

Gemology with Kelly Sitek

Ologies Podcast

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Heeey, okay just a quick note up top, that this episode gets a little, like, woo-doo-to-doo, like a little mystical. We don't *not* talk about the power of crystals in this. I wanted to know, as a gemologist, what this Ologist's belief was in the mystical nature of rocks, if she believed in it. So, I hear her out, I also discuss the neuroscience of the placebo effect and how our thoughts can change our behaviors. It's based in neuroscience. Try not to @ me about it 'cause, like, I get it. Okay? Cool

Episode 4 of Ologies, comin' in hawt.

First off, thanks to everyone who's been listening and leaving reviews on iTunes, and rating, and subscribing. The more you do that, the higher this gets on the charts and the more people see it. And the more people share dumb science jokes, I guess, the better. I don't know.

Also thank you to everyone who's supporting on Patreon. I see you and I love you. And For everyone who had a hankering for merch and who's been to OlogiesMerch.com. Cool shirt, or mug, or tote.

Okay. Gems. This episode about gems is truly outrageous. Well, it's pretty good. We don't talk about crotches very much, but it's a pretty good episode.

Let's start with the etymology of gemology, it comes from 'ology,' the study of, and 'gems,' meaning gems. But 'gems' comes from an old dusty Latin word for... gems, which comes from the word for bud. Like a cute little rose, only it's dug from the ground and it's worth more than your house!

Now, I knew I wanted to cover this topic for months, so I started hunting down on Facebook for a gemologist, and I got in touch with today's guest, whose number I saved in my phone with the crystal ball emoji, the diamond emoji, and the ring emoji. Now, I'm gonna tell you a secret. If you have an emoji next to your name in my phone, I like you. I like you extra more a lot. And this person is just as wonderfully warm and passionate as they come. She's worthy of the emojis!

We talked about the difference between gems and minerals, what it's like to be at a blast site, what's the actual deal with mystical healing - from a few different angles - hidden crystal caves. And some super weird tragic history of figures in gemology because the beauty of gems lies as much in their shimmer as it does in the weird, dark mystique of valuable coveted things. I think part of what's so great about gemology is that there's creepy stuff about it.

So this guest is a gemologist, and a jewelry cataloger at Bonhams & Butterfield's, which is an auction house, and she's just lovely. She's just goddamn lovely. Please enjoy, Kelly Sitek.

Alie Ward: Okay. Kelly; Gemologist. This is so exciting! I've never met a Gemologist before.

Kelly Sitek: I think it's a very small niche of a field. I haven't met many either except now that I'm actually in the world. But beforehand, before I actually met a diamond dealer, I didn't really know what gemology was or what the industry was like as far as jewelry, and minerals, and crystals goes so it was... I mean, once you meet one then a whole world opens.

Alie: Does a bookshelf spin open and then there's a world of diamond dealers behind it? *[laughs]*

Kelly: Yes! Diamond dealers, gem dealers. It connects to mining in, like, Africa, and Asia, and all these different places. And you learn that so many people are involved in the process of getting a stone from the earth; taking it from the earth to, you know, a piece of jewelry, or to a crystal in a shop for sale. So, it's really kind of amazing all the work and all the people that go into the whole industry. It's incredible.

Alie: How long have you been a gemologist?

Kelly: I'm actually a very new gemologist. I graduated just a little over a year ago from the Gemological Institute of America. It's down in Carlsbad. It used to be based out of here. It's also all over the world now.

Aside: I knew nothing about the Gemological Institute of America so I did a little digging. Oh, that's a pun! I'm sorry. Honestly, I didn't mean it.

The Gemological Institute of America is legit. If you're going to become a gemologist, this is the way to do it. It was founded by Robert Shipley. The website for the Gemological Institute of America starts off with his bio, and the sentence sounds like it's straight out of a 1940s movie trailer. It sounds like this:

[as if over an old radio] During the depths of the Depression, a middle-aged man with little more than ambition and charisma revolutionized the gem and jewelry industry.

That's his bio! He sounds dope. Shipley was kind of a down-on-his-luck jeweler who screwed up a few times because he didn't know which gems were which. So his business failed, and then he went through a divorce, which I think was a big deal back then. So he split. He went to Paris. He said, "Forget this! I'm gonna be an artist!" He got another wife; her name was Beatrice. And in general Shipley was bummed that jewelers often had no idea what stones they were working with. It had boned him in the past, he was upset about it. So, Bea, as she was known, encouraged him to take some goddamn gemology classes! And I'm picturing their conversations, and I imagine them talking about this, smoking in the living room.

Anyway, Shipley did. He went to England and he was so impressed with the gemology courses, he came back to America, he started up this institute in the US. He sold

microscopes, and loupes, and gem info booklets out of their apartment. He and Bea, man. What a team. Nowadays, to become a certified gemologist you can do it for about \$20k on campus in Carlsbad, or a little bit less if you study up at home. Either way, you definitely get one of those cool squinty loupe situations.

Kelly: So, they send you all the schoolwork, and all the stones to identify, and then you go down there to take the scariest test of all time to get your degree. It's very intense. It's called the 20 Stone. It's very like menacing. You have to take 20 stones, whatever they give you, and it's really... Whatever they're giving you in your test, they'll give you one of those but it could be synthetic; it could be an imitation of something; it could be the natural form of the stone. But you have to identify it, do tests with the gemological equipment, like a refractometer, and a polariscope, and things like that. And then you have to identify what it is but you can't get anything wrong.

So, if you get one little tiny thing wrong then you fail, and actually failed my first one from one answer. It was a synthetic emerald versus natural emerald. I had to take it again and it was fine.

Alie: Oh no! Do you hate emeralds now? Are you so pissed at them?

Kelly: It honestly made me just want to see so many more because, you know, the best thing you can do for yourself in gemology is just get your hands on as many stones as possible, because people are getting really good at imitating stones, and recreating stones to make them look natural, but they're not. So that's where it gets scary with, like, actually buying gemstones or jewelry; you just don't know because there's so many good fakes now, and you want to actually know what you're purchasing or what you have. Now I'm like, "Dammit, emeralds!"

Alie: How did you get so involved in this? Like, you've been doing it for a year, but were you always super into crystals?

Kelly: From a young age, yes. My dad tells me stories of hanging out in the driveway. He would, like, put me outside and then he'd come back and there would be these piles of sticks and stones. He was like, "I don't know what you were doing, if it was some ceremony or something."

Alie: You're a baby witch!

Kelly: Baby witch, doing some sort of spells with the Earth. *[laughs]* I'm not sure. I've always had a fascination with bugs, and rocks, and the earth, and dirt, and things like that. So, I actually went to get a B.A. in the arts first. I have an art history minor and then a fine art degree that's in printmaking. And I kind of didn't really know what to do from there, what I wanted to do, but I always loved antiques and things like that. So then, I went into the antique world, the antique business, and worked in some antique shops. And that is where I met the

diamond dealer and understood... Like, I love antique jewelry, and the idea of the preservation of history, and it's very sentimental.

Alie: Wait... You met [*dramatically*] The Diamond Dealer. Was he wearing a cloak and a mustache and a monocle? Who was this guy?

Kelly: No, he's actually, like, very suave. He's, like, very much a diamond dealer. They're very charming; they know how to talk a deal and things like that, which was good. He was very, very supportive, and helpful, and just like, "You love jewelry so much. Have you thought of this? You should really look into the program at the GIA." And then I did, and then from there... It's actually really interesting. My love is actually with minerals and how they come straight from the earth; the raw specimens.

Alie: So, this ended up combining nature, and art, and history, all in one.

Kelly: All in one. All my favorite things, yeah. So that's where I am now.

Alie: How did you celebrate when you passed your second test?

Kelly: I cried and called my mom. [*laughs*] I did. I literally was like, "I'm so proud of myself!" With the online program there's so many different people from so many different walks of life taking it. There's older people that have been in the business forever but they want their actual degree now. I was mostly with some older ladies as well but a lot of them had a hard time passing it. So, I was really like psyching myself out. I was like, "Oh my gosh. They did the online program and I did the online program, how am I going to do this?" But I think it's just so mental. It's just going in there just saying, "I understand the stones. I've seen them. I know what to look for." And you get to, like, use a microscope to look inside there and just, like, see the entire world of the stone.

Alie: No cheat sheet?

Kelly: No cheat sheet.

Alie: Can you wear any rings or anything with you? You're like, "All right, I know this is the garnet.."

Kelly: I wish. There is this giant book you get to use. So, what you first do is you kind of identify a body color and if it's translucent or opaque, things like that; characteristics, just looking at it with your eye. And then you go into using a refractometer, which is where you put the stone with RI liquid, and you figure out what its refractive index is. It's kind of like how it splits light, and that's a very big sign of what the stone's going to be. So, if it's 1.77 you know it's going to be a sapphire, generally. So, each stone kind of has their own number which helps you identify. Some are very similar, so you need a bit more information, like use a polariscope to see its polarity of things, and then you go from there. But you do a couple of

tests to figure out. And then you have to go into looking through the microscope to see, does it have signs of being man-made? Is it a boule?

Alie: How do you tell if it's man-made? Is it too perfect?

Kelly: Sometimes, it's very eye-clean. So, if you don't see anything, you're like, "Hmm this looks a little suspicious." So you're like, it's either a natural stone that's been heated or diffused to make the color better. Or, it's now a synthetic stone created through one of four processes, with heat, and chemicals, and things like that. It's really interesting. It looks like this long cylinder shape. The synthetic one's called a boule. And then they cut it from there.

So when you're looking in the microscope and you turn it at a certain axis, you can see these beautiful curved striae, which is like rings, and that's how you tell it was in a cylinder-shaped boule.

Alie: And how do they make them? Do they just put some carbon, like, under insane pressure in a factory?

Kelly: Yeah, it's in this platinum crucible, and then minerals. There's a few different processes, where they either, like, slowly drip minerals in there, or they just have it all in this mixture and then they heated up and... It's very complex. I don't even know. I'd love to see how it's done. *[laughs]*

Alie: Are there any people that go synthetic because they think it's, like, more cruelty free, or it's better from an environmental or... There's the whole *Blood Diamond* situation. Do people gravitate towards synthetic, kind of like a tofurky on Thanksgiving?

Kelly: I think synthetic is more for cost. I think a lot of people want the look of a beautiful sapphire but maybe they can't afford it. So then they go synthetic, and you still get that great look, and it is the actual chemical makeup of the sapphire but it's just synthetic and it's been man-made. Mining is hard to really wrap your mind around because there are certain governmental protections for the miners and the companies that are put in place so there isn't, you know, constant power struggle for these, or violence, things like that. But you can't control everything, so unfortunately you just don't know where all these pieces are coming from. But I think that's why, for me, I really like a lot of the antique jewelry because it's been around, it's not new, it's not being mined now.

Aside: These days people, of course, are much more aware of blood diamonds, so thanks Leonardo DiCaprio for bringing that into awareness with your film *Blood Diamond*. They're also called conflict diamonds, which I feel like there was someone in PR that's like, "Can we not call them blood diamonds? Can we call the conflict diamonds?"

Conflict sounds less awful than blood diamonds, but these stones, the money was used to fund ongoing conflict, insurgency, and wars. It's said that 1 in 4 diamonds, roughly, is a

conflict diamond. But there are regulations - there's one called the Kimberly Process – and some things pass through, that's for sure. I asked Kelly how she felt and she said this:

I'm very into ethically sourced diamonds, although I think even with all the laws and systems in place it can be hard to truly know how diamonds come to find themselves in jewelry. That is why I'm also a huge fan of older diamonds or reusing family diamonds.

So, there you go. Old is cool.

Now, what's up with birthstones? And does Kelly even like hers?

Alie: God, I hope it's not an emerald.

Kelly: It's not. [*whispers*] Thank the lord.

Alie: Can you imagine!

Kelly: I'd just be spiteful towards my birthstone for the rest of my life. [*laughs*] No, it's an aquamarine.

Alie: How do they choose that? How do they decide that that's... What month is that?

Kelly: It's March. Honestly, I have no idea what the history is of birthstones.

Aside: All right: history of birthstones. This goes back to the Bible. That's not what I was expecting to learn. Israelites wore a ceremonial breastplate; it was adorned with 4 rows of 3 precious stones, said to represent the 12 tribes of Israel. There's also something in the Book of Revelation, Chapter 21, about 12 different stones. So this goes way, way back. But in 1916 a bunch of jewelers got together, in Kansas, and put out an official list. "This your month you were born, this is your stone." Suddenly, everyone cared about their stone. It was genius! Everyone except people who got topaz.

Kelly: What's yours do you know?

Alie: Mine sucks. It's a topaz.

Kelly: I was going to say pearl... Oh my gosh topaz, there's some beautiful topaz! Imperial topaz is my favorites. It's, like, beautiful, glowing, orangey red. It's just spectacular.

Alie: Well, that actually... Okay, because every time you go to the mall and they'd be like, [*snobby*] "what's your month?" and everyone would be like, [*pompously*] "Emeralds, and diamonds, and rubies." And then you'd get to November and it was literally the color of sewer water, and you're like, "What happened?? Why..." Did they run out of gemstones in November?!

Kelly: They just decided to make, probably, the worst color 'topaz.'

Alie: But why are topazes, like... Okay, we know diamonds can be different colors.

Kelly: Topazes can be many different colors.

Alie: Same with emeralds and rubies. What makes a gem different colors? This is such a dumb question.

Kelly: It is the chemical makeup of the gem. So whatever minerals were in the area, the heat, and the pressure, and the minerals in the ground combine to create the chemical makeup of a stone and that creates the colors. So, vanadium and things like that can create a different color in different gemstones. It's all about what is combined and what was, like, in the stew of this mineral that made it that color.

So, like tourmaline is one of my favorite stones because it comes in, I think, the largest array of colors; hot pink, and gorgeous teals, and green, and blue, and reds; every color, really. A lot of gemstones, people don't realize, do that as well. It's interesting because a ruby and a sapphire are actually the same stone. They're both in the family of corundum, but then their color gives them a specific name. So, a ruby is the red form of corundum, and then sapphire's the blue form. And then you can also get into... like, the definition of a pink sapphire versus a ruby is just the color, so pink sapphire and ruby are the same thing except when you have a red body color it's then a ruby instead of a pink sapphire, which is pink.

Alie: What makes a topaz different from an emerald, or from a ruby? Is it the structure of the crystals inside?

Kelly: The structure of the crystal and just literally the chemical compound. So, there's seven different growth characteristics types for gemstones. There's only seven ways that they'll really grow, monolithic, trilithic... there's seven of these in these structures. So you'll see a spinel, or like pyrite, and they grow into a perfect cube. It's so cool; naturally just a cube. And some grow with, like, a hexagonal shape like a beryl grows with a hexagon. So, that also contributes to what makes them different, is their natural growth structure. But topaz is beautiful. I've seen a bluey green one. It was so gorgeous. It was like seawater.

Alie: That's so nice of you to say. That's, like, a very... you know when you see, like, an ugly baby and you're like, "It's gonna to grow up and be fine." Topaz is like... "But it's beautiful. They're all beautiful!"

Kelly: *[laughs]* They're all beautiful. You just have to find the ones that really speak to you. That's what it's about.

Alie: Are you pissed about pearl? Because a pearl's not a goddamn gemstone. That's just a dingleberry from an oyster. You know what I mean?

Kelly: Yeah, it's an organic product. So, it's... I mean, for me, I'm not super into pearls just because they're actually cut from an animal. I'm vegan, so it makes me sad, but it's also just beautiful that an animal can create such an incredible product. It's just this natural...

Alie: But it's not a gem. Or is it a gem? What's a gem, exactly, versus a mineral?

Kelly: Oh gosh, I wish I could remember the exact definition of that.

Alie: I mean it's good... It means it doesn't come up in your work very much.

Kelly: It does not. The definition of a gemstone does not come up very often in my work.

Aside: That's okay, I looked it up. So, a gemstone is a precious or semiprecious stone or minerals chosen for its beauty, for its durability. It's cut and then polished. Now, check this out, there is a difference between a rock and a mineral! I never thought about this. A mineral has a very unique chemical structure and properties, but a rock is a combination of different minerals!

This fact is so precise, and I would never have learned it if I hadn't just had to look it up. It makes me want to sound an airhorn that party DJs use. Okay, I'm going to but just super tiny in the background. [*subdued DJ airhorn*]

Kelly: But I think pearls are technically an organic matter, or material, because they come from... just like coral. Those are in the organic field and then rocks and gemstones are inorganic.

Alie: It is weird that there is one gemstone that's just like, "We pluck this thing out of a bivalve." You know what I mean? Isn't it weird that it came from... it's weird.

Kelly: I'm not sure who discovered that and was like, "This is gonna be beautiful, and this is gonna be jewelry, and it's gonna be a precious thing that's desired," who creates the demand for certain things, I'm not sure but it is fascinating.

Aside: Okay, so there's evidence of prehistoric pearl hunting. People loved these, for millennia, but for thousands of years it was a crapshoot. In a few tons of oysters, only a few would have a naturally occurring pearl.

So, pearls were so expensive because you'd just hope that a critter got a chunk of something stuck in its craw. But then in the early 1900s, that all changed.

A guy named William Saville-Kent. He was a British biologist who was *really* into sustainable fisheries. (Someone's gotta be into that.) In the 1890s he was in Australia experimenting with pearl cultivation. It involved a little round bead made of mollusk shell plus a little piece of donor mollusk material being surgically implanted into the gonads of a mollusk. Then they're returned to the ocean in a net for a few years. They're like, "work on that pearl!" And they're like, "ehh, I hate you."

He was working on this in a place called the Thursday Islands and some guys named Mise and Nishikawa also happened to be in the Thursday Islands and they patented this in 1907. It took a while to get all the patents, all that stuff. Anyway, in 1921 round cultured pearls hit the market.

So it's said that William Saville-Kent's maybe adopted it, and maybe these guys came to the Thursday Islands and were like, "Hey that's pretty good," and then took it back to Japan and patented it. Whatever. William Saville-Kent was like, "take the pearls, my life sucks, I've got bigger problems." For example, his mom died early, his half-brother was killed by his sister, perhaps, who was convicted of it, although he maybe was an accomplice but he was never charged. Anyway, it's all sad. It's all super dark. It makes me want to hug everyone in the world and then go hide in a cave.

Speaking of caves:

Alie: And then have you been on a dig at all?

Kelly: I went on one dig and it's pretty much the coolest thing on the entire planet, and I want to go mining so much more in my life. I was taken by a friend on this, kind of like, private mining tour down in Oceanside, California, which is where a lot of tourmaline mines are, and they get smoky quartz, and things like that. So, there's a lot of great mining here in California and you can actually pay to go and mine for the day, which is really fun too.

Aside: In Southern California, if you check out this site, DigForGems.com, for \$75 you can go haul some rocks for the day. But warning: bring water, and apparently the owner is a lot like Yosemite Sam in that he's a cantankerous pioneer-type.

Alie: Do you keep what you get?

Kelly: Yeah. You get to keep certain things, which is really cool. I haven't done that yet, but I need to. We went on this one tour where we went and saw, like, deep in the mine. You actually go in the mountainside and there are a whole bunch of guys that were drilling the wall to blast that day. So, I'm literally watching them drill these holes, and it's really loud, and they're pumping it full of water so it doesn't create a lot of heat and whatever. So, there's a bunch of holes in the wall and then they bring in the dynamite sticks, which is terrifying. To be around dynamite is so scary.

Alie: So they make, like, burrows, and then they shove the dynamite in the burrow?

Kelly: Yes. So, what they do is, like, when they're looking in a wall you want to look for little signs of crystals, or like a pocket that will have stones in it. And then from there you're going to try to blast to open up a pocket, and hopefully behind there is some sort of rocks, or crystals, or things like that. And sometimes you hit it really big and you hit this great pocket and it's, like, full of gems. Or you end up... like, I think a lot of times people maybe end up destroying stones because they're trying to blast the wall, or you know things like...

Alie: Ah! That's such a harsh fail.

Kelly: I know, so scary. But you've got to, you know. I think you just have to try. You don't know. You can either go in there with your hands or you're going to blast the wall open if there's a pocket.

Alie: Yeah. What else are you going to do? Just pick out it with your fingernails until you get through a mountain? Yeah, you can't do that.

Kelly: No, it would take forever. Yeah, because we're *very* far in the mountain.

Alie: Is it claustrophobic?

Kelly: No, it's huge. The caverns they make are ginormous, and there's all these different walkways to go through, and different levels that you can go up. It's wild. You feel literally like a mole or something, wandering around. I was like, "Oh wow. Animal life."

So, we packed everything full of dynamite and then they light everything. And I'm like, "Are we not supposed to be running right now out of the mountain??" And they're just taking their time, they're like, "Oh, we have four minutes." I was like, "I'm gonna run out the mountain."

Alie: You're IN the mountain??!!

Kelly: We're in the mountain and they light it. So scary. Then we like get outside, and then it's the deepest, biggest boom you've ever felt. And it was just like, "boooooom," and I was like, "oh my god! That's so scary." And then you see all of the dust come out, and then you have to wait an hour to let it settle. Then they go in there and they, kind of like, hit the top of the ceiling to make sure nothing comes down because there are still rock that's loose.

Alie: Who has *that* job??

Kelly: A man with a hard hat.

Alie: That job sucks!

Kelly: I know! I was like, "Oh my gosh, that's so scary." And then you go in there, and we got to kind of dig around to see if there was anything that was in the pocket. Unfortunately that day there wasn't. But they showed us another area that did have a little bit of a pocket so we got to take some quartz home and things like that, which was really cool.

Alie: Did you keep it?

Kelly: Yeah, I have a couple. There's a rock that has this beautiful, like, perfect quartz point coming out of it. And they've gotten a lot of spodumene out of there, which is a type of crystal, and it's so cool because on different axes it shows either, like, a pink or this beautiful violet

color, which is so cool. You turn it and you see different colors. And there was this one in there called Big Kahuna that they took out of there.

Alie: Big Kahuna! They named it?

Kelly: It's huge. I mean, this thing is the biggest, I think, they've ever seen.

Alie: Is it typical to name crystals?

Kelly: Yeah, there's also one that's really cool. It's this beautiful tourmaline, I think, parti-colored tourmaline on a quartz, and it looks like a steamboat. I think it's called a steamboat something. I'm not sure what it is, but... There's not going to be another one of these in the world. And then they name them because they're just so amazing. Yeah.

Alie: Now, let's get back to your crystals. You have you have a collection of crystals, clearly, right? Do you name those? Or no?

Kelly: I don't name them but they definitely... I think they definitely have a certain energy, like some really speak to you or not, you know? It's almost like any object, it either calls to you or it doesn't. And with crystals, for me, their beauty and their individuality really talks. You know, if you're in a store of crystals there's going to be one that's like, "take me home, I need to come with you."

Alie: I did that recently. I was in Arizona, and I was and I went into a little gem shop, and I was like, "ooh, this is lovely." And I was looking at things, and I was like, "What do you have that's, like, a good calming situation?" Because I'm like a chihuahua. I'm just like [*frantic random vocalization*]. So I'm like, what's something calming?" And he's like, this blue thing... Oh! I have in my wallet. Can you tell me what it is?

Kelly: Yes, I want to see it!

Alie: Okay. This is not meant to be a pop quiz.

Kelly: No, let's do it. I'm going to suggest blue lace agate first in my mind of what he would suggest, but let's see what it is. I'm really excited.

Alie: Okay, let's see if you can diagnosis this. In my wallet there's also ear plugs and bobby pins. That's not calming.

Kelly: The essentials.

Alie: [*laughs*] Yeah. Okay, so I got this blue thing because he said it was calming, and also because he seemed so nice I didn't want to just walk out of his shop without buying anything.

Kelly: No. This is actually a quartz. It's called Aqua Aura quartz and it's actually treated. So, what they do is they put this in some sort of container - a crucible or something - and they heat it

with titanium, like particles, and that actually puts this blue, kind of rainbow essence on the surface. So, it's a quartz point, so that has a lot of incredible healing powers.

Aside: Okay, this is where science and the woo-woo collide. Just stick with me. Let's look into this.

So, in the last five years, apparently, there's been a 40% increase in Google searches for the term 'crystal healing.' Now, do crystals work? It really, really depends on your definition of 'work.' One study in 2001 by Dr Christopher French asked participants to meditate for five minutes holding a crystal. Some were given a real, awesome crystal, some were given a fake crystal. People who reported warmth in the hands and increased feelings of well-being were about equal. So, wellness is kind of in the hand of the beholder here.

Alie: I have a question about this. Is it not kosher to touch someone's crystal? Because I always feel like you're not supposed to touch their crystal.

Kelly: That's a great question because I think some people are like, "oh my gosh!" But there are a lot of people that work really intensely with crystals, and they work with programming them with their intentions, with what they want to manifest. So, it can be good to ask. But for me, like, if it's generally jewelry I wear it for the good energy, and the good vibes, and if people want to it's, like... that's whatever... you're going to share the energy and the good juju.

Alie: Did you take a specific crystal down with you to take the test?

Kelly: I think I had a few that day. I definitely had some quartz, and some black tourmaline because black tourmaline's really grounding and it's really good for your home especially. It helps take away negative energy, and negative thoughts, and things like that. So I was like, "I need to be calm and grounded." And I did have some labradorite, it's a stone of magic, and I was like, "I need some extra help today to pass this test."

Alie: It worked, evidentially!

Kelly: It worked! I had, like, the little cluster on my desk.

Aside: The psychology of crystals is super interesting scientifically. Number one: crystals are here. Some people swear by them. Adele, Katy Perry, all of the Kardashians, and Madonna. So as long as you are going to hear about crystals let's consider the psychology and the physiology behind them. Well get to the physics in a minute.

First, your brain is a jiggly mess of nerves, and wires, and fatty stuff, and memories, and shit we don't understand, but one of those things we kind of understand is the placebo effect. Now, according to my doctor, [www. WebMD.com](http://www.WebMD.com), one of the most common theories is that the placebo effect is due to a person's expectations. If a person expects a pill to do something, then it's possible that the body's own chemistry can cause effects similar to what

a medication might have caused. There is a word for this, it is called neural top-down control of physiology. That is the direct regulation by the brain of physiological features; features like the immune system, metabolism, and stress.

I didn't totally get this so I looked up this scientific paper called "Top-Down and Bottom-Up Mechanics in Mind-Body Medicine: Development of an Integrative Framework for Psychophysiological Research" ... sure... This is what it said, and this was a published scientific paper. So, mind body therapies including things like hypnosis, biofeedback, yoga, meditation, and T'ai Chi have been found effective for reducing depression, insomnia, anxiety, post-traumatic stress, irritable bowel syndrome, nausea, acute and chronic pain, and for managing impaired circulation, diabetes, stuff like that. And there's a number of mechanisms of top-down control of physiology that you can use to achieve that. One might be meditation, one might be holding a rock.

Alie: What's a good starter kit for people who are like, "I'm going to do it! This the year! This is my year to dabble in crystals! I'm going to become one of those witchy people and I'm just going to dabble in awesome minerals and stuff"?

Kelly: Just like a few crystals?

Alie: Yeah. It's like they walk into a gem store, what's their starter kit? They want to be, like, hot, they want to get a good job. Like, starter kit.

Kelly: This is great. Okay, number one definitely; clear quartz because it is a master healer. And please note if you get crystals you need to cleanse them as well. You want to put them in the moonlight if you can, just let that cleanse them, or you can put them in the sunshine, or put them in saltwater, or rice I think does it too.

Alie: Rice?!

Kelly: Rice! You can just put them in rice and cleanse your crystals!

Alie: You're like, "I dropped my crystals in the toilet and I need to dry them out!" Put it in a bag of rice!

Is it like charging something that's glow-in-the-dark? Like holding it up to a light, kind of?

Kelly: Yes, kind of. You need to... especially with quartz because it takes so much energy you want to release it.

Aside: There is something called piezoelectricity it is the principle that crystalline forms, like quartz, can generate electricity when under stress. I mean, you see this if you have a quartz watch. Ummmm, some folks argue that the crystalline structure in minerals aligns with the energy field of our bodies. Others say, "well shit, dawg, that's a pretty rock and it makes me happy." My stance, tomato-tomato. Does thing make you happy? Do the thing!

Kelly: Quartz for sure. If you want to bring abundance, money, more monetary stuff into your life, you want to get Citrine, which is this beautiful kind of golden color. It is also quartz. But that is, like, *the* abundance stone and it's just... it's good for everything. And then if you want something to heal your heart, to promote self-love and self-care, you want to get rose quartz, which is a beautiful pink color. It's one of my favorite stones. It's very soothing. It's this gorgeous soft dusty pink. And that is the number one heart stone.

And then also black tourmaline you definitely want to have just for your home, for yourself as protection because as we go into the world, you know, there's so much going on and I think that tourmaline's a really good protector against, you know, whatever might arise that you're not really comfortable with.

Alie: Like world wars and such... like the apocalypse. *[laughs]*

Kelly: Kind of. You want to be prepared with your crystals. If anything, you can throw them at people. *[laughs]*

Alie: You're like, "I got a spikey one! Come AT ME BITCHES!"

Kelly: Right. "This one's really heavy!"

And then I think probably, for me, I love labradorite. It's one of my favorite stones. I have so much of it just because it is incredibly beautiful and every single one is different. And it is the stone of magic, and I totally believe that.

Alie: What are the camps of other gemologists or diamond dealers? How did they feel about, like, anything spiritual with gems? Like, where do gemologists fall?

Kelly: It's such a mixed bag, I think, because... Crystals, for me, they're just this beautiful creation of the earth so they really ground me to the earth and they remind me to, kind of, calm down and center, and some people are just not in that mind frame. They're not on that spiritual side of things so they're just, 'they come from the earth and that is it,' and they want to sell it for money, and they look at it as a business. So, it really depends on your views on life and if you're spiritual or not.

Some people dabble a little bit because they just think they're so beautiful and they're actually just crystal collectors. It's not so much for the spiritual side but just the beauty and the rarity of the item. So, it's really a mixed bag. All over the spectrum. It's not so much about the figure or whatever you're holding, it's that you get to put your energy into something physical. You're not just always having to think or believe in something, you can actually hold something.

Alie: It seems like once you know what a stone stands for then, like, anytime you look at a glimmering gold stone, or like a rose quartz, you're like, "oh yeah, that's right, my heart has to heal." You know what I mean? Like, it'll be on your mind at least.

Kelly: Yes.

Alie: I have a bunch of questions from people who wanted to just pepper you with questions. So, we'll do a rapid-fire round.

Kelly: Okay.

Alie: You don't have to answer them in depth but just... We'll rapid-fire these. These are some good questions that I never would have thought of. Jen [phonetic] wants to know: What stone, other than diamonds, is overrated and what stone is underappreciated?

Kelly: Oh my gosh! Wow, that was great.

Alie: That was a good question right. Good job, Jen!

Kelly: Overrated? I'm just going to quickly go, not to be spiteful, with emeralds because...

Alie: Oh my god, emeralds are on your shit list! *[laughs]*

Kelly: Because it is actually a fact that 85% of them are actually treated with an oil or a resin to make their clarity better. And not to take away from the amazing energy of an emerald, but I think it is deceptive sometimes that people don't truly know that. So, if you're listening, know that 85% of emeralds are generally treated. They're not synthetic, but they are treated with oil or something within them to make them more clear.

Alie: Overrated Emeralds. What's underrated?

Kelly: Underrated? That's really hard.

Alie: Labradorite? Spectrolite?

Kelly: Spectrolite for sure. I think underrated, and should be more out there, is just one of my favorite stones of all time called lodolite quartz, or garden quartz, because it literally looks like a foamy, purple-green garden inside of quartz. It's like one of the most amazing stones I've ever seen. And they come in all these different shapes. I wish I would have brought one. Actually, my bracelet has it in it but it looks kind of like moss.

Alie: Oooh... Oh my god that so cool! It's like a cool natural marble!

Kelly: Yeah it's crazy. It's just like this whole world of stripes, and you can see the growth patterns, and the texture looks like that green foam you stick flowers into, and you just want to touch it but it's hard and it's encased in stone.

Alie: Garden quartz

Kelly: Garden quartz or lodolite quartz. It's so cool.

Alie: That's harder to spell. People will remember garden quartz. Don't ask me to spell lodolite. I don't know, I have no idea where to start with that. Maybe an L. *[laughs]*

Aside: L O D O L I T E ... Garden Quartz, easier to remember.

Alie: Jessica [ph.] wants to know if you have thoughts on haunted and cursed gems?

Kelly: You know, it's really interesting. I met this woman that I used to work for and she was the first person that ever said 'bad juju' to me. That phrase 'bad juju,' and it's from her two-stone antique diamond engagement ring that she had with her ex-husband. She was like, "this ring has bad juju." And I have now fully come to realize that it exists and it is true.

Alie: How? Can you just put them in the moonlight?

Kelly: Maybe, but I think it's more like you just need to get rid of them. Like, I think someone can restore the good energy of a stone, but I think a lot of times for a person it can have such a negative connotation that you just need to get rid of it from your life. And I think that's why a lot of people sell their stones or their jewels, because they want to get rid of that situation that it was in and hopefully the person that gets it then can bring some new life to it.

Alie: If you have a haunted gem, should you first try to put it in rice, or salt water, or the moonlight, and see if your life gets better?

Kelly: You know, I would, but I think it's such a mental state. Like, if you have a nasty ex-husband, or partner, or whoever, that you look at the ring and you're like, "ughh!" And then you're like, "Oh, well maybe I could make it into earrings or something else." But then you'd still be thinking about it. You might as well just get rid of it and get something fresh.

Alie: So, haunted gems, yes they are a real thing.

Kelly: Real! Bad juju.

Alie: How do you feel about making cremains into a gemstone? Which are human remains. You know you can take human remains, like the ashes?

Kelly: Yes.

Alie: And then... turn them into a gemstone?

Kelly: I have heard that recently, into a diamond or something. I'm all about that, personally, because I'm a huge fan of memento mori jewelry and the sentimental longing and loving of people that cared so deeply for their loved ones and they want to remember them. In Victorian times, they used to take hair and weave it into, like, watch fobs, or necklaces, or brooches. Recently in an auction - I work at an auction house - we have this adorable moonstone babyface brooch with a diamond bonnet, and it was probably for a child that

had passed. But it's so sentimental. And I think, you know, whatever way you want to remember your loved one is wonderful. I mean, some people do blood in a vial...

Aside: If you are too young to recall Angelina Jolie and her husband Billy Bob Thornton wearing vials of blood around their neck, please Google that. If for no other reason than to see the evolution of Angelina's eyebrows.

Kelly: I'm really into that loving memory of someone.

Alie: Provided they're not a dick and then you're going to have a haunted cremains stone.

Kelly: Exactly. You don't want to do that one.

Alie: All right, Clara [ph.]. That was your question. Just make sure they're not a jerk.

Kelly: Yeah.

Alie: Justin [ph.] wants to know: Is Jem truly outrageous?

Kelly: Probably, yes.

Alie: Britney [ph.] would like to know what the difference is between mineralogy and gemology.

Kelly: That's a great question. I think what it comes down to is gemology is more the study of faceted gemstones. And I think mineralogy is the study of their natural form, how they come out of the earth. So then, once you take those natural form and you cut it down to gemstone then that is when it becomes gemology, and then you're really looking inside at the stone and its characteristics as far as if it's synthetic or natural, rather than how it is from the earth and you dig it up and it's a perfect specimen.

Alie: Got it. So it's kind of like a product of that?

Kelly: Yes, exactly.

Alie: A couple people ask this: Diamond engagement rings, how did that start? And is that over? Is that going to be eternal, that people are going to be giving diamonds as engagement?

Kelly: Diamonds are forever. [*laughs*] I think number one, with slogans aside, diamonds are so popular because they are the toughest, hardest stone in existence. So, you can bang them around, whatever, and they will last your lifetime. Other stones not so much. You have to be more careful about what you're putting in a setting and how you're setting it.

The next hardest stone is then a sapphire or ruby. So, a lot of people go with that option as well for an engagement ring. But then when you get into other areas like opal, which is something I do not recommend for an engagement ring whatsoever because it is one of the

softest stones and it will craze, it will start to crack, if you don't take care of it and if you wear it every day. So, it's one that won't last as long.

I think diamonds are so wonderful because they are just so hard and they'll last you your lifetime if you take care of them properly. Some do chip if you hit them just right, but it is pretty rare. So, I think that's why they're such a popular option. Where that exactly started? I'm not sure. It could have just been because of wanting to expand the diamond market once more diamonds were found, and you know, people use marketing to make everything happen.

Aside: Oh engagement rings. Quick history. Diamonds. Rare. Expensive. But in the 1860s, huge diamond mines were discovered in South Africa. Oh boy! Were their Diamonds. DeBeers, diamond cartel, was founded. Then the depression hit, and in the late 1930s they needed to sell more diamonds, so a marketing campaign was launched to convince people that [*in a dramatic starlet accent*] starlets, and rich people, and the truly in love wore diamonds.

In the late 1940s, the slogan "a diamond is forever" was coined. Granted, diamonds are a hard ass stone, but they do want you to want them. And also the lyrics, "If you like it then you should have offered a marriage dowry of goats and textiles and household items" doesn't have the same... um, ring! (Sorry.) Okay, diamonds.

Alie: They're hardy.

Kelly: They are hardy. They're the number one hardest stone.

Alie: And if you get a used one and it's haunted, try to cleanse it.

Kelly: Cleanse it. Moonlight.

Alie: GTK... Good to know.

Alie: We will do good side-bad side. What is your least favorite thing about gemology? What is something that just gets annoying or pisses you off? Or about your job as a gemologist, because you work in an auction house appraising, right?

Kelly: I think my least favorite part of the job is all of the deception that comes with trying to mimic stones or imitate them. Especially if you go to a lot of foreign countries they want to sell you rough stones, but they will manipulate them to look real or authentic, and then you get them home and they're totally fake or they're, like, glass with some sort of treatment on them. So, that makes me really sad that there's a lack of respect. People want to make money and things like that, but...

Alie: Don't go stain a beer bottle and then be like...

Kelly: Or heat it and call it this type of ruby, and then you find out that it is heat treated and it loses its value by more than half. So...

Alie: Right, but by that point you're on another continent and they're like, "Womp-womp. Joke's on you."

Kelly: Yep. Don't buy it like that. I mean, if you don't know what you're looking for don't do it.

Alie: Know your shit before you go to another country and take home some jewels.

Kelly: Right. You want to know just some little tips before going through with that. But I think that's probably my biggest thing, the deception that exists in the world. It's just really sad.

Alie: Tell me your favorite thing.

Kelly: My favorite thing, that makes me so unbelievably happy, is when you look inside of a stone under a microscope and you just... you're looking at this world that is so incredible. And I can't believe that the earth has actually made this. Something deep within the ground has been created that is unbelievably spectacular. And then some amazing human brought it outside the earth. It's so, so incredible. There's a lot of different photographers now that are actually taking photos of the insides of gems. And there's a few of my favorite Instagram accounts, I have to remember all their names, but there's @Mineralien, and he does a lot of inner opal and it just looks like this underwater sea world that's, like, in the sunlight. It's amazing. But you can look up, you know, micro-photos of gems and see all their inclusions, and you'll see gas bubbles inside this tiny negative space that is, literally, teeny-tiny. You have to look in a microscope to see it.

Alie: So looking through a microscope is just a super trippy world. Is it like in *Superman* when he lives in a crystal world?

Kelly: Kind of, yeah, you're just in awe that it exists. How did the earth make something so beautiful? And a lot of people don't know that that is something, or you know, it's not something that interests them. But for me it's just like this... I don't know, it's like a nerdy thing. I just love to look in a microscope and see this whole other world, and it makes me really grateful for the earth. I'm like, "wow, so amazing."

Alie: Thanks Earth! Isn't it weird that there are gems that you haven't met yet that are just chillin' in a rock in a cave right now?

Kelly: Somewhere, longing to be brought to light.

Alie: And gawked at.

Kelly: Yeah! And have you seen those, like, crazy giant selenite crystal caves in Mexico? That photo circulating everywhere? Where they're literally giant, and you see the men, like, walking on

them, and it's just like pure magic. I don't even know. [Alie in background, "damn"] Superman must live there.

Aside: Oh my god. Holy stalactites, people. I looked this up and it's insane. Before you Google image search "cave of the crystals," which is in Chihuahua, Mexico, please, please consider holding onto your butts because it's so insanely pretty you're going to lose your minds. 30-foot-high crystals. They make Superman's Fortress of Solitude look like a studio apartment in Burbank. I'm going to give you the skinny on these things.

The caves were discovered in 2000 by some miners and they were essentially flooded, naturally, but they were drained by the mining company to reveal these insane, beautiful structures. The caves are right above a magma chamber so they're hot as bawls, 136 degrees, and when they're drained it's up to 99% humidity. So, researchers looking into these crystals had to wear vests stuffed with, like, Otter Pops and ventilators just to study them for 20 minutes at a time. The crystals are made out of gypsum, which is the same stuff as drywall, but in crystal form.

Now, the mining operation recently stopped. The caves were reflooded. So you can't go visit them or have you birthday party in them. But just think, the crystals are in a hot bath, they are chillin', the crystals are like, "Get out of here dude! We've been here for half a million years getting bigggger and bigggger! Fill us back up, get your hardhats out of my butt." That's what the cave is saying. Sorry I talk about butts so much, geez.

Alie: Well, what are you excited about? What's your next goal? What's the next thing you're excited about doing in your work?

Kelly: Personally, I just want to work more now, like, less jewelry and more with the specimens. More mining, getting my hands on the natural product, seeing it in its natural environment. So, ideally I would love to work in a warehouse of crystals and just be with crystals all day every day, just like a huge... And they exist as wholesalers and things like that, that sell to smaller stores. I love the idea of, for me, the spiritual aspect of just putting your energy into something physical to help you connect to Earth, and to your dreams, and whatever you're doing.

Alie: So now that I have this blue crystal they keep in my purse, can I keep in my purse or is that a shitty place to keep a crystal?

Kelly: You can totally keep in your purse. I generally always carry something on me. Legitimately, bra crystals, I think, are a thing for women. You just stick it right in your bra if you don't have a pocket, like if you're wearing a dress. I generally have one just... you know.

Alie: Do you have any in your bra right now?

Kelly: I don't unfortunately, but I'm wearing so many that... But sometimes, you know, like I'm wearing a certain thing and I don't really have a necklace on or something. So I just, kind of,

stick one in there. Nobody knows, but it's for me and it's right next to my heart which makes me feel a little more secure and better going into the world.

Alie: This is my new favorite thing. A bra crystal.

Kelly: Bra crystals. Like, soft palm stones are really good for that. They actually sell... they're like these round flat stones but they sit in there really nicely.

Alie: Just like... nipple covers? *[laughs]*

Kelly: Exactly. Just be careful. You don't want them to, like, pop out somewhere, you know. Like, "What is that??" and you're like, "I don't know where that rock came from."

Alie: Then you're like, "Don't touch my crystals!"

Kelly: Yes, seriously.

Alie: I'm going to shove this in my bra and see what happens. To a calmer week!

Someone you know, who is recording this voice over right now, may have put a crystal in her bra, and SO WHAT. But also it was the sharp pointy kind, and when she took off her bra it fell on her toe and she was like, "I forgot you were in there, buddy." And then she looked down and she had the most ridiculous crystal-shaped imprint in her chest area. So, if you're going to do a bra crystal get the flat kind.

Also, side note, since researching this topic, plus last episode's deep dive into how much a dino dig costs vs an American wedding, Google and Instagram and Facebook have absolutely POURED ads for engagement items into my eyeholes. And I hereby ask them to please knock it the fuck off, robots.

Speaking of social media, you can find the wonderful, wonderful Kelly Sitek on Instagram as [@TheRockHuntress](#). She posts pictures of beautiful stones, including the ones we talked about today. Ologies is also on there [@Ologies](#) and on [Twitter](#). I'm on [both](#) as [Alie Ward](#). If there's something about the podcast you want to hear, or just want to say hi, or give me feedback, email me at helloalieward@gmail.com. If you love the podcast, you can go straight to rating, subscribing, reviewing, tell friends.

And thank you to everyone supporting on [Patreon](#). I decided to put this out without a network. I'm just going solo, so I could do it without a bunch of ads, and you guys are making it possible for me to pay a sound engineer, (hey Jason!) and buy microphones and software, and put up money for merch. Also feel free to visit [OlogiesMerch.com](#) for shirts and totes (thank you Shannon and Boni! For helping me with that). And thank you to Hannah and Erin, a few of my dear friends, for creating the [Ologies Podcast group on Facebook](#). And just being awesome.

Until next Tuesday, remember to ask smart people dumb questions, before you wind up crushed into a souvenir pendant or haunting an emerald.

Transcribed by @jessiedragon12 and Amy Congdon

Some helpful links:

[*Robert Shipley bio*](#)

[*The deal with birthstones*](#)

[*Put your crystals in rice I guess*](#)

[*Piezoelectric effect*](#)

[*Are conflict diamonds actually conflict free?*](#)

[*Neural top-down effect on physiology \(aka placebo?\)*](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2818254/>

[*Why you want a diamond ring \(hint: marketing\)*](#)

[*Cave of the Crystals*](#)

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