaffoldy kind of piece, checked it with him. He said, yep, that looks pretty good to me. Flesh it out. And so, I did. And then he added a whole lot to it as well. And a lot of the. Like, I work in news and make documentaries, but for audio and so, my writing is very conversational, clean and simple, I think a lot of the time. Whereas his style is actually very eloquent and beautiful, and he has a skill with the written word that I do not have. And I think him taking over at that point and adding that flourish to it was really important and beautiful as well.

Bianca

Nice. Thank you. I could keep asking so many questions, and I'm just wondering, can we get a show of hands in the room here? Who has maybe read a past anthology or was already familiar with the anthology coming tonight? So, there's. Yeah, a few of you in the room.

Carl

Thank you.

Bianca

Yeah, you're in for a real treat. I said I've read maybe about the last five years. There was a notable change, I think when I shifted from writing fiction to non-fiction and coming along to the books at Stones Non-Fiction Book Club. And we read this anthology every year and Michael is the host of the book club and we're sitting there on Tuesday night at Non-Fiction Book Club. This is our book for January, and I think there's a few book clubbers in the room. Yes, thank you so much for coming. And we're talking about things like, oh, I wonder how they figure out the order of. And what themes are they looking for and what. So yeah, we've touched on those things already, which is brilliant. So, we're already answering some questions, which is great. So, I think before we go to, over to Amanda, one thing that I was going to ask a little bit more. We've spoken briefly about the Bragg Prize winners, but I wondered if you wanted to highlight anything more perhaps about Cameron's piece or about. We haven't talked about Diani's as well. We're going to talk about the Bragg Prize winners as a whole. That would be wonderful and then we'll go to Amanda.

Carl

Cool. Yeah. So, I think the winner this year, Cameron Stewart's piece Heroes of Zero is really like, it's very wonderful because it's just a compelling story. He told us that he got a tip off from a science journalist in Sydney that there was this institute that was a fairly long way down this path towards making sure that no Australian child dies of childhood cancer. And he thought, oh,

that can't be true. And he went and had a look at it, and he met Professor Michelle Haber and visited the institute she was working at and they're using some extremely cutting edge like world leading techniques to try to combat childhood cancer and they're doing a pretty damn good job.

And so, it's a very touching story partly because like it's so wonderful that they're doing this but also because he talks to two Dads, one of who lost a kid through childhood cancer and one of whom didn't, and they actually set up the initial bout of funding to get this thing off the ground.

So, it's a really beautiful story. It's a lovely long form piece. Amanda's is stunning and like I said, I voted for Amanda's piece as my number one. When I read it, it reminded me so much of *H is for Hawke* by Helen McDonald. This interweaving of memoir and history and science, but also like a very practical, tangible change in your life.

For Amanda, it was getting a new dog. For Helen McDonald it was getting a hawk. So, I loved that piece. And then Diani Lewis's piece in *Nature* was also a star and for very different reasons. So, she talks a lot in her piece about. About how some of the oldest cave paintings in the world are in Indonesia and they're under threat. Many of them are undocumented, many of them are sitting next to sites where you've got cement works. You visited a cement works right next to one of these sites and the artwork is actually crumbling and flaking away. And so, before we even get to a point of documenting it and understanding this, you know, it's falling off the walls. And so for a lot of really compelling reasons, part of which for me were about, like, the process of reporting that going to Sulawesi and working through translators in really difficult conditions. You talked on the panel at the launch in Sydney about being extremely dehydrated, very sick out of the field during one of her days out, recording that one.

So, for a lot of reasons, I think that is a fantastic story. Story as well and well worth a read. There're also others that were on the shortlist. I think there's a couple of them to note. One of them is by Kate Evans. She talks about pygmy possums and burdon moths and I think Kate's on a real tear at the moment.

Carl

She recently just won a Kavli Award for science writing or science journalism, and she writes some of the best long form pieces, I think, in our part of the world. So well worth looking into.

Bianca

Yeah, they're definitely up there with my favourites as well, the Kate Evans piece.

Carl

We should hear from one of the writers, I reckon.

Bianca

Let's do it.

Amanda

Right, swap over.

Bianca

So, I've introduced Amanda sort of formally, but I also work with Amanda at Science Write Now. So, we knew as soon as we started having the conversation, I found out that the amazing news that Dog People, which I knew about through Griffith Review, but now was able to celebrate the being listed for the Bragg Prize as well.

Bianca

And you were able to go down to Sydney and attend the awards night. So. Yeah. So, did you want to go straight into the reading and then we can sort of discuss and unpack a little bit of the piece?

Amanda

Yeah. So, as Carl said, the piece, it's a little. I don't know, I guess, like a lot of things that I write, it's a little hard to describe. So, I'm just going to jump right into one of the beginning sections and we'll get through a couple of the different the different weaves together.

Amanda

The Pleistocene was cold, made colder by a mist tilt of the earth 115,000 years ago that caused ice to form across what is now Canada, the US and Europe. Where there wasn't ice, the Northern hemisphere was predominantly wide grassy plains on which giant species evolved. Mammoths and mastodons, Saber-toothed cats, 1-ton ground sloths, and dire wolves. By the time the Ice Age hit, modern humans, *Homo sapiens*, had been evolving in Africa for 150,000 years. Some of these humans moved not away from the ice but into it. By the time the Ice Age ended, more than 100,000 years after it began, humans had colonized not only Europe and Asia but Australasia and the Americas and they took dogs with them. Grey wolves in the Pleistocene, unlike their larger dire cousins, were around the same size as grey wolves now and for most of our shared history, humans and wolves have lived as competitors, each a threat to the other's survival. But in some ways, our two species were made to connect.

Both are intensely social, live in family groups and communicate using a wide range of facial, bodily and vocal signals, often subtle. We reconcile after fights, play as adults, and use touch to build and maintain social bonds. Wolves use sounds, postures and expressions to reinforce group dynamics, including dominance or submission, and to express pleasure, warn intruders away or rally others.

Like humans, they have an acute social awareness that enables them to communicate their own intentions effectively, understand the intentions of others, and modify their behaviour appropriately in response. Precisely how, when and where dogs were domesticated remains a mystery. But recent DNA studies suggest that at some stage as long as 40,000 years ago, humans in northeastern Siberia, as well as possibly eastern or central Eurasia began to accept wolves into their social groups.

So began the first domestication of an animal species, the grey wolf. At first, this process was unconscious, a tenuous social alliance. But eventually, humans bred the animals for their speed or fur or other desired traits, producing the 360 plus dog breeds we know and love.

We didn't plan at the start to become chihuahua people. In March 2018, my daughter and I ambushed my husband while he was on a work trip in Brazil. He'd been out with colleagues, came home late and was a little tipsy. And in that state, it was easy to convince him over the phone that we needed a second dog. Our family dog, Lupa was then 13, and a somewhat old 13 at that due to a long-standing metabolic issue.

Lupa was a rescue discovered by our friend during creek restoration on Brisbane's north side. And she was on the independent, quiet end of the Jack Russell fox terrier spectrum. A pottering, great aunt sort of dog. From an early age she was affectionate in a reserved way and indiscriminate in that affection. Her tail never stopped wagging.

But Lupa needed a sibling. She was slowing down. And a puppy would liven her, we argued, keep her from being bored. We were crafty and compelling. A few days after Robbie returned from overseas, we went to meet a litter of puppies. Whippets are among the most mild-mannered of all dog breeds. As adults anyway, the whippet puppies were plump and sleek like fish and boisterous.

And as we tugged ropes and threw plastic bottles for them, the adults, refined and languorous, watched on like marble gods. But our small townhouse, small garden would not fit this kind of art. And we felt that we needed a dog that was shorter than Lupa and lighter. Someone she could boss around if she needed to. A bigger dog we would worried would be hard for her to handle. So, we got a Chihuahua. We knew very little about Chihuahuas at the beginning, aside from what the American Kennel Club website told us. A graceful, alert, swift moving, compact little dog with saucy expression and quote, attitudes of self-importance, confidence, self-reliance and what our friends said without words when they raised their eyebrows at us.

Bianca

Yeah, fantastic. Thank you.

Bianca (edited)

That was a reading of Dog People by Amanda Niehaus. The beautiful braided science essay that placed runner up in this year's Bragg Prize for science writing alongside Dr. Diani Lewis for her piece the World's Oldest Story is Flaking Away, Can Scientists Protect It? And winner Cameron Stewart for his heart-wrenching feature Heroes of Zero.

Bianca (Live)

And I'm just really fascinated to hear more about the inspiration behind the essay, but also how the process and weaving together science writing with memoir, personal essay and what the research and writing process look like.

Amanda

Yeah, that's a great question. Even as the writer, when I look at the final version of the piece, it just feels almost like magic, how it ended up coming together. Because in the beginning, it was really, it was more of a gut feeling I think, than anything else. I knew that I was writing a piece for the Griffith Review edition called Animal Magic and I knew that because. Because I was talking to the editor Carrity of the Griffith Review about what she was looking for in that edition and she's like, well, we don't have a piece yet about dogs. And I was like oh, maybe I could do something about dogs. But then you start, you know, you have the whole world like to explore when it comes to dogs and so I started I guess just following my curiosities and thinking, okay, well where do dogs come from? Like how did, how did they sort of become these creatures that are so important? How many of you guys have dogs? Or like, are only, only a couple dogs? Are you cat people? Is this a cat-person room?

Amanda

It's all right.

Bianca

I'm more of a cat dog.

Amanda

Yeah, yeah, yeah, fair enough. So, I wanted to learn a little bit more about I guess my own dogs, about why I felt certain ways about my dogs and, and how that might have come from, you

know, like hundreds or sorry, tens of thousands of years, years of almost coevolution together. But I knew that that wasn't the only story.

I admit that I am easily bored when it comes to non-fiction and so, for me the braided essay is a way that I can sort of, as I'm, as I'm working through a non-fiction question, kind of explore it, kind of pull things together that keep my own self-interested. And so, I had a gut feeling that this was going to be about dogs.

It was going to be about my dogs,

Bianca

which you open with in the beginning.

Amanda

Yes.

Bianca

So, the reading that Amanda did, it starts a little bit further on, I think around the second.

Amanda

Yeah, that's kind of the second section where I started.

Bianca

But you open with a very, it's almost like a close observation where you even say as I write this.

Amanda

Yeah.

Bianca

And you describe what your dogs are doing, how one is cuddled up against each other and their behaviour and their preferences. And it's just, it really, really draws you in straight away into that

cozy. One of them's in a cable knit, cable knit woollen jumper because it's wintertime in Brisbane and he looks ridiculous.

Amanda

But like he can't not be in his jumper during the winter. And then I think that. So, I had those two braids, and I knew it needed something else and, and I guess something else that I'd been thinking about a lot over this time was I guess indirectly my relationship with social media and how I felt about the way that I engage with friends and family and strangers online.

Amanda

And part of that was about. So, in 2021, my father passed away. He had a long-term cancer. So, we knew it was going to happen at some stage, but that was there was kind of a three-month period at the end where he really declined quickly and, and I went over to the US and, and my Parents lived in a they lived outside a small town in rural Iowa, and it was very isolated. It was winter as well, so it was like, very isolating. And so, I spent a lot of time on social media, but it didn't quite like it didn't quite fill that space that I needed it to. And I wanted to understand in part through writing this essay, what that. That gap was between what I felt like I needed during this time in my life when I was losing someone who was really important to me. And this means by which we try to communicate with people all the time. But I wasn't feeling like I was getting what I needed from it. And so, the other braid of the essay kind of talks about my father's death, but also the ways that we engage with each other as humans and also kind of in a parallel way, the ways that we engage with our animals because they, they in person, they are very in person people like. Or in person creatures like, they like. I think I talk about how, you know, you can try to zoom with your dog or zoom. They don't care. They're like, they don't actually see you as you until you there interacting with them. So, they. Where they can see your expression and hear the tone in your voice in the right way.

And so, it kind of brought together those components of understanding what I was missing, what my dogs give me, and how those kinds of, like, parallel needs between wolves, the species of wolves, wolves and the species of humans, how that enabled those two species to kind of come together in the ways that they have.

Bianca

And then I know we probably don't want to give too much away, but you also bring in foxes and a really fascinating study done with generations of foxes and how certain traits, by the end of the 15th, 16th generations are suddenly, they're, you know, they're looking cuter.

Amanda

And yes, that was. That was a really interesting bit of research because I guess part of. Part of working on a piece like this is that you never quite know what's going to end up part of it. It's kind of like, I mean, I'll be honest, I'm actually probably would consider myself more of a fiction writer and I think another thing that I like about this kind of essay is that you can deal with this really, really broad research and you never quite know what's going to come into the final product. And I came across this study. There have been a whole suite of studies using these foxes but started in the 1950s where they. They sort of started asking, all right, well, we can never know how domestication of the wolf happened. And it's really hard to try to domesticate wolves now. Like, they have kind of a long generation and they're big animals. And so, they thought, well, there are these people in Russia who are growing foxes for fur. Why don't we start a study with them? And so, they started this. It's an ongoing study, multi-generational work on basically they took a subset of these foxes that were being grown in little cages for fur, and they would. The researchers would interact with them like they would dogs. And then over generations, the foxes sort of became domesticated.

And as Bianca said, like, the domestication wasn't just about their behaviour. It wasn't just that they wagged their tails or like, you know, licked the people when they came to say hi. The same behaviours we expect to see in our dogs

Bianca

Started whimpering when they left.

Amanda

Yes, yes, but they would also. They also sort of their, their face shape changed. They started to get characteristics like the blaze on the forehead that you see on a lot of dogs and all of these other kind of really interesting physical characteristics that, that they were they weren't expecting to see.

Bianca

Yeah. So, part of the research was then you were writing, but then you were also, I guess, researching as you were writing, not planning, not sort of just going about it intuitively. And so that's the process.

Amanda

Yeah, I think for me the process is always quite intuitive for a really long time. And it's interesting because I recently wrote another braided essay for the Griffith Research Review, which will come out in the home edition in February. And it was. It also has a bit of science and a bit of history and a bit of personal weave.

And having just finished that piece like a month or so ago, like, I still feel that anxiety of, like, you're not ever quite sure if it's going to work until it, like, does right at that moment.

Bianca

And it comes together so well at the end. And I was just left. I've said to Carl and Amanda earlier tonight, said, this is the first anthology that has genuinely made me cry a couple of times. And I think that's very telling when two of the articles that. That brought an emotional response in me were the ones that were chosen as well for the Bragg price.

Bianca

And. Yeah. That it resonates particularly at the end where you're. You're really framing what matters. Yeah. And I won't say anymore, but I will let you all enjoy and read Amanda's essay in

the collection and venture forward as well into any other, I think, pieces that resonate with you. Look up that, that journalist, that author, find out what else they've written.

They may have written books. I think we have an extract as well from

Carl

Vicki Kramer.

Bianca

Vicki Kramer, thank you. And part of that is a full-length book. So, if you're interested in their writing, delve further and go further. And yeah, it is really rewarding, I think, when you can see an anthology put together like this. But it really. There's so much further you can go with it.

(Transition)

Amanda, I was wondering too, how your background in biology, your interest with your novel, which is described as fiction, fiction, novel, around the resilience and reproductive biology of northern quolls. Again, we've got this animal kind of theme and yeah did you want to reflect a little bit on maybe what draws you as a scientist, as a creative writer to explore those avenues in your writing?

Amanda

Yeah, definitely, because I guess I started. I started life as a scientist, but I started my career as a scientist and thinking that that was what I was going to be doing is creating the research that, you know, people write about. But over time, I guess I realized that it was the. It's the ideas and the writing part of it that I and the field work. But eventually you can't sort of keep swatting off to Patagonia for six months at a time. So, I had to get realistic. And I guess for me, the writing was. It just became the heart of science. For me, what I felt was really important is that place where a writer connects the information with the world inside you, right?

Amanda

Like your feelings, your. The things that we all experience, like, you know, like joy or death or hope, you know, all of those kind of universal experiences and feelings. And I love trying to make those connections in my own writing. And so, I guess in reference to my novel, I was still a practicing scientist when I started writing the novel. And it kind of came as a result of being dissatisfied with just producing scientific papers at that time.

I guess. I mean, I was working on these amazing animals called northern quolls and also other marsupials called antechinuses. And all of these, both of these species are pretty special because they're semelparous, which means that they kind of grow up to adult size, breed and then die. So, they don't sort of breed and live multiple years. The antechinus kind of both sexes do this more or less. For the northern quolls, they were, they were even more interesting because the, the males grow up and die within one year, but the females live and breed over three, two or three years.

So, they have these completely different life trajectories and. And my brain just started thinking, oh my God, this is like work life balance, right? Like, this is like, am I, am I? Because I had a young child at that time. So, I'm like, you know, you only have so much energy and it doesn't get any more clear than when you look at northern quolls because the males are devoting all of their energy into reproduction and they look pretty horrific by the end of that, they're not saving back any energy.

Amanda

And so, I started thinking about like human lives and that we only have so much energy and we only have so much time. And so how could I, you know, how does that type of life reflect in our own? And so, and I guess that's what I'm really interested in is connecting those ideas, hopefully in kind of surprising ways with the things that I'm experiencing and want to understand in myself.

Bianca (edited)

For the final part of the evening, we put Carl and Amanda in the hot seat to discuss the current state of science journalism and the challenges of being a writer in this country. With the rise of misinformation and AI, we need quality and compelling science journalism right now more than ever, but at the same time it's being eroded by funding cuts across the nation.

What can be done to combat this and strengthen the argument that science-informed storytelling and journalism is fundamental for these times? And how can we ensure better representation for First Nations stories, scientific contribution and knowledge sharing? Let's find out.

Carl (Live)

Media organisations have gone through a rapid transition over the last like 20 odd years and we've lost a lot of journalists, lost a lot of specialist journalists. There're very few science journalists in the country through the Science Journalist association, we have about 100 members, maybe 20 of them are employed full-time in science journalism. And I think there's a lot of work that we have to do as science journalists right now. Getting bombarded with misinformation and disinformation and, and I think what we really need is the clarity that comes with really understanding that turf when you're talking about science. If you increasingly like we're seeing newsrooms throw their science stories or their health stories to people who aren't familiar with working in that space and I think that leaves them vulnerable and leaves audiences vulnerable to problems.

And then like beyond science journalism. Similar problems in Science writing, I think it's really hard for writers in general to earn a living in this country and we need it because, you know, when it comes to like, science storytelling, this is the way to engage people. And we just talked about the power of doing this with First Nations people in Australia as well.

And so, we need to support our writers. But what we say in the introduction is the best thing that we can all do is like, share a great story that you write, whether it's science journalism or science writing, or, you know, share one of the pieces in this book or tell a friend about it. And I think that word of mouth is still really powerful and something we can all do as citizens to try and support it.

(Transition)

Carl

We're not seeing enough stories of Indigenous science, First Nation science, and we're really not, I think at a point where we consider traditional knowledge on an even standing with scientific knowledge, these two different forms of knowing, and I've personally done like quite a lot of work in the Pacific with traditional communities, use traditional knowledge. And over and over again it's proved to be backed up by the science and it's just a different way of knowing. And just because it isn't in, you know, this body of knowledge that we call science doesn't mean it's not correct and useful. And so, he had some really big concerns about that and he, his idea for how we fix that, and I think this is really important, is not just having more indigenous storytellers, First Nation storytellers, but also having more first nations stories. So, finding ways to talk about traditional knowledge and how it's being used in a very scientific way is a really powerful way of helping.

I think the problem remains that there's very few and very few First Nations people in science and STEM. And those that are in there often talk about how difficult it is because they're constantly being held up as the example and it's very overwhelming. It's really hard. Corey's doing a fantastic job, but I think he walks the line.

Really beautiful. So, I really like recommend picking up the book and at least reading that before you get out of the shop today, because I think he does a great job of going through what we can all do, but especially in the science writing, science journalism community, by just showcasing more first nations talent and asking.

Bianca

Some really important questions. I think I found it; it was a good way of being confronted by even our own stereotypes view of what a scientist looks like. You know, their background, their race, their gender, do they have a lab coat and you know, typical middle-aged, white, Caucasian

male. And so that's what Corey was really questioning and wanting to also decolonize the lab as a space.

(Transition)

Bianca

So, what have been the most major moments in science this year?

Carl

Can I go first?

Bianca

Yeah

Carl

So, we've actually been thinking a lot about this because like it's getting to that point of the year that we're going to like a summer programming at the ABC and everyone's asking like, so what were your big science stories of the year, tech stories of the year and so on. And I think this year it's the AI year obviously like the emergence of AI in popular discussions of everything and that's why there's a great piece about P Doom in there.

Bianca

We covered that one.

Carl

And also, ethical AI I think is a big point that I was very interested in. This year I've been working on a piece that hasn't yet been published. It's all about bias in artificial intelligence. And I think the data that's being scraped off the Internet, Internet is often pretty junky. Like it's the stuff that we put on the Internet, and you know, the quality of like your Facebook posts from 2007 or whatever, when you scrape that to decide like how to fuel these algorithms, I think you end up with some pretty interesting and terrible outcomes. And it's so deeply embedded that I

think we've got some real work ahead of us in terms of untangling that and putting that back in the box. So. So for me, I think the year has been about mostly AI, including for us working in science. I think the other big trend out of health for me is a lot of weight loss drugs.

This has been really interesting. Something like Ozempic has been kind of a watershed moment I think in what's happening in the health space. In that it's both like actually really exciting in terms of the research and really worrying in terms of what it means for us as people. And so I think that's a really fascinating space and I would actually love to see more writing and reporting around that as a topic, not just as sort of like what is the pros and cons health wise and in terms of like these studies that are coming out on weight loss drugs, but in terms of what it means for us as a society and as a culture, if this becomes a standardized practice.

Amanda

But not just for weight loss, right?

Carl

This is it like, it's actually like it's for diabetics, it's for people who have medical conditions. But the fact that it's being used for weight loss is really distressing. And the research that I have seen on it really indicates that beyond weight loss, like it's actually this indications that it can be reduce your inflammation load and help with other like diseases that are common with other things. Like diabetes. And so you know, it, it seems from a distance, this wonderful thing. But the way it's being used or misused really by the wealthy elite rather than the people who really need it is very interesting, and I think I'd like to see more reporting around that in 2025 as well.

(Transition)

Bianca

Should we go in questions first or should we do like the word that I just know this going to be a P Doom moment?

Carl

Good question.

Bianca

See what comes up organically. Yeah, true. Okay, questions.

Bianca (edited)

Our first audience question was about the student Bragg Prize for science writing and how we can get more high school students engaged and interested in writing about science.

Carl (live)

The winner of the student prize is here. Rena do share this beautiful piece about citizen science with butterflies. It's just delightful. It's not in this edition because we have last year's winner in this edition, but this will be featured in next year's edition. So, you have to find out. But she, she's really lovely. I met her at the, the launch and she, she just was really inspired by people out counting butterflies in a local neighbourhood and went and reported on it as a year 10, I think year nine student at the time. I think the way to get more entries from here in Brisbane is to go out to teachers directly or to schools and try to get into their, like their lesson plans, their curriculum. Like this semester we're going to try a science writing thing and you have to go and figure out how to use sources beyond Wikipedia and so on. So, if you know any teachers, tell them that they should try and get their students to join the science writing prize through Bragg.

Amanda

Definitely.

Bianca

and not using AI to write it, please.

Amanda

Yes,

Carl

We did get a couple of those as well.

(Transition)

Amanda

At science right now, something that we've been doing this last year with funding from the Queensland government is we have, we're mentoring for two sets of four. So currently two young writers and two young editors in putting together fiction pieces and editing for the edition that we're putting together. And we do themed editions. So, we have an edition that we're putting together now on Synergy, which is kind of just about, you know, things that come together and become more than their individual parts. We tried to put it out there in, you know, teacher's newsletters and as many different things as we could. But I think again, until you can connect with lesson plans and curriculum, like, that's when it's really going to make a difference.

(Transition)

Amanda

I think it's a celebration of, you know, kind of the diverse ways that science can be communicated, which I think is really important. It's something that I think the addition does really beautifully with, you know, the. Like you said, the poetry and the librettos and the different shapes and sizes of non-fiction work throughout.

Bianca

So, I think one of my favourite other pieces would be the Che Mark's piece. I think it's a poem poet. Poetic constellations. No P Dooms yet. Wow. Okay. And there was one called Synaesthesia through Binoculars and wow. Resounding. Amazing. I think I just felt flawed. And that's the power of poetry as well and the power of the written word. And I'm picking up on something you've said previously, Amanda, which is about how art and creativity show us what science means in our everyday lives.

Amanda

I mean, it's so many different things and this really shows that. That you don't have to. Like, if you want to write articles for National Geographic, you could be that kind of science writer, but you can also be a poet and make no money. I think, you know, we think science and science writing is one kind of thing. And books like this show that they're more than that. What they need though is to include fiction.

Carl

Yep.

Amanda

And then it's perfect.

Carl

The feedback we get to them, actually, because like so much science writing happens now digitally as well. And it's often accompanied by like not just beautiful photography, but illustrations that are bespoke for the article. And a lot of like the kind of scrolly telling stories you would see online now, where the pictures are half the story, like they're kind of missing at the moment.

How do you capture that? I'm not sure, but we did talk about whether we could have a couple of standout pictures in the next edition.

Bianca (edited)

This next question was a really practical one. How do writers who may not have a traditional qualification or background in science or journalism get into this field? Where to even start?

Amanda (live)

When I started, I just started taking all kinds of online courses and going to courses at places like the Queensland Writing Centre. And I'm just everything. But I guess I don't know people. My husband jokes that I took a very scientific approach to learning how to write. I was like, okay, I need to take all these courses, and I need to read all the books and take all the notes and practice. And I guess that's the biggest thing is find a group of people that you enjoy talking about this stuff with and do the writing and read the writing and talk about it and share it and just, you know, find, find joy where you can.

Carl

Yeah, I think, yeah. My advice is because I do a bit of like tutoring at unis into journalism courses as well. And I think journalism is kind of a funny one where, like, it's just a craft, like, and it's very much like emulating structures that you see all the time. And because of that, like, the first thing is just like, engage with science journalism or science writing and you'll realise like, how kind of especially science journalism, how the structure is pretty much the same in a lot of stories and you can kind of emulate that and then the second thing is, like, just play. Like, just find ways to experiment. So, when I was at uni, I was in a. I was helping out the student radio station and working for, like, a citizen journalism outlet. So, finding opportunities like that which aren't always going to pay terribly well, but where you can experiment and play, like, that's really vital.

Amanda

Yeah, definitely.

Bianca

And I guess I can add a very quick anecdote as well. How I found my way into science writing was actually, it's far more. It can be far more personal for some people rather than seeing science as something out there that can only be written about by scientists. For me, it actually came from.

Bianca

From lived experience of having been diagnosed with a neurological disorder that took 13 years to diagnose. So, I saw this massive gap in communication. My background's as a communicator

and a writer. So, I thought, okay, I actually have. I guess I'm an expert on myself and my experience in this way. What can I contribute that might just help one other person who I'm writing towards that might read this one day. And if I can do that, then I feel like going towards science writing is 100% worth it.

(Transition)

Bianca

Wrap up. Make sure you've got time to get your copy signed. And I'll just add one final little word. See if you can get it all. Carbonic acid. Seed gene bank.

Carl

Does slime mould do it?

Bianca

Yeah. P Doom.

Carl

Who got it?

Amanda

All of us.

(End of live panel)

Bianca

Thanks so much for tuning in to this bonus episode of Science Right now. We had such a blast doing this event and I think P Doom Bingo was a hit. Let us know what you think. We might even try to make this an annual event. In the meantime, check out the show notes for where you can buy your copy of The Best Australian Science Writing. And for more summer reading, visit sciencewritenow.com to explore all 10 editions of Creative Writing Inspired by Science. The

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