

FYS 018-02  
Ten Ways to Know Nature  
Matt Rogalski, Vinay Ghai, and David Biggers

Podcast Transcript for "Science" Episode

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[play Under the Sea]

**Vinay:** And welcome back to Our Natural Environment. My name is Vinay...

**Matt:** And I'm Matt...

**Vinay:** And we were just discussing the relationship between Nature and Science, and all of the different ways that they can be compared and contrasted.

**Matt:** Alright don't jump ahead Vinay, first, let's introduce the show a bit more.

**Vinay:** Well I was just...

**Matt:** In just a sec, we'll go back to talking about the differences between the two.

**Vinay:** What we have planned for you today are some opinions on the topic of Science vs. Nature from experts in their fields, and then opinions of students. Next, we'll take callers to hear their opinions on the matter. Finally, we plan to discuss some of the impacts that nature brings to all of us in our everyday lives.

**Matt:** Yep, so let's start out with differences. Some popular comparisons in regard to nature include that it's organic, animated, and cyclical; whereas, science is mechanical, dead, and linear. Science needs to be organized and precise, to be considered real science, and nature is more unpredictable/variable. Nature is not manmade, there are... mechanics to it, believe it or not.

**Vinay:** Well, that's ironic...

**Matt:** That it is Vinay, and it is the mechanics scientists understand to help the "average Joe" develop his personal interpretation of this natural world.

**Vinay:** That's right Matt. Science is, in one sense, our knowledge of all that....all the *stuff* that is in the universe: from the smallest atom in all living things to the nuclear reactions that formed the immense ball of yellow gas that is our sun. But just as importantly, science is also a reliable process by which we *learn* about all that stuff in the universe. However, science is different from many other ways of learning because of the way it is done.

**Matt:** So basically, science helps satisfy the natural curiosity with which we are all born why is the sky blue? How did the leopard get its spots? What is a solar eclipse? With science, we can answer such questions without resorting to magical explanations.

**Vinay:** Very good point Matt, scientists can tell you all about cell reproduction of a prokaryotic organism, but meteorologists can't even tell you when its going to rain. That being said, we wanted the opinions of more people. So we went out with several correspondents in the field to talk to several people about their opinions of science and nature.

**Vinay:** Today we will be interviewing scientists from two major branches of science, Biology and Chemistry, and getting their take on this phenomenon of the relationship between nature and science. Let's cut to our correspondent Robert Storm who is at Hugel Science Center talking with Professor Robert Kurt.

**Matt :** Thanks Vinay! And you were right about those meteorologists, last night they called for sunshine and now I'm standing here looking like I just got out of the ocean. Anyway...

[ cut to interview with correspondent Robert Storm and Professor Robert Kurt ]

**Vinay:** So from a biologist's standpoint, nature and science are one and the same, meaning they are interdependent upon one another. It makes sense, without nature, scientists would have nothing to study, but without scientists, the everyday person would not know the mechanics of nature or the in-depth way that nature works. Before I go off on a tangent, let's hear the perspective of a chemist. Here's our correspondent Michael Gust.

**Matt:** [audio recording] ...back to you, Vinay.

**Vinay:** Wow, so without science, the modern world would not be modern at all, and we still have much to learn about it. Millions of scientists all over the world are working to solve different parts of the puzzle of how the universe works, peering into its nooks and crannies, deploying their microscopes, telescopes, and other tools to unravel its secrets. This kind of relates back to the questions you asked earlier Matt, like "Why is the sky blue?" or "Why does a leopard have its spots?". Specialized fields of science work tirelessly to understand mysteries as to why the world behaves as it does. You know, there are in fact some natural mysteries that science can't explain: black holes, the Bermuda triangle...

**Matt:** Speaking on that topic, I recently read an article about the mystery of the Bermuda Triangle being solved. Most incidents actually occur because of past methane explosions that cause methane bubbles to form that essentially trap ships and planes and bring them underwater.

**Vinay:** That's an interesting theory, Matt. But despite your attempt to disprove me on my own show, sir, it's most likely just another idea as absurd as aliens or the Gulf Stream theory.

**Matt:** But, that's a topic for another day. Lets hear from the perspective of an economics professor. We have our correspondent Tom Fields down at the Simon Center. Tom, take it away!

**Vinay:** Thanks Matt, [ Cut to interview between Tom Fields and Professor Ghai ]

**Matt:** This is an interesting perspective too. It sounds like she's saying scientific experiments seem to be performed more for financial interests than an actual love for nature, or a desire to find out more about our world. This makes sense, seeing as most scientists have more money than what they know to do with. I recently interviewed a freshman at Lafayette, let's hear what he has to say on the topic.

[Student Recording - Andrew Scerbo]

**Vinay:** Okay, so it sounds like --

[phone rings]

**Vinay:** Oh, it appears we have a caller. [Answers phone] Hello?

**Dave:** Hey guys, my name is Dave Biggers, a research analyst at Keep It Green Incorporated. I recently read an article regarding the processes of fracking and harmful effects of scientific obstruction on the environment just to obtain natural gas. Is it really worth the price of water pollution, earthquakes, and more emissions than coal? The two aren't related. Science is a mere bully to the environment.

**Vinay:** Really? Can you explain a bit more?

**Dave:** People today have two options: To accept that scientific understanding of the natural world is all measurements and observations or to accept the traditional understandings of the world made by people who only had the tools of their eyes and imaginations.

**Vinay:** And why can't there be a third option of accepting that the primary goal of scientists is to make new discoveries or develop new theories to progress toward a better understanding of nature?

**Dave:** Progress toward a better understanding of nature? Remember what professor Ghai said? Yeah, the only “green” they care about is the amount in their pocket at the end of the day. It’s commercialized.

**Matt:** Really? Hmm. Well if we didn’t have geneticists we would not know the nature of our genes or how to prevent certain diseases. Without biologists or plant scientists we would not know how to increase the agricultural output to nutritionally enrich the inhabitants of the natural world. Without earth scientists, we would not know how to predict natural disasters: earthquakes, landslides, volcanic eruptions... In other words, knowledge that can help avoid hardships that have plagued humanity for centuries. In this world where economic competition is rising by the minute, science is nothing short of an investment for a better, more efficient natural world.

**Dave:** Well then, why when a scientist makes a new discovery, it’s the only thing we “regular people” hear on the news for days on end?

**Vinay:** Because it changes the thought process of people and their perceptions of nature! Whether it be a new dinosaur or how atoms bind, scientists find their greatest joy in discovering something new or explaining a problem that could previously not be explained. Thus people now have a better understanding of the natural world or how the natural world works around them.

**Dave:** [ Line is disconnected ]

**Vinay:** Hello? Hello? Hmm... Well, it looks like we lost the connection... Actually, this is convenient. Let’s make that our question of the day. So listeners, what are your thoughts? Is science overpowering the environment, or do they have the capability to work in harmony? Keep that in mind.

**Matt:** Well, that caller pretty much explains the presumptions of the rift between science and nature. Anyway, have you heard about that typhoon that struck the Philippines a couple weeks ago?

**Vinay:** Yes, Typhoon Haiyan. It’s quite tragic; the current death toll is just over 5,000. I feel they could have prepared for the storm more than they did.

**Matt:** Believe it or not they did evacuate three days prior to the storm, I think the magnitude was just underestimated.

**Vinay:** How did they know to evacuate?

**Matt:** Well, science! From satellite images to the Doppler radar, meteorologists have come a long way in predicting storm surges, measuring the magnitude of them, and discovering preparative techniques for those who may be affected. Think of how high the death toll would have been without the three days

forewarning to evacuate. Scientists today can track storms days in advance to determine the size and impact it will have on the designated location.

**Vinay:** You know, earlier in the show I claimed meteorologists couldn't even predict when it was going to rain... and according to our correspondent Robert Storm, I was right. Surely these forewarnings can't be exceptionally accurate?

**Matt:** Well, that's the one problem, accuracy... Think of all the factors that have to go in predicting a storm: The route, the intensity, and the time component. The route accuracy improves as the storm moves closer to shore, however, the intensity and time of arrival are nearly always unpredictable because of different factors that attribute to it: Water currents, air currents, and even temperature can strongly impact the intensity of the storm.

**Vinay:** Hmm... I see. I suppose some warning is better than nothing at all. In any case....

**Matt:** Excuse me, Vinay. By the way guys, if you would like to help the relief effort in the Philippines with a ten dollar donation, text REDCROSS to 90999, and then confirm the donation with the word "Yes." Any help would be greatly appreciated.

**Vinay:** Indeed. Well, that's just about all the time we have for today. Thank you for listening! And don't forget our question of the day. Is science overpowering nature, or do they have the capacity to cooperate? We want to hear your thoughts, so send us your responses at [ournaturalenvironment@gmail.com](mailto:ournaturalenvironment@gmail.com). I'm Vinay,

**Matt:** And I'm Matt. Thanks for listening, until next time ...

[music "Coming Home" ]

[static sound]

**Vinay:** This just in, I'm receiving a transmission that we are now switching over to a technology podcast that will be covering a similar topic of the comparison between technology and nature.

**Matt:** Ha! I guess the Ben Cohen Newsroom had budget cuts. Without further ado, here's Connor, Kevin and Charles with "Technology and Nature".