



## Science Magazine Podcast

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### **Promo**

The following is an excerpt from the *Science* Podcast. To hear the whole show, visit [www.sciencemag.org](http://www.sciencemag.org) and click on “*Science* Podcast.”

### **Music**

#### **Interviewer – Edward Hurme**

Finally today, I’m here with *Science* news writer Carolyn Gramling, who’s here to give us a rundown of some of the recent stories from our online daily news site. In our first story, we look at a cockatoo prodigy named Figaro. So Carolyn, why is Figaro so special?

#### **Interviewee – Carolyn Gramling**

Well, Figaro is actually unique among cockatoos – at least as far as we have observed – in that he is the first one to actually both invent and also make tools. We know that a lot of different species of birds, most famously maybe the New Caledonian crows – are sort of natural toolmakers. Crows have been known to sort of fashion things out of bamboo, making hooks to sort of forage for grubs, and things like that. But we’ve never actually seen that in cockatoos before.

#### **Interviewer – Edward Hurme**

Okay. So how did the researchers actually discover and begin to study this unique behavior in Figaro?

#### **Interviewee – Carolyn Gramling**

Well so normally, cockatoos live in the forests of Indonesia. But there’s actually a colony of them in Austria, and Figaro lives there in this colony – and it’s a captive colony. And one day, a student who was studying the birds actually observed Figaro behaving kind of strangely. He observed that he was trying to get a pebble that he had dropped through the wire mesh of his cage, and he was trying to reach for it. He tried with his claw first and he couldn’t get at it. And so then he picked up a piece of bamboo that was lying nearby and was trying to sort of hook it in. And the student thought this was really interesting. And they immediately were curious about how much effort Figaro would put into trying to make a tool to get this pebble.

#### **Interviewer – Edward Hurme**

So what did they do next? They decided to do some experiments. What did they do?

#### **Interviewee – Carolyn Gramling**

Well, so one thing they wanted to do is, first of all, they’d never seen a cockatoo doing anything like this before, and they didn’t want the other birds in the colony to see him doing it and to learn from his behavior. They wanted to know what he would do just on

his own, and the other birds would not learn from watching. So they isolated Figaro. And then they placed a peanut just outside his cage on a wooden beam, and they sat back and they watched to see what he would do. And he tried to reach it, and he couldn't reach for it. And so eventually he started experimenting. And he stripped a piece of the wooden beam off and tried to rake the peanut in with that piece of beam. Didn't work, it was too long. He snipped it half and then he used it to rake it in again. And so he basically demonstrated all these different aspects of toolmaking. He created a tool, he resized it, and he successfully used it to get the peanut.

**Interviewer – Edward Hurme**

Okay. And what happened when they looked at other cockatoos? Is this something that they can easily learn?

**Interviewee – Carolyn Gramling**

Well, so the other cockatoos who had initially seen him trying to get the pebble, they learned from that, and they did try to use similar tools like that. But Figaro was the only one that they actually saw innovating. And that's actually a very rare quality among any species.

**Interviewer – Edward Hurme**

Okay. And in another event of unexpected findings, our next story looks at a case of mistaken identity for a pair of beached whales in New Zealand.

**Interviewee – Carolyn Gramling**

Yes. So back in 2010, a couple of whales washed up on the shore of New Zealand. It was an adult female and a juvenile male. And they looked a lot like a kind of whale that's known as a Gray's beaked whale, and so people just assumed that that's what they were. The officials assumed that's what those whales were. But they did take tissue samples from the whales. And now a genetic analysis of those tissue samples shows that they were never Gray's beaked whales in the first place; they were actually a different kind of a whale known as a spade-toothed beaked whale.

**Interviewer – Edward Hurme**

So what do researchers actually know about spade-toothed beaked whales? I've never heard of them.

**Interviewee – Carolyn Gramling**

They don't know very much, because these whales – there's actually 21 different species of beaked whales – and they're among the least understood of all whales, because they spend most of their time at depth. They mate down there. They feed down there. They breed down there. So basically they hardly ever surface and we never really see them. So we think of them as very rare. So this was actually the first time that anyone has ever actually spotted these spade-toothed beaked whales.

**Interviewer – Edward Hurme**

So what do they actually do now that they realize that they had found this extremely rare whale?

**Interviewee – Carolyn Gramling**

Well, I think it's basically because it's the first time anyone has actually seen these whales, they were able to actually, you know, finally get a better understanding of their biology. And so they actually were able to exhume them and try to see basically what their structure is. But we still know so very little about any of these kinds of whales. One thing, though, that's interesting to think about is that even though we think of them as rare, it probably is more likely that we just hardly ever see them because they don't spend much time at the surface.

**Interviewer – Edward Hurme**

So, Carolyn, what else have you got on the site this week?

**Interviewee – Carolyn Gramling**

Well, Edward, for *ScienceNOW*, we've got a story about why we think early humans managed to pass along toolmaking and other technological advances to their descendants, and we will also have a story about "body storming," which is using the movements of dancers to explain cellular motion. And for *ScienceInsider*, our online policy blog, we ask our readers to stay tuned for our ongoing coverage of the aftermath of the U.S. election and what that's going to mean for science. And finally, for *ScienceLive*, which is our weekly chat on the hottest topics in science, this week's *ScienceLive* is all about cooking food, and how that may have been the secret recipe that allowed human brains to grow. And then we have next week's chat, which is going to be about food genomics. So be sure to check out all these stories on the site.

**Interviewer – Edward Hurme**

Great. Thanks, Carolyn.

**Interviewee – Carolyn Gramling**

Thank you.

**Interviewer – Edward Hurme**

Carolyn Gramling is a news writer for *Science*. You can check out all of our news at [news.sciencemag.org](http://news.sciencemag.org), including daily stories from *ScienceNOW*, and science policy from *ScienceInsider*. While you're there, be sure to check out *ScienceLive*, a live chat on the hottest topics every Thursday at 3 p.m. U.S. Eastern time.