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SM: Sarah McConnell, producer and host

AS: Audio Sample

TP: Todd Platts

SS: Suchitra Samanta

BM: Ben Mays

DC: Dan Cristol

JS: John Seiler

Transcript:

00:00:00

SM [music] In much of the country, the weather is cooled, leaves are falling off from the trees, and things are getting a little bit spookier. [scream]. From Virginia Humanities, this is With Good Reason. I'm Sarah McConnell. Today in the show, we share stories of murderous clowns, vengeful witches, and headless men.

AS She thought maybe the fella was sick because he was kind of moaning and she went over to him to see if he was alright and he raised his shoulders up and he was headless.

SM First, in recent years, scary movies have been thrilling filmgoers and producers alike. Todd Platts is a Professor of sociology at Piedmont Virginia Community College and he says we're in a new era of horror movies. Todd, you are about to edit a book about a film company that's relatively new in the production of horror films but it's had a lot of success recently. What's the company and the films that are really making a splash?

TP So the company is Blum House Productions which is run by Jason Blum and they have made films like Paranormal Activity, which is one of the most successful horror franchises ever, they've made the Insidious movies, they've done some of the most critically acclaimed horror movies recently such as 'Get Out', they've done Happy Deathday, they've just done a lot, a lot of movies and the company is unique because

of the way that they fund films. The films are only made from about 5 million dollars which in current Hollywood standards is like peanuts but what happens with this is the directors are given a lot of creative control over their films and it allows people like Jordan Peale, who directed *Get Out*, to have a lot of creativity and say in what his movie says and what his movie does and in part the creative control that he got allowed that movie to be so forceful and so well-liked like as it was.

SM Jordan Peale is really amazing anyway—amazing as a comedian, and what a tremendous success *Get Out* was.

TP Yes, it was made for 4.9 million dollars and I believe it made somewhere in the vicinity of 200 million dollars in the U.S. and also was up for an Academy Award which is very, very rare for a horror movie. The only movies that were up before that were *Silence Of The Land* and *The Exorcist*.

SM So, *Get Out*, for people who haven't seen it, describe the plot.

TP So *Get Out* is about an African-American male named Chris who is dating a white woman named Rose and much of the movie is about the anxiety that he feels about meeting Rose's parents and he is asking Rose at the beginning of the movie about this meeting and he's asking, "do they know that I'm black?" So let me show you that scene.

AS Do they know I'm black?

Should they?

You might wanna, you know?

Mom and Dad, my black boyfriend will be coming up this weekend, I just don't want you to be shocked that he's a black man. [laughs]

I ain't ever seen you like this before bruh.

SM You know, it's funny, I was talking to a woman today who's describing a drive she and her husband had taken through rural Tennessee and she called it a *Get Out* sort of moment. I think it's interesting because in previous generations they would have called it a *Deliverance* moment.

00:03:46

TP Yeah, and I think it speaks to this idea of being really uncomfortable of being out of place and feeling as if your safety could be in jeopardy of being in this location you are unaware of.

SM Some critics have said all of these new horror films are a little bit more likely to have political undertones than horror films of past decades. Would you say that's true?

TP I would say no. I would say horror films have been very political at least since the late 1960s. 1968 is seen as like this pivotal turning point in the history of horror. In that year, you had the movie, *Rosemary's Baby*, and the movie *Night of Living Dead* get released. And these set out sort of new blueprints for what horror could be about. *Rosemary's Baby* came around the time that birth control started to become an issue and the movie is about this woman giving birth to the devil. *Night Of The Living Dead* came out at a time where there was a lot of assassinations in the Civil Rights movement and *Night Of The Living Dead* has a lead character who is an African-American male named Ben and he survives the entire movie despite the fact that he with a group of white people that are not helping his cause that much but, in the end, he is actually shot in the head by an all-white posse and this movie was actually being delivered to distributors the day that Martin Luther King was assassinated and when this movie played in inner-city theaters, people just let out this guttural scream when Ben gets shot in the head. You just hear this, “ahh” and it really captured the political, you know, strife that was going on at the time.

SM And since the 60s, have there been periods of more sort of public cultural angst that were reflected in horror films?

TP Yes, so across the 70s and into the 80s you had the three cycles. One is the occult cycle which dealt with haunted houses or possessions, typically possessions dealt with issues of femininity mostly in these films. Women are possessed like *The Exorcist*. In the haunted house films, these are mostly dealing with male middle-class status and in the films like *Poltergeist* and *Amityville Horror*, the male is going berserk because he can't afford the pay for the house and of course the house is haunted in the movie. You also have the apocalyptic horror film. This is - these are films that use extreme violence to show the weaknesses of our society, so the good guys can't save the days in these films. *Night Of The Living Dead* is an example, *Hills Have Eyes*, then you have *The Revenge Of Nature* film. These are when woodland greeters are being encroached upon and we're polluting the environment. In the 80s and into the 90s, you had the growth of the slasher film. These are films like *Friday the 13th* and *Halloween* and these are films where people are creatively killed off by a masked killer.

00:07:19

SM Films I cannot watch [laughs] ...

TP [laughs] Yes, these are, you know, for a lot of people, very disturbing films because there's an interesting, sort of sexual script in them that woman who exercise, you know, like sexuality get punished for it, and it was seen as the slasher person was kind of like a parent that was punishing the kids. Then, in the early 2000s, you had 9/11 happen and, in the wake of 9/11, you had the growth of zombie films, and sort of the images you see in zombie films where you have piled bodies, roving vigilante gangs, you have the downfall of social structure. These are echoed in what we saw in 9/11 and also echoed in what we saw after Hurricane Katrina, and then you also had the torture porn films, these are films that focus on the prolong torturing agony of a person like *Saw* and *Hostel*. This eventually blends into the post-recession horror film

and the post-recession films are like Paranormal Activity. This is where you have the family is at risk of losing the house, so you have these foreclosure stories taking place at a time when a lot of people were losing their house and then this brings us into our current crop of horror movies where a lot of people actually see the specter of Donald Trump haunting the narratives.

SM Such as what?

TP A good example would be the movie It. It follows a psychopathic clown that sort of targets people through their fears and tries to divide people and a lot of people saw Donald Trump in the character of Pennywise in this movie. Trump worked to divide people, he worked on people's fears, and Pennywise does the same thing in these movies.

SM Pennywise is a clown?

TP Yes, Pennywise is the clown of the movies. And one of the classic scenes of this movie is when a little boy named Georgie goes out to play with a boat that his brother had made and he chases it down to a storage drain and he finds this clown whose eyes just appear above it.

SM In the storm drain?

TP In the storm drain. And we can watch the scene here.

AS Can you smell the circus, Georgie? There's peanuts, cotton candy, hot dogs, and...

Popcorn?

Popcorn! Hmm, is that your favorite?

Uh huh!

Mmm, mine too! [laughs] Because they pop. Pop, pop, pop, pop.

[laughs]

Pop, pop, pop, pop.

Pop, pop. [laughs].

[laughs]

SM Horrifying!

TP Yes, and you know he bites the boy's arms off and eventually like pulls him into the drain and this is such a horrifying moment that sets the tone for the rest of the film.

SM So obviously even Steven King didn't have Trump in mind when he wrote the 1985 book, right?

TP No, he didn't have Trump in mind, but what's interesting is he was at a women's march right around the time that the original It was released, and he got on the microphone and suggested that he just elected Pennywise president.

SM Really?

TP Yes. [laughs]. And so he has been on social media incredibly critical of Donald Trump.

SM [music]. Todd Platts thank you for sharing your insights on With Good Reason.

TP And you're quite welcome. It was enjoyable being here.

SM Todd Platts is a Professor of sociology at Piedmont Virginia Community College. Up next, ghost stories from Bengali culture. [music]

A yellow-eyed witch who sucks the life from unknowing strangers, fish-obsessed ghosts who lure alone men to a watery death, and murderous ghosts who call out in the a voice of a loved one. Suchitra Samanta is a Sociology professor at Virginia Tech and she says Bengali culture is filled with stories like this, of ghostly women who wield supernatural powers after death. Suchitra, Bengali culture has many stories of supernatural figures, especially of women. You grew up in Bengal, tell me some of the stories you grew up hearing.

SS Um, Sarah one of my earliest memories is that of my mother who was a medical doctor but who would draw on these stories to make a point to her rebellious teenage daughter. For example, when I would want to go out to play in the evening after school and I had big thick hair, a head of hair which was very thick and curly, and she said, "I am going to make braids out of that because if you go out there with hair like that, there are ghosts on the trees and they are going to pick you up by that hair and take you away and you will be gone."

00:13:00

SM [laughs]

SS So, I didn't have a choice [laughs]. My mother has a very strong personality and she braided my hair every time that I went out of the house to play.

SM In addition to what your mother said about there are ghosts on trees who will get you, did you ever hear from other relatives who would make reference to supernatural entities?

- SS You know, the only other memory I have is somebody who worked in our house and she would tell me stories just to scare me. So, you know, "don't go to the bathroom at night because there's probably a ghost out there," and I remember feeling quite terrified.
- SM Years later, when you left Bengal and you reflected on some of these supernatural creatures, did you have 'a-ha' moments about, it is different there.
- SS You know, I am a cultural anthropologist and I started this project out of simple interest in looking at stories of the supernatural in Bengali literature, so not so much folktales but in Bengali literature, because I knew that there was a rich trove of stories on the supernatural. My specific interest on women or female protagonists emerged when I found so many of the stories had female protagonists in them. So, that was my kind of you know a-ha moment, that was my discovery as to how interestingly these many female protagonists voiced their lives and voiced what had happened to them in their lives. I selected the stories that I felt women who had, had some kind of marginalized experience in life, had been violated in some shape or form, I found it a very interesting thing that in these stories um, most of which are written by men, some by women, that they would express what had gone wrong in their lives.
- SM One of the stories in your collection that I loved is about a woman who loves to eat fish and, after she dies, she misses, and, not exactly haunts, but she returns to the nephew who used to bring her fish.
- SS Yeah, this is a traditional kind of female entity. She has died unmarried, she was unmarried when she dies, you know in a sad and lonely and marginalized life because that is how it was perceived if she is not married, she haunts them and calls to them and this is again a cultural idea that somebody who has not quite had the life that she would have is an unhappy person. So, she lures him to his death in these swampy watery areas where she evidently now resides.
- SM Tell me about another story I enjoy in this collection about a woman who is called a witch but who has yellow eyes and this is another widow.
- SS Yes, she's old, she has no money, she lives on the edges of the village and yes, she has yellow eyes. So, what is interesting about the story is this is not a witch from the west as in the one who flies on broomsticks and casts hexes but, she is envious of all that is alive. So when I think of a young couple that comes by on this very dry area she looks on the plump child that they have and the child shrivels up and dies. In a culture that has a great emphasis on the visuals, so that the gods have three eyes for example, you look at the god, the god looks back at you. So this concept that there is much of you that can be done through the eyes, in this case malevolently.
- SM Do you think that this is sort of emblematic of a stigma that women were still facing about being widowed and poor, and sort of social outcasts?
- SS Definitely, you know, into the late 19 century, into the 20th-century, widows were often much younger to their husbands. There was no official age for marriage, so a

paternal grandma was married at the age of seven. There was no law until independence, 1947, people would betrothe their little girls to often men who were certainly older who precede them in death and leaving a little girl, or a young woman, behind who also by law was not allowed to remarry. So there was a sense that she had been responsible for her husband's death and to be attributed with witch-like powers is not a stretch.

SM You did your dissertation on a powerful mainstream Hindu goddess who is so powerful she wreaks revenge of behalf of women who have been raped and yet ironically so many of these stories depict women who reflect a Bengali culture of the past perhaps where women are not powerful and who are kept down.

00:18:13

SS Sarah, it is a complex question. It is the very reason why I shifted research after many years of writing [laughs] Bengali to really looking at exactly the question that you asked. Which is how is it that we have such powerful female deities in Hinduism and yet levels of literacy continue to be not particularly high and for minorities especially low. Reproductive health is not good. Children are married - girls are married off illegally before the age of eighteen, high violence, domestic violence. So, on many levels, it is the supreme irony that indeed you have these powerful female deities but Indian women, you know, this is a complex story because on the one hand we also had a female prime minister, Indira Gandhi, we do have women going into the professions, engineering, computers and so on, medicine, but there is much work to be done for India's women.

SM Suchitra, thank you for sharing your insights with me on With Good Reason

SS You are very welcome, Sarah. Thank you for inviting me to do so. [music].

SM Suchitra Samanta is a sociology professor at Virginia Tech, and editor and translator of *Hauntings*, thirteen stories from Bengal's master storytellers. [music].

Most Kids remember telling ghost stories when they were young, but some of those kids grow up and keep telling ghost stories. Ben Mays is a theater professor and technical director at the Gilliam Center for the Arts at the University of Virginia College at Wise. He's using his love of scary stories to guide a set design class on haunted houses. Ben, I love that you are making a haunted house with your students. Did you ever experience a haunted house when you were little?

BM Yes, actually, I did. The first haunted house that still haunts me to this day was a local carnivore had come to town and I had jumped on my bicycle, rode down to the place and there was this haunted house setup at the back of one of those big tractor-trailer trucks but I had probably gotten no more than ten to fifteen feet inside that house and I just froze with fear, I mean my body just started physically shaking and I was sweating and my back was up against the wall, and I stood there for what seemed like an eternity and finally, the young man who was running the attraction stuck his head in like, " Hey what's wrong?" and I just said, "I can't do this." and he was like,

"Why?" and I said, "I'm just scared, I'm just too scared." And he goes, "ah go on man you'll be fine I promise you." And after much goading, I ended up going through with the rest of the haunted house and what was amazing to me was, I was scared every step of the way I was literally feeling my way around every corner expecting the worst and then I finally saw the daylight coming again and at the near end of that long dark tunnel, I was like, "okay I'm doing to make it, I'm going to make it," and I made it, but I never forgot it because it was absolutely nothing in there to scare me absolutely nothing, it was all dark, it was all in my imagination.

SM I had the same experience. They actually had to stop the attraction and have people come in and get my frozen-with-terror self out of there.

BM [laughs]

SM Did you ever, when you were younger, tell ghost stories with your friends or egg each other on like, "Hey I bet you won't go up to that house?"

BM Absolutely. We not only did that with our childhood friends but the adults would do it with the children. I think it was actually quite common in our little corner of southwest Virginia to tell hate stories as we call them, ghost stories, and so we were always trying to scare someone else with these stories and it was quite regular too, it seemed like almost every evening as the sun would go down, friends and family would gather on the front porch or the back porch and you know just tell stories by the light of the light bulb.

SM What are some of the hate stories you remember?

BM One that um, one that stuck with me for a long time was one that my mother told and she told this to be the truth. She as a young lady was walking home from a date and she passed by this little country church and there was this fellow who was sitting on the side of the bank overlooking the creek and she thought that maybe this fella was sick because he was kind of moaning and she went over to him to see if he was alright and he raised his shoulders up and he was headless.

SM [laughs]. How old were you when she would tell that story to you?

BM I would say I was, I remember hearing it when I was nine, all the way up until I was sixteen.

SM Would you picture a headless man periodically in the dark?

BM Um, my uncle still lives up that road, so every time I had to walk by that church which is still sitting there overlooking that little creek, I always picture that headless man sitting on the bank.

SM [laughs] Tell me some of the other hate stories you heard people would tell.

BM One that, there was a house below where I lived in this little holler and supposedly a long long time ago there was a woman who lived there and she was thought to be a witch and she was accused of such and hung by the local population. And supposedly if you go by her house at night and during a full moon, and you go to the little bridge and you look into the water and say witch, witch, witch, and then quickly turn around you will actually see a shadow of this woman hanging in a tree in the front yard of the house she lived in.

SM Did you and your buddies ever do it?

BM We did [laughs] and...

SM [laughs] And?

BM The result was basically um, my buddies took off like scared cats after we said it and turned around and jumped in the car and were actually leaving me so I had to chase them down throwing rocks at the back of the car to get them to stop to pick me up.

SM [laughs] I can't imagine a better class for set design than making a haunted house. It's just so fun and people are into it, much better than saying, let's do a scene in, you know, medieval times, right?

BM Yes! Um, that's exactly what I'm finding out was that the tools of the design and the communication are exactly the same for the haunted attraction as it is for any theatrical production that we do. I think the difference is the story that we're telling and the kids really latch on to this and I think they actually learn without knowing they're learning in some ways.

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SM So did you and your students build a haunted house that people are visiting?

BM Yes! We basically built two attractions with a common theme and the first one we called the Asylum and it's basically this series of rooms loosely based on some of the stories we researched nationwide actually of haunts at different hospitals and things like that and so we've got like a morgue and we've got a chapel and we've got like an experimentation room and we even started off with a waiting room and then we connected all of these with a series of long hallways and mazes that just totally disorient you and then in the second building, The Barn, that is where we go for more of those primitive fears so you'll see clowns with chainsaws and your ghouls and your zombies with the flesh dripping off the face and blood coming out of their mouths and then you know missing body parts and things like that so we kind of focus more on the storyline the asylum portion and then the second portion you go through is just pure primitive type fear.

SM What are you doing with sound?

BM In one of our buildings, in the barn building, we're using loud in your face just rock and roll and that's about the only thing that can compete with the chainsaws that the clowns are carrying. In the other building, we are going for a more subtle approach of um, basically just sounds of people screaming.

SM [laughs] Ben Mays, this is wonderful. Thanks for talking with me and With Good Reason.

BM Oh, thank you so much. [music]

SM Ben Maze is a theater professor and technical director at the Gilliam Center for The Arts at the University of Virginia College at Wise. This is With Good Reason. We'll be right back. [music].

SM From Virginia Humanities, the following is an encore presentation of With Good Reason. Our fascination with birds dates back to paleolithic times in fact one of the oldest cave drawings in France depicts an owl. Birds have inspired paintings and symphonies and in modern times the search for the Ivory woodpecker in the swamps of Arkansas has sparked a spirited scientific debate. But artists and scientists have no monopoly on our fascination with birds. It extends to anyone with a bird feeder and a bad pair of binoculars. Dan Cristol is a professor of biology at the College of William & Mary. He's passionate about all things birds. Whether he is studying their uncanny ability to migrate to thousands of miles or investigating whether a golf course can be safe habitats for bluebirds. He's made a scientific breakthrough on the effects of mercury poisoning in the headwater of the Shenandoah River and its effects on the songbirds that want the insects near the river. How has it come to be that so many years after we knew fish had been polluted and had high mercury levels that we didn't realize the birds did?

DC Well uh, I think it's just that people didn't want to know and nobody investigated it and there was this great fixation on the fish because people eat the fish, not so many people eat the birds, and then we delved into it a little and learned that it was because they were eating these spiders and the spiders have very high levels of mercury and what we are doing now is to try and solve the last pieces of the puzzle which is where are the spiders getting their mercury.

SM Is it much mercury that you're detecting in those birds that eat the spiders?

DC It is a lot of mercury in terms of how much mercury you'd expect to find in a bird. It's at levels that are definitely affecting survivorship. The birds are not living as long and they're not having as many babies.

SM What are some of the solutions proposed for how you get rid of mercury, other than feeding it to spiders?

DC [laughs] If we could train an army of spiders to come and then train an army of chickens to come and eat them all and then take away all the chickens we would be all set. It's a very difficult problem, typically in a situation where you have mercury or

you have another contaminant in the river, you'd want to dredge it up, maybe even pave over part of the river to keep the stuff from getting out of the sediment. But you can't do that when you have a hundred miles of river contaminated because all that does, that will stir up lots of buried mercury and send it downstream into the rest of the Shenandoah River onto the Potomac and onto the Chesapeake and we don't want to do that. So you're left with somehow trying to contain that mercury's damage by keeping it from getting out of the river by perhaps changing the habitat to keep the birds away from the river a little bit if you're interested in birds. You really have to decide who you're trying to protect from the mercury and, of course, people come first but specific solutions are going to be really hard in this case because it's been there for fifty years and it's difficult to deal with.

SM Of course your expertise and love of birds isn't limited to those that are consuming mercury laden spiders. I'm amused to see you wrote a paper back in the nineties called Crows Do Not Use Automobiles As Nutcrackers [laughs]. That really has me curious—what was that about?

00:31:21

DC Well that paper actually rose from a bet that I had with someone else in my lab. We read another paper that was titled Crows Do Use Automobiles As Nutcrackers For Walnuts and we thought...we read that paper and it was based on a single observation that someone had made from the rearview mirror of their car. It was from a very obscure journal. These are crows in California and they eat walnuts and they drop them on the road to crack them, that's the only way they can get them to crack open and occasionally a car will run over one. So some people are claiming that they are doing this in an intentional manner - basically putting the walnuts there to be crushed by the car.

SM Oh yes.

DC And so we tested whether, in fact, they were doing that and, in our study, they clearly avoided cars now occasionally they are not able to get out of the way of a car and the car does run over the walnut but the crow has a lot of trouble getting the walnut when it's been run over by a car because other birds can come and steal it cause it's smeared all over the road. So they are actually just trying to drop them, crack them, and then fly away with them and eat them on their own.

SM There's something remarkable about the brain of crows. I heard someone say recently "crows are one of the smartest creatures."

DC Well that's a really tough question to ask someone who studies animal behavior because we don't really tend to talk about animals, different animals having different levels of intelligence so if you're a crow then being smart means doing the things that you have to do to survive as a crow, now some of those things happen to be what humans like to do, like stealing things, using tools, and so we consider crows smart because they are kind of like us among the birds. They're more like us than say the cardinal, or a goldfinch.

- SM But there is some other brain research you've done on certain birds to look at how well-adapted their brains are for figuring out how high they have to go to drop their clam or walnut on a hard surface to break it open to eat it.
- DC That's right. We were looking at crows which drop walnuts and we were also looking at gulls around here in Virginia that drop clams on roads and parking lots and they're flying up to a certain height and then dropping it now of the go too high they are wasting a lot of energy and if they go too low the thing doesn't break so they can't get the food. So if there's a softer type of road, they go a little higher, if the walnut already has a little crack in it, they won't go as high. And they seem to be paying attention to doing this very, very efficiently.
- SM What do you think crows were using before we had paved roads?
- DC That's a really good question, and in fact, there weren't walnuts in California either so this whole system is pretty new there, but presumably what we do know is that on the coast they drop snails and clams onto rocks, big flat rocks and so that's probably where the behavior originated and it's just been adapted by modern crows and their descendants to new kinds of foods and new kinds of hard surfaces.
- SM You've also studied the difference in brain sizes of the same species of birds that migrate as opposed to those that don't migrate. What are you after there?
- DC Well the - Virginia provided a really nice opportunity for me to look at one of the holy grails of behavior research which is to try to find a behavior that has changed and to find the part of the brain that has changed along with that. The dark-eyed junco is a sparrow that nests in Virginia in the mountains and it also nests up in the Boreal Forest of Canada. So what you ended up is the last thousands of years with two different sub-species of juncos. One that migrates up north and breeds and one that stays here in our Appalachian Mountains and breeds at the high elevations there so I could ask the question, "in ten thousand years of evolution as migration took hold in one population what happened to their brains?" and what happened is that the hippocampus got larger and that is a part of the brain which we know is involved in spatial memories. So it looks like as you evolve migration that part of your brain gets bigger so that you can remember the various landmarks you see on your migration perhaps. People don't realize how amazing bird migration is. These birds as babies all by themselves - they have never been outside of the little area that grew up in Canada say they head off in the dark all by themselves and they fly for days at a time following both star and magnetic cues and they get to a place they've never been before but it's the right place. They inherit the instructions to get there, to fly in the right direction for the right number of days and then they go back and do it again year after year. I think it is so amazing, to me it's more amazing than anything I've ever learned in biology. Think about all the amazing things that we also inherit in our brains we're just unaware that we're using.
- SM Your research has also led you to the golf course. What are you doing there?

DC What we are doing at the golf courses is asking a pretty straight forward question that surprisingly has never been answered which is, "are golf courses good places for birds to live or not?" Sometimes they're the greenest most park-like places around and you think "oh this is a good place for birds to be," but on the other hand they're intensively managed with chemicals and so there might actually be a bad place for a bird to be. So what we've been doing is looking at how well birds actually do on golf courses when you study them nesting. We study eastern bluebirds because they love to nest in birdhouses on golf courses. It's a really good habitat for them, it attracts lots of them and yet no one had ever really studied them even though tens of thousands of nest bird boxes have been put up on golf courses around the country, no one has studied whether this is a place that bluebirds can really produce a lot of healthy babies.

00:36:51

SM Because it could be just luring them to a pesticide-laden environment right?

DC That's exactly right it - unless someone goes and looks into this, we don't really know that any of those babies are surviving and coming back to golf courses or to other good habitats and so what we found is that indeed the nesting bluebird seem to do as well as other bluebirds on similar habitats don't have the pesticide, but their babies appear to be not as large when they leave the nest which is a pretty serious thing for a bird so now we are looking closely at whether pesticides are responsible for that and so far we haven't found a real smoking gun but the research is ongoing.

SM Evidently, golf course proprietors are thinking about trying to lure a different kind of business clientele on the golf courses by establishing bird sanctuaries on golf courses.

DC Well that's been going on for some time there's a group called Audubon International that will certify golf courses as being environmentally-friendly and birds is a big part of that but it also means using less water and fewer pesticides. Now Audubon International is not the Audubon Society, I should point that out, but they have fairly strict guidelines for what golf courses have to do to get certified and then the golf course can advertise to its patrons that they are an Audubon-certified golf course and they are doing this as far as birds are concerned without a lot of data that is actually what drew me into this. They are making decisions about what golf courses should do for birds and yet no one has actually been out there studying the birds so that's the kind of thing that draws me into research is to try to fill a gaping hole that people are making assumptions without any data.

SM Tell me some other things that you know that people are generally interested in that you know about birds.

DC You're absolutely right, yes. You're absolutely right. People are fascinated with birds. They want to know things that happen in the house for example, like why the woodpecker is chewing big holes in the wood above their garage and, some things are just unanswerable. They want to know about why the cardinals keeps smashing against the window over and over again no matter what they do.

SM Do we know that?

DC That one, I can give an answer which is that the cardinal is seeing its reflection or the robin is seeing its reflection and since it's spring it's attacking what it thinks another male bird and then it hits the window we don't know exactly what happens in its brain at that point but it flies away and then the thing is you can't really answer is why they do it again and again and again. And that's really what makes birds different from people is that birds brains aren't able to sort of able to rationalize that "gosh I've flown against that window forty times" and the bird keeps flying back maybe I should quit. But I'd say the thing that the most people really ask me about and are surprised by the answer is dealing with baby birds that they find. Most people don't realize that baby song birds like robins and goldfinches and song sparrows, they leave the nest before they can fly. Their wings are not quite long enough, they're growing very rapidly but a nest is a dangerous place to be in so they get out as quickly as they can. And so, they flop around for about two days and lots and lots people pick them up bring them in the house out them in a cardboard box and call me and ask me what to do now of course the bird has been starved for half the day and so it's a crisis but the reason that they do this is that they say well little Johnny touched the bird and I knew its parents had abandoned it at that point cause it smells like humans and that's a huge myth that's cost a lot of birds their lives because adult birds will never abandon their babies at that age and they also don't have a good sense of smell so there's no way they're going to pick up a human's scent or that they would care about a human scent. Once the babies have gotten to be quite old like that, the parents have invested so much in them at that point and they will never abandon them as long as they know where they are, once you put them in a cardboard box and take them into your house, the parents are going to move along with the other babies that are also flopping around on your neighbors' lawn. So that little old wives' tale about not touching baby birds because they will pick up a human scent and then parents will abandon them, that's just not true and it's sort of dangerous in the spring because it leads a lot of people to take babies that they should just leave alone.

SM Are you optimistic or alarmed about trends for songbirds in the Williamsburg and greater Virginia area?

DC Um, not optimistic at all about the population trends in birds. For a long time, people have been worried about the endangered species and the birds that we know are declining but the problem now is that all of the common birds are declining too. Birds that we still have in great, great numbers are declining by sometimes five percent a year which means that these vast populations, things like wood thrushes and tanagers and warblers are going to just disappear before we know it and they're going to be rare birds and most of our birds are going to be rare birds at the current rate of decline and we don't really have a great handle on exactly what to do. We know what the problems are. The problems are that we are destroying their habitat. It's not really that much more complicated than that. There are too many - too much real estate is being built on too many habitats and so the birds have nowhere to go and so their populations are declining. So we really have to decide as a society in the next few years whether we're going to do anything about this to keep all of our currently

common birds from declining and becoming, joining the endangered species. At this point, good economy or bad, we have to figure out how to set aside enough habitat if we want to keep our birds. [music].

SM Well, Dan Cristol it has been a pleasure talking with you today on With Good Reason.

00:41:32

DC Thank you very much.

SM Dan Cristol is a professor of biology at the College of William & Mary. For the parts of the country that have four seasons, this is the time of year when we see trees and all their autumn glory but why do the leaves turn crimson, orange, and gold? Virginia Tech forestry professor John Seiler has been studying fall leaf color for decades even to the point of photographing the same tree on the same day each year. He says, despite what many people believe, the peak fall leaf color in Virginia is remarkably consistent every year.

JS The primary signal in all of this is the length of the day which occurs at the same time every day, every year but there are environmental signals that modulate that and can move it forwards or backward and those two primary things are how much rain, moisture in the soil, and how cold it's been at night and during the day for that matter. The best conditions are a good late half of the summer, a lot of soil moisture going into the fall, and we want nice clear days and cool nights, and not really hard hard frosts - hard hard frosts will take your leaves off at least accelerate that bit.

SM Explain the day length part. So that's eighty percent of leaf color change?

JS Yeah if you - it's hard to put a percent on it but say in an artificial environment, if you never let it get cold and it stays warm the entire time, if you lower the length of the day, they are going to go dormant and you're going to get color change. So it is the driving factor, but any given year depending on what is going on with the weather, it could move say plus or minus a week. I usually tell people the third to third to fourth week of October, there's going to be color change at that point. If we had a very hard freeze in the middle of October, that would move it along and say the peak might occur say on the twentieth. And if we don't get a lot of cool nights, it can move it into the beginning of November.

SM So where does the leaf color come from, how do we suddenly find ourselves seeing these brilliant reds and yellows and other colors when it's been green and a little monochromatic all year?

JS Well one, trees all summer long have other pigments that are totally masked by the green pigment and this is similar to say putting one drop of yellow on a palette and then squeezing an entire tube of green paint out on top of that, blending it all together and there would be basically no hint of yellow at all and in the fall of the year, the chlorophyll starts breaking down leaving the yellow which was there all along displayed for us to see, and the yellows and those reds protect the tree during that

period in the fall where they are trying to move all the nitrogen out of the leaves and store it for winter for next year sets of leaves. It's kind of like a sunscreen.

00:45:44

SM Why is it that New England has the reputation for having the most fabulous tree color? Is Virginia really that far off from the New England color?

JS No if - I wouldn't say that at all, in fact, it's probably some very good marketing over the years [laughs].

SM [laughs]

JS But they have - they do have a lot of sugar maple. They're those dazzling flame colors literally sometimes the crown of the tree can look like it's ablaze, but they don't have anywhere near the diversity tree species that we have in Virginia, West Virginia down along the Appalachian Mountains and the Blue Ridge Mountains, so I think we have a whole lot going for us because we can even have an extended color season because some trees turn early and some trees turn late so you have a much broader range on the palette and a longer time as well. There's all our oak species. We have our northern red oak that turns a really dazzling red. We have our black oak that turns a yellow to a yellow-brown. Then we had hickories that turn yellow. We have sassafras that turns a beautiful orange color kind of on the early end. And then we even have sumacs which occurs often times on the edge of roads but they turn a beautiful beautiful red and they have a very, very large leaf so they make a great color display.

SM Do you have a personal favorite tree for fall color?

JS Well, for fall color in the mountains, it's hard to miss red maple and I'll tell you why red maple because it can be yellow and yellow and red in the same tree or solid red on the tree and in fact on an individual leaf it can be mixtures of yellow and red. I was hiking back a few years back with two of my daughters and the red maples were so yellow down in the understory that after a couple of hours when we came out of there. We were actually kind of fall color blind from snowblind...

SM Yes.

JS Where things weren't looking right because everything was being filtered by these brilliant yellows and I've never experienced anything like that. It was a really good year two years ago and there are a lot of red maple um, in fact it's increasing in our force throughout the Appalachian Mountains

SM What are some of the theories for that?

JS Some of the dominant ones are a lack of fire. There used to be an abundance of fire in the Appalachian Mountains, well everywhere in North America, to where our understory was very, very clear. You know you'd easily ride a horse through the

woods without being swept off because the woodlands were very, very open and the forest by all accounts was more dominated by American chestnut. And with its disappearance we had this mixture of oaks come into play and so we probably overall increased the color palette. There are a lot of historical writings and so on that indicate it pretty much dominated different sites along the Appalachian Mountains. It even had the name redwood of the east because it got quite gigantic in places.

SM What are your own favorite drives for viewing the color each fall?

JS Well just head to the mountains. I like to drive and not even look at a map, just pick a state route and head up the hills. But the key thing is go from your farming in the valley and you get into the foothills and you start seeing some edge trees on the edge of fields those little fingers of agriculture go up the valley and get a road that goes up and down and over the mountain because that's going to change the mixture of tree species that you see and take advantage of the again, the really good palette and distribution of species that we've got here in the state.

SM You know no matter how beautiful those mountain falls colors are, it is those trees on the fields or in the yards that make me catch my breath every year. Why is it that they are so spectacular—solo trees?

00:49:32

JS Yeah, solo trees one are totally exposed in sunlight and really nice sunny days help develop the deep red colors and also they tend to be very broad because they're grown in the open and so you've got a nice canopy to look at that's typically in very, very bright sunshine. And the same could be said for trees on the edge of the forest which is, you know you come around the bend and you see that one tree on the corner on the edge of the road that looks really spectacular. So it's, it's their size but it's also the weather and the biology again interacting. They're getting sunshine on all sides and have a very, very large crown to kind of display their colors with. [music].

SM Well, John Seiler, thank you for talking to me about leaf color today on With Good Reason.

JS You're very welcome. [music].

SM John Seiler is a forestry professor at Virginia Tech. Major support for With Good Reason is provided by the law firm of McGuireWoods and by the University of Virginia Health System, connecting doctors and patients through telemedicine to deliver high-quality care throughout Virginia, the U.S., and the world, [UVAhealth.com](http://UVAhealth.com). With Good Reason is produced in Charlottesville by Virginia Humanities. Our production team is Allison Quantz, Elliot Marjezik, and Cass Adair. Jeannie Palin handles listener services. Special thanks this week to Bill Foy of Virginia Tech and Rosa Bat of the University of Virginia College at Wise. For the podcast, go to [withgoodreasonradio.org](http://withgoodreasonradio.org). I'm Sarah McConnell. Thanks for listening.