

Curiosity starts in your Backyard

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Transcript

There is an astonishing amount in this world that we still know very little about. Discoveries await! Last year, for instance, a beetle species who spends its life hitchhiking on the back of an ant was discovered in Costa Rica. A tiny hunchback crustacean who lives its life under the ice in Antarctica. A seahorse that resembles a pig in Japan.

These discoveries are amazing, but how do they happen? What makes someone embark on a journey to find that seahorse in Japan? What makes someone be curious in the world around them? Research consistently shows that 2 out of every 10 people are not the least bit interested in our natural world and another 4 out of that same 10 think they should be, but they really are not. [laughter] That means you in every other seat, plus the aisles, really could care less about that beetle who pretends to be an ant.

I want to change that. I'm an ecologist. I study wild ecosystems across the globe: alpine tundra, prairies, marshes. These places are amazing to work in and important to save, but it's the world right outside of my back door that gets me excited for what I do. You'd be surprised at the discoveries that await in ordinary places -- places that we walk or drive by every day. It's these ordinary places that hold the key to our curiosity.

Let me tell you a story... A bike path winds its way through abandoned field near where I live. I walk it every day, lots of people do. My kids also use this path but they veer off into the field to explore. When they return, they bring back stories about finding an old bird's nest or maybe even getting a peek of that fox that lives in the field.

One day they returned with a bag full of apples: small, the size of a baseball, pale green. I had never realized: one of those trees, one of those trees in that field that I've walked past hundreds of times, one of those trees was an apple tree. An apple tree! Way out there! Really? I had to go see. So I veered off the path. And I discovered this tree: old, hollow trunk, bent branches. And, as with most discoveries, this tree was unknown to many but well known to some. Boards against its hollow trunk created a makeshift fort. A sign spelling out welcome propped against its lower limbs.

Someone, someone over a century ago, had planted this tree. Watered it. Carefully picked its fruit. Then things had changed: coal mines turned to ranches turned to backyards like mine. This tree remained, growing and producing fruit in this now abandoned field.

This tree made me curious. It spurred me on a journey that has taken me to public parks, natural areas and backyards throughout Colorado. A journey involving hundreds of community members,

scientists and students. An extraordinary journey sparked by curiosity in a tree that I had thought was so ordinary.

It turns out that this tree actually isn't that unusual -- to Boulder, to Colorado, or for that matter, to many places across the United States. In the late 1800s when settlers made their way across the plains to find a new life in the West, they would bring with them paper-wrapped saplings or seeds of their favorite apple trees to plant in their new homes. By the turn of the century apple trees fronted homesteads, orchards dotted the hills, and in many places, apple trees outnumbered residents.

That is a long time ago and certainly many of these trees have died, but I was curious. I was curious to find the survivors. And just like that one tree had sparked my curiosity, other old trees had sparked other people's curiosity. Tips on their whereabouts just flowed in.

We have found trees in the middle of nature's wild, planted by pioneers next to their cabins. The cabins have crumbled but the trees remain. We have found trees still in front of homesteads, passed down from generation to generation. We have found trees that used to be in orchards and when orchards turned to neighborhoods, they found themselves in someone's back yard. All in all, in Boulder County Colorado alone, we have found hundreds of these trees. All survivors. All over a century old. All nearing the ends of their lives. All in ordinary places that you or I walk or drive by every day.

So one thing I love about curiosity is you never know where it's going to take you. One discovery leads to another. Paths keep branching and intersecting.

I used to know apples from my walks down the supermarket aisle: Red Delicious, Granny Smith, Macintosh. And while these varieties make up the bulk of commercial production today, there are over 7,500 varieties of apples worldwide. And historical records indicate over 400 varieties were grown in Colorado in the early 1900's. Four hundred different types of apples: different shapes, different colors, different sizes, different flavors, different histories.

Let me give you a couple examples. There's a variety called Rambo whose bold taste was the inspiration for David Morrell's Rambo character. Rambo from the movies was named after an apple. [laughter] There is a variety called Arkansas Black, as black as a ripe plum. A variety called Surprise which, imagine, has pink flesh. And a variety called Winter Banana which, indeed, tastes like a banana.

All these varieties all representing different paths that people took to come here to build the community we now know. And the tree behind my house? It's dry tart bitterness resembles an angry Granny Smith. We suspect it is a Northwest Greening, likely from Wisconsin, taken here by coal miners, likely for hard cider. That is no ordinary path!

And perhaps even more extraordinary is that out of those 400 varieties once known to have been planted here, we can't find over half of them. They are missing. Lost. We don't know where they

are. Likely many of these remain -- but hidden -- in remnant orchards, overgrown wilds. Together, I think we can find them. It will take all of us to be more curious, to look a little bit more closely, to join in.

And when we find a tree that we want to save we can use a miracle of biology called grafting. We can take a twig of the old tree and join it with new young root stock and give that tree new life. We plan to plant grafted copies of these historic trees in community teaching orchards to allow everyone to walk under their branches, to pick their fruit, to experience the cultural and biological splendor of these historic trees.

We were all born with a strong sense of wonder in this world. Anyone who spent any time with a toddler knows this really well: turning over rocks, watching that line of ants cross the sidewalk, seeing what dirt tastes like. [laughter]

But somehow, somehow as we get older, we lose that curiosity. It gets diluted. masked by responsibility, as we start racing ahead on familiar, expected, established paths. Even me: as a kid I was always outside. I'd carry around this little naturalist notebook and I'd write down all the names of the plants and animals that I could find. Even me, fortunate enough to be able to establish a career studying the natural world. Even me, busy with work family everyday life I was racing ahead on the established path. It is hard to be curious. It is hard to allow yourself the time to veer off that established trail and feel that sense of wonder in our world again.

But curiosity is a really interesting thing. Cognitive scientists have shown that we can lose it we can get it back and we can cultivate it. And there are so many reasons that we all should cultivate our curiosity. Our brain chemistry changes when we become curious, helping us better retain and learn information. Studies show that we find curious people easier to talk to and socially more attractive. We like to hang out with curious people because they spark our own curiosity. Being curious also illuminates the amazing path others have taken and the joy and ease of intersecting those paths with our own. It builds community. And the more we are all curious, the more we look at problems from multiple different angles. It leads to innovation, invention, breakthroughs.

It also means that sitting in a lecture hall learning the ins and outs of a particular subject might not be the best way to find your passion. We know that curiosity enables learning not the other way around. So first, be curious. Discover. Explore. Then learning will be much more relevant, important, meaningful.

We are exploring teaching classes like this at the University of Colorado. Instead of starting off by asking students to memorize the Kreb's cycle or the logistic growth equation, we are taking first year biology students off the beaten path to ask still unknown questions. Questions about, in fact, these apple trees! What is there left to know? So much. How some of these varieties have been able to resist disease that ravage commercial production. How these old trees have been able to tolerate our climate's harsh drought and late frosts. Perhaps even the next new eating or cider variety for local production. Discoveries await!

Last year was a great apple year. Many trees had bumper crops. The tree behind my house however, only had two, small, green apples. I worry, I worry that after a hundred years, after drought, grasshopper outbreaks, and kids playing on its branches, that it might not make it through this winter. That this might be its last year. And I admit this kind of makes me sad -- I've grown quite fond of this old tree.

But as with all journeys, it spurs you forward. My kids and I plan to plant a grafted copy of this tree in our backyard this spring. To water it, to carefully pick its fruit. Perhaps it will be their seahorse from Japan. What will yours be? Everyone, everyone, needs a seahorse from Japan.

So when you find yourself in a place a place that you think is pretty ordinary, a place you walk or drive by everyday, take some time to look a little closer. Veer off your established path. Ask a question, be curious. You are the right person, the best person, to go on a journey to get your answer.