

EP 8: DR. CHRISTOPHER EMDIN

FINAL TRANSCRIPT

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The time stamps begin at 00:00:00:00 when the guest appears (after our intro reel).

Christian (host) 00:00:00:09 - 00:00:03:21

All right. Cool, Chris. Evening.

Chris (Guest) 00:00:03:21 - 00:00:04:05

Evening man.

Christian (host) 00:00:05:20 - 00:00:14:09

It is nearly midnight where you are and where I am and I think in some respects is something really beautiful about sitting down in the late evening.

Chris (Guest) 00:00:14:09 - 00:00:14:19

Right.

Christian (host) 00:00:14:23 - 00:00:35:25

And still having energy. And I'm grateful to spend this time with you. I want to ask you a question about the start of the day in your family. So I have a sense that the way that you wish your children a great day ahead is not typical.

Christian (host) 00:00:36:28 - 00:00:43:02

Would you talk a little bit about what it's like to wish your children a great day ahead?

Chris (Guest) 00:00:43:17 - 00:01:07:09

You know, we start every morning, like when my kids come out of bed, they wake up the music. There are certain songs that speak to the essence of who we are as a family. We're a very musical family. There is a jazz artist named Christian Scott that I love. And he has this beautiful song that it's called "Her Arrival".

Chris (Guest) 00:01:08:07 - 00:01:28:08

And it just has these beautiful, you know, African drums in a backdrop. And Horn comes in and pierces through the rhythm in a beautiful, magical way. When you hear the song, it sounds like royalty is walking into a building or awakening. Hmm. And I love playing that song for my daughter when she wakes up in the morning.

Chris (Guest) 00:01:28:25 - 00:01:48:28

My son has a couple of songs of choice, and so we go through his playlist and, you know, I love

them waking up or beginning their day with beautiful sounds, with hugs and love from dad, and then with affirmations for what the day is going to be like. I try to wake myself up that way as well.

Chris (Guest)

00:01:50:08 - 00:02:21:00

I'm also a person who's really deeply connected to my faith, and spirituality. The key piece of my identity has evolved more to incorporate that into who I am into recently. And so on my own, I wake up and have some time for centering and prayer and meditation. And then I get to the babies and I let them wake up to beautiful sounds to every introduce them to an amazing day and then let them know who they are, who they are.

Chris (Guest)

00:02:21:16 - 00:02:44:18

And so that's like that. Those are like our opening sequences. I like to think of the day as like, you know, every day is your opportunity to manufacture a piece of magic in the world and you start that day off with that kind of magic and it's sort of like propels you for the rest of it.

Christian (host)

00:02:46:00 - 00:03:16:19

I am, first of all, just father to father, thank you for grounding us in the ritual of waking. And you talk about affirmation and you talk about beautiful sounds. And in some respects, if we're going to have a conversation about what education shouldn't be, there's a lot of temptation to go to the intense, the necessary, the rigor, the hard work that the moment is.

Christian (host)

00:03:16:19 - 00:03:40:16

Now, what I'm reminded of as I hear you is that we can do that. We can be purposeful in that work. But there's something that it needs to connect to that's more that's that deep. And you talk about love, you talk about faith. You talk about centering. Would you talk about that within the context of a classroom?

Chris (Guest)

00:03:40:18 - 00:04:10:12

Well, you know, it's not for me and folks, you know, push back against this concept. But, you know, the way that you live your life should be the way that you teach, and the way that you live your life should be in a way that is about constructing, making, and creating magic wherever you go. You know, the role of the educator is to create the context that allows for young folks to feel as though something beyond their existence can happen here.

Chris (Guest)

00:04:10:23 - 00:04:29:17

Right. Like, you know, your job is to curate an environment that facilitates their vision of the future and their place in it. And so, you know, when I talk about the ritual of how wake up in the morning and what I do for my children is the same thing that I advocate for what we ask for us to do in classrooms.

Chris (Guest)

00:04:30:03 - 00:04:51:27

You know, I think about the fact that in traditional schools, there's no attention taken to the sonic right dimensions of teaching and learning. Like we know what's playing in the backdrop that that, that, that, that either calms the emotion or heightens the emotion that constructs excitement. You know, I think music is a cool teacher and the kind of music that you play in the classroom.

Chris (Guest)

00:04:52:07 - 00:05:13:22

Supports the learning or facilitates the learning or activates emotion or, you know, moves us towards certain things. And so, you know, my morning ritual, though, the waking that you mentioned, you know, you know, we wake up to a new day. I want to be able to awaken new possibilities for young people so they're not separate from me. And, you know, people, you know, professional development.

Chris (Guest)

00:05:13:24 - 00:05:40:10

I really don't think you professionally develop. I think you personally develop into being in service to young people. Yeah, I think that I think that if you're the kind of person that really believes in creating the conditions for magic to happen, then learning happens. So it's, it's really. They're not separate from me, man. Mm-hmm. I even love the podcast, like, you know, 'wonder and wonder'.

Chris (Guest)

00:05:40:20 - 00:06:01:04

You know, this is a song by Kurt Elling called "The Waking". And, you know, some of the lyrics are, you know, I wait to sleep a lot and then a dot, dot, dot. And, you know, I learn by going where I have to go. Right. Like, I, you know, learning happens when you are in the space where you can feel like you're free to go.

Chris (Guest)

00:06:01:12 - 00:06:30:00

You know, learning is not something that an educator gives to a child. Learning happens when a person feels as though I'm learning by going. And how do you learn? Just by going? Just by being. By being in an environment that creates the conditions that make you feel as though you want to be able to interrogate phenomena, text news, you know like it's about creating the environment that facilitates the desire for more.

Chris (Guest)

00:06:30:22 - 00:06:42:00

And that's the role of the teacher, you know, to create the conditions to make a young person have a desire and a passion for more.

Christian (host)

00:06:42:00 - 00:07:00:12

And I'm going to guess, Chris, that there's a neat little kind of two sides of the right to create the

conditions for that child to crave more, to want more, to imagine more. I know you well enough to challenge you on one thing, but it's only because it creates space for you too.

Chris (Guest)

00:07:00:12 - 00:07:02:09

To make a dialog with thought.

Christian (host)

00:07:02:24 - 00:07:26:16

Yeah. Yeah. So here's you know, what I mean by that is I know you believe just as much that that child brings in wisdom already or brings in a gift. Right. So and setting you up, because I just want you to go a little further on this one hand, part of that space of learning is about creating the conditions for that child to step into the thing they can't yet imagine, whether it's sonic in space, but also that child brings.

Christian (host)

00:07:26:16 - 00:07:27:20

So would you talk a little bit about that.

Chris (Guest)

00:07:27:20 - 00:07:29:01 =

Relationship between.

Christian (host)

00:07:29:01 - 00:07:29:10

Those two.

Chris (Guest)

00:07:29:10 - 00:07:33:10

More? There's a perception that when you see somebody wants more, it's external.

Christian (host)

00:07:33:19 - 00:07:33:28

Mm-hmm.

Chris (Guest)

00:07:34:08 - 00:08:13:09

You know, to want more if able to sometimes uncover the more within, you know, you know, I've always thought about schooling as at its best, a process for recovery, particularly for the black and brown issues that I work with. Right. Mm-hmm. You know, you come into the world and you are born into an environment where there is a distinct language, sound, music, texture, feeling, emotion, and expression.

Chris (Guest)

00:08:14:05 - 00:08:39:26

And then you learn how to be able to make sense of all the things that are a part of your environment. I mean, by the time you're three years old, you learn how to navigate this beautiful world that you're embedded in. And then you go into school and school either devalues or teaches you about to devalue all the things that you've learned for the first couple of years of your life.

Chris (Guest)

00:08:40:08 - 00:09:04:04

Right. In schools, they like, you know, don't talk that way, don't act that way, don't dress that way. Don't interact that way, you know. You know, raise your hand to answer questions. And so what happens oftentimes in schools is that young folks are going through a process of losing the genius that they were born into the world and that they develop on their own by virtue of engaging in the culture that they're embedded in.

Chris (Guest)

00:09:05:05 - 00:09:29:08

So what I say to create the conditions, to let young folks what young people want more it more is also about recovery. It's not always about discovery, man, sometimes about recovery, how to cover the genius that I had before I walked into this building and before my engagement in traditional schools. More as not about the accumulation of new things.

Chris (Guest)

00:09:29:24 - 00:10:11:28

Sometimes getting more is about the recognition of the things you've always had. Right. Reclaim what's been lost. That's also more. I love the idea of teaching as recovery and then recovery being a seedbed for discovery and in and again that's about creating the appropriate or the I don't want to say appropriation to create the right conditions for young folks to feel free because freedom then becomes the precursor to the discovery of whether it's intrinsic more or extrinsic more, but just more.

Chris (Guest)

00:10:12:18 - 00:10:16:01

Right. So. So that's what I mean by that.

Christian (host)

00:10:18:03 - 00:10:33:15

You make me you make me wonder. I want to ask this question twice. I'm going to ask it once as a straight question. Then I'm going to ask a second line. You make me wonder whether that invitation is necessary for the educator as well.

Chris (Guest)

00:10:33:25 - 00:10:56:21

Oh, it absolutely is. You know, you cannot teach or deliver something to a young person if you've not achieved it, or at least in the pursuit of it, on your own. You know, like MAXINE GREENE, my own one of my mentors, the late Maxine Greene. She, you know, she always said, you know, I'm always becoming, I never arrive.

Chris (Guest)

00:10:57:15 - 00:11:20:06

But you also have the first view on the journey, right? You know, and, you know, I make the argument that an educator at their best models for young people, what you want them to be able to get to and you can't model something if you're not in pursuit of it yourself. And when I say pursuit, I don't mean a sort of dogged and tiring pursuit.

Chris (Guest)

00:11:20:06 - 00:11:58:09

I mean I mean the joyous journey of self-discovery needs to be something that is part of what it means to be an effective teacher. So you can model for young folks the exact same thing. And yeah, I mean, like, you know, you can't see somebody that you ain't got beloved. Like, it ain't going to happen. And even if it's about not having it, it's about understanding the process of the joyous pursuit of learning, the joyous pursuit of learning content, the joys, pursuit of learning about self, that the joyous pursuit of learning about the world.

Chris (Guest)

00:11:58:27 - 00:12:15:03

You know, one of my good friends, Yolanda Sealy Ruiz, talks about this kind of excavated ocean of the self you've got. If you don't do any excavations of the self, you can't teach. If you don't do any excavation of the self, you don't know who you are. You know, not everybody's a teacher who has a credential to teach.

Chris (Guest)

00:12:15:23 - 00:12:38:26

Some folks are just script followers. The script just happens to be the lesson plan. You know, teachers are magical human beings. And they are they have to be people who know who they are in the world. And they want to spread that magic by modeling that that that they are in pursuit of their own magic.

Christian (host)

00:12:40:23 - 00:13:13:21

First of all, thank you. I love that the chorus of the joy of the journey and not just the journey brings joy, but there is joy in simply being on the journey. And I appreciate you not letting that phrase just kind of disappear. Come back to it. And I feel like we collectively when we say things like lifelong learning or whatever, we sort of go to phrases like that that we feel that we're checking that box conveniently when I hear you speak about it.

Christian (host)

00:13:14:04 - 00:13:28:25

And when I feel connected to what you're saying, it is both easier to pull off and easy to not attend to. And so I want to ask, you know, go, go right where you were going to go there. And then I want to ask you this again.

Chris (Guest)

00:13:29:14 - 00:14:18:06

I don't think I appreciate what folks are considering when they talk about lifelong learning. But I'd rather have us use or lean into lifelong curiosity. Learning happens when you do. Okay. Right. You know, because when you say life long, learning, it first requires us to be able to define what learning is. Learning is not something that someone gives you when you're curious about the world and you ask questions about the world and you chase beautiful questions and you chase, you know, you excited about asking.

Chris (Guest)

00:14:18:20 - 00:14:27:20

Learning happens naturally. And I think what we begin at learning we, we, we, we devalue the magic of curiosity.

Christian (host)

00:14:27:26 - 00:14:28:09

Yes.

Chris (Guest)

00:14:29:05 - 00:14:45:06

Yes. Curiosity is the foundation. And when folks brush the learning without invoking curiosity, what they're really saying is a life-long accumulation of empty facts that don't have.

Christian (host)

00:14:45:06 - 00:14:48:17

Any rule sounds like curiosity confirmation.

Chris (Guest)

00:14:48:22 - 00:15:26:12

That you want to be a man. And so it's about making meaning. Curiosity is what allows you to make meaning of your discoveries. Learning without invoking curiosity is empty memorization, an accumulation of random facts. You know, that's not learning. That's, you know, accumulating factoids, that's having things to regurgitate later. That's data hoarding. You know, learning is about invoking curiosity and then seeing what happens when one goes and discoveries based on what it is that the curiosity, based on where the curiosity takes them.

Christian (host)

00:15:27:25 - 00:15:50:04

Mm-hmm. All right. I told you I was going to ask the same question a different way because I knew that you would. You would. You would shape my wondering differently in that first. So this idea of the importance of recovery, that it's not just about discovery. And I love that. I love the play on words there.

Christian (host)

00:15:50:04 - 00:16:11:19

I love the sound cadence of that, that it's not just about discovery or more or new or additional, that it's maybe about recovering something that was our DNA. So I want to go back to this

question of the educator. And she could have a very formal degree-based role in a place called School University. She could simply be an elder in the community.

Christian (host)

00:16:11:28 - 00:16:47:04

They could be a, you know, collection of folks who do one thing. But on the side, they do a better thing kind of thing. So I'm thinking about folks who step into that role of mentor, expert, and guide. And I'm thinking about that idea of what it takes in this moment in time for the teacher, the coach, the counselor in a typical school to be able to recover, to feel, to feel the thing that was in them, not just the thing that they must do.

Christian (host)

00:16:47:11 - 00:16:49:17

Tell me just what comes to mind at this moment.

Chris (Guest)

00:16:49:18 - 00:17:16:19

Yeah, man, you know, with all that you have to recover begins with remembering. And so, remembering requires us to understand that the two forms of remembering right, is there's a remembering of like going back to previous experiences that you've had that may have had a significant impact on whom you are and recognizing the way that those experiences have shaped you.

Chris (Guest)

00:17:17:06 - 00:17:42:21

Right. I remember when I was in the seventh grade and my teacher called me up to the front of the classroom and I held court for the first time. And I watched my peers see some magic in me. And that's when I knew without knowing that I wanted to be a teacher. Right. I remember, you know, when I was, you know, you know, four years old.

Chris (Guest)

00:17:43:04 - 00:18:15:07

And I taught my stuffed animals. So there's that kind of remembering that it's about going back to experiences in the timeline of your existence. It's a chronological construct in that instance. Then there's this radical remembering, which is remembering something that is connected to you that you were never physically there to witness. Right. Like reading a book about my ancestors.

Chris (Guest)

00:18:15:21 - 00:18:46:20

Right. Reading a book about folks who survived the transatlantic slave trade. You know, reading a book about West African talking drums. Reading a book about the history of Timbuktu, like, you know. And now, although I'm not talking about my own experience through the book, I am remembering what my ancestors have gone through. And remembering in that instance becomes not just a cognitive sort of remembering about now, then it becomes a re-remembering.

Chris (Guest)

00:18:47:27 - 00:19:23:26

Buy, buy, buy, buy, buy. Remembering. Things I have not experienced, but I am connected to I now member myself back to a larger lineage. My purpose then gets solidified. I'm drawing from ancestral knowledge, not just cognitive information or cognitive knowledge. Mm-hmm. And when you go through that kind of process, how do you not be an amazing guide or, you know, how do you not have some fail?

Chris (Guest)

00:19:23:26 - 00:20:03:11

Well, there's deeper than your existence that you draw from. And so, you know, I think teacher preparation, I think I you know, even the concept of teacher I in my recent work, I've been really troubling. Like, you know, adults who guide young people who will inherit the earth, very different than a teacher. It allows you to see the gravitas in our role, and that's seen by remembering and re-remembering.

Christian (host)

00:20:04:28 - 00:20:07:23

Have you ever read Octavia Butler's "Parable of the Sower"?

Chris (Guest)

00:20:07:28 - 00:20:08:26

I've read everything of hers.

Christian (host)

00:20:11:20 - 00:20:29:04

I mean, kindred has been one of the books that I have treasured over and over again. And it makes me eight. But every time I want more of it. And I used to teach it with my ninth-grade students years ago, which was probably one of those like, I'm so glad I didn't know that that would have been a risk.

Christian (host)

00:20:29:13 - 00:20:48:08

It just felt like the right text to invite 15-year-olds and 14-year-old to explore the world with. But I just recently read Parable of the Summer, and as you're talking about it, I'm thinking about this narrator that is. And this isn't meant to be a book talk, but just what you've maybe thought about. She is very young; she's very young now.

Christian (host)

00:20:48:11 - 00:21:15:13

Like as a protagonist, she's relatively early in her life journey, but the world she's been thrown into isn't going to give her the time; she has to be the things she's going to become. But what's really powerful is her ability to both be drawn towards a question, a curiosity that she can imagine, a world. To your earlier point, she can imagine a world that she must step towards.

Christian (host)

00:21:15:27 - 00:21:37:15

And that journey is at the same time, she has this incredible innocence and ability to be true to that wondering and question and those others who don't live in a world where they can trust. It's a world that's gone upside down in a million ways. But even the elders start to see light in her. Yeah. And.

Christian (host)

00:21:37:15 - 00:22:13:09

And I'm struck by the idea that that book is complicated on many levels. Views of the future, society unfolding, all of these things. And there are deeper, deeper meanings beneath those. But to your point, that idea of a young person, I was reading something about Lego, the company Lego recently that they refer to children as their role models. And I read that earlier today, and I'm wondering about that idea of elders, teachers, parents, whoever has this enormous responsibility to guide young people who are going to design what comes next.

Christian (host)

00:22:14:00 - 00:22:33:02

And on some level, the responsibility and the weight of that when you deeply hold it at the same time, to not be in the way of that light, of that curiosity, of that thing that that child brings. So I'm curious about that for you. Yeah. And then I want to ask you about your most recent book. And it's yeah.

Chris (Guest)

00:22:33:02 - 00:22:55:29

Yeah, that's powerful. And, you know, the beauty of the protagonist in that narrative also is that it's obviously like a lot of activity, but those are great futurists. But if you think about what the backdrop is, it almost seems as though you went back in time. It's this really interesting play on a future that that the environment looks like it's a regression.

Chris (Guest)

00:22:57:29 - 00:23:20:04

And what I love about I think about his work in the context of the questions you've asked is that it forces us to be able to both radically imagine and also go back. And I think that that is essential for teaching and learning that you have to be able to think, you know, sort of project out what the world needs and what the world should be and could be.

Chris (Guest)

00:23:20:16 - 00:23:55:09

And at the same time, go back to those who have experienced the world very differently and glean wisdom from the m. I've always said that you know, the key to a more blissful and magical future is hidden in the hearts of young people. Like a fix, then a radically magical future exists in the souls of young folks.

Chris (Guest)

00:23:55:09 - 00:24:23:23

And it's locked into their being. And it can only be unlocked by elders, like elders, or the only ones who have the key to unlocking it. And so it's really interesting. I think I think we have to understand that the youth, they're not like our future. They hold the future in the belly and they can't let it out unless they have interactions with adults and not just adults, but the elders and those who are in between the children and the.

Chris (Guest)

00:24:23:24 - 00:24:44:14

And the elders simply should be the facilitators of the exchanges between them. And those can be physical exchanges where you put a bunch of like older people with young children. Or it could be that you give young people the books to be able to have the influence of the adults or that you engage with the thoughts and works of elders, and you translate that in ways that are palatable for young people.

Chris (Guest)

00:24:44:14 - 00:25:05:04

So all this you describe for me, reminds me of this mantra I hold, which is that babies hold the future in their belly and it can only be unlocked by elders. If I am not an elder yet, my job is to be able to facilitate the exchange between the two when I become an elder.

Christian (host)

00:25:05:04 - 00:25:06:01

If you were at the...

Chris (Guest)

00:25:06:03 - 00:25:13:03

End for people like that, you can't do that unless you were recognized that they had that, you know, holding that within them.

Christian (host)

00:25:13:11 - 00:25:13:22

Yes.

Chris (Guest)

00:25:15:05 - 00:25:15:17

You know.

Christian (host)

00:25:16:17 - 00:25:42:15

You're making me wish for a moment where experienced writers if they were given that promise, they have to now write the world. Where that promise is, is the justification, but also for young people to write that world where that isn't some little person that they imagine has potential with them. And so they should be. I would love to.

Christian (host)

00:25:42:15 - 00:26:00:01

If you're okay with this, I'd love, first of all, I mean, you've been great with every wonder and I've had so many questions, but I'd love to talk about I know you're in you're either in the midst of a book that's going through the publication process, but the one that feels most new to me, I believe, is called STEM Steam Media Stream.

Christian (host)

00:26:00:19 - 00:26:17:09

Right. Those four words and I haven't had a chance to read them yet, but I've been sort of digging in and trying to understand it the way you only can if you haven't read it. But a couple of things caught my attention about it. But before, would you give that one, two, three sentence overview of that book.

Chris (Guest)

00:26:20:09 - 00:26:58:12

To use "STEM STEAM... is my latest book. You know, I am a scientist by training I am a biochemist by training and I've done some cool science stuff over the course of my life. I think of stem cell research and studies of the ideology of schizophrenia, like some cool stuff. And I remember going to teach science and math to two young people in New York City and being struck by the ways that all of the teachers around me told me to teach in a way that was counterintuitive to me.

Chris (Guest)

00:26:59:09 - 00:27:22:19

Right. And they extracted all the magic of STEM and then wondered why the young people didn't want to engage in those disciplines. And so stem. So imagine I write a bit of my story, but I also offer ways that we can re-infuse the beauty in STEM. So I talk about STEM about the fact that people just bring these disciplines together and it's completely arbitrary and they happen to be cousins, right?

Chris (Guest)

00:27:23:01 - 00:27:45:28

You know, science and math and technology and engineering are weakly related. But really, you know, the glue that binds them is people who said, hey, these are challenging academic subjects that most folks don't do well in and that you have to be really smart to be able to do them. So there's a certain exclusionary dynamic that exists in even the construction of the concept of STEM.

Chris (Guest)

00:27:46:24 - 00:28:11:03

And I want to, I want to I in the book, I did mystify that and then I go from stem to theme. And a lot of you incorporate the arts and I want to expand the arts, including the arts and culture. The again theme is not just the arts is also authenticity. It's also ancestry. And so how do we consider ancestry and authenticity and the arts and culture when we teach young folks to engage in STEM?

Chris (Guest)

00:28:11:21 - 00:28:38:27

So go from STEM to steam. Then I talk about making maker culture. You know, we've talked before about the importance of project-based learning, the importance of experiential learning, but beyond even those complicated terms that that the process of just doing right, like, you know, like, you know, I want a table. I make one, I create one. I'm thinking of the idea that a young person can construct like that.

Chris (Guest)

00:28:38:28 - 00:29:02:11

Anything that a young person consumes, they can also produce. If you ingest something, you use something you listen to a podcast, you watch TikTok videos, you watch a TV show, you buy clothes, all those things that you consume, you can also produce and in scientific, mathematical knowledge get you there. And then lastly, dream.

Chris (Guest)

00:29:03:09 - 00:29:34:07

You know, we just don't give young people enough time to just linger, you know, sit with me. I love is like this idea of like just wondering what it's like. And in that in a way of like, you know, spend the rest of your life doing that. But I mean, like, we need to have time in a school day for young people to have opportunities, to have imagination exercises and to dream out loud, to write down their dreams and their futures, no matter how ridiculous they may seem.

Chris (Guest)

00:29:35:00 - 00:30:08:29

And so instead of saying, make, dream, I go through this journey of why STEM is what it is demystifying that. How do we infuse arts and culture and ancestry and esthetics as more broad A's in step to make it seem? How do we value making and doing and constructing and innovating as a practice? And how do we honor the process of dreaming as not just this thing that happens when you go to sleep, but dreaming as a verb?

Chris (Guest)

00:30:09:08 - 00:30:24:17

Dreaming is a thing that's a privilege. There's space and time specifically to dreaming. And the subtitle of the book is Reimagining the Culture of Science, Technology, Engineering, and Mathematics. I'm super excited about it.

Christian (host)

00:30:24:17 - 00:30:45:19

Well, I acknowledge I haven't yet read it. I wouldn't have needed that incredible link it. Just the spirit of what you said to want to read it. But. But two things come to mind. You remind me of a book. I believe the author's name is Leonard Schlane, and I think his background was in physics. But he wrote a really interesting book that I have.

Christian (host)

00:30:45:19 - 00:31:04:08

I have no formal training in science other than what I got through in high school, but he wrote this book called “Physics and Light”. I believe that was the title of it. It had a secondary title, and effectively what he was doing is tracking all of that. The epiphanies, discoveries, and innovations in science at the same time in arts.

Christian (host)

00:31:04:18 - 00:31:36:11

And it was this remarkable pattern for hundreds and hundreds of years of these artists that were exploring light and perspective and angles, but doing so to the media and paint and sculpture and scientist and folks looking at the stars. And in this remark and what I've always loved about that was, first of all, it was like fascinating that these concepts being figured out in an art studio or having separate but equal influence in the world of science and, you know, hundreds of years back and longer than that.

Christian (host)

00:31:36:21 - 00:31:58:01

But at the same time, it's that idea that once the brain sees that it doesn't have to be an artist or a physicist anyway, once the brain connects those dots, it is impossible to not notice. And I think a lot of your work honors and creates space for that noticing. And so there was a woman, I think you interviewed for this book.

Christian (host)

00:31:58:01 - 00:32:24:02

I think her name was Dottie. And the phrase that I pulled out of something that was shared through the book was this idea that we are born curious like it is not something right so that truth and I think you've beautifully allowed that to be held true here.

Christian (host)

00:32:24:12 - 00:32:40:17

But then she adds a second part, which I think you're starting to do. And she goes, “We are also built to hack the absolute.” And I think there is this moment where hacking means something kind of technical. But tell me what you hear in that combo that she thought he may share, that we are born curious and built to hack the world.

Christian (host)

00:32:40:17 - 00:32:41:17

What does that say?

Chris (Guest)

00:32:41:24 - 00:33:13:21

That the world is what we make it to be. And those of us who transform the world or who changed the world, or those who are able to understand the infrastructure of it and to challenge everybody within it, to think differently. Right. Excellence, thermal imaging, and technology. I interviewed Joaquim Franke, Nobel Prize-winning chemist, who attributes his scientific acumen to like growing up in like a war-torn hometown during World War Two.

Chris (Guest)

00:33:14:01 - 00:33:36:01

And how that triggered his imagination and how he loved that. He loves writing fiction. And that the engagement with the fiction and remembering his background in history, it's what allows him to sort of be such a brilliant scientist. He he's learned to hack the world because science is supposed to be in the lab doing their work and be very, very technically minded, etc.

Chris (Guest)

00:33:36:09 - 00:34:01:06

He does. I know I'm going to remember myself to my past. I am going to write and think and be creative in a different way. And what he thought of that ended up propelling his scientific work. You know, I interviewed Leland Melvin, who is a former NFL player and engineer, and NASA astronaut. And you've like that he's found a way to hack the world, right?

Chris (Guest)

00:34:01:06 - 00:34:18:14

Because he leaned into his multiple selves and was able to construct a reality that allowed him to be able to sort of like, you know, open up new avenues of thought, you know, stem thing, make dream is almost like it's almost like directly in partnership with the book I wrote right before that and I wrote two books in a year.

Chris (Guest)

00:34:20:13 - 00:34:43:00

One is called Ratchedemic: Reimagining Academic Success and then STEM Cell Imaging Reimagining Science, Technology, Engineering and Mathematics, and the books speak to each other in such a powerful way. So I think the way to hack the world is to be Ratchedemic And to be Ratchedemic is to be equal parts, ratchet and academic. The last. What do you mean by ratchet?

Chris (Guest)

00:34:43:00 - 00:35:24:03

To be ratchet is to be unabashedly expressive, unabashedly like unafraid of asking questions, unabashedly like wrong. Right. And these are all attributes that people would say like those are not the attributes of the academic. But if you bring that self, that true, authentic, troubling, expressive self-emerged that what your academic self, you've now constructed a key to unlock aspects of the matrix that is this world that we're never going to be open before.

Chris (Guest)

00:35:24:24 - 00:35:41:10

So when you're a Ratchedemic, it allows you to be able to engage in the kind of process that I argue for in stems to make dream. Like when you imagine Ratchedemic is easier to dream because you are not worried about what people around you have to say or think or do. You know that's how you have your world.

Chris (Guest)

00:35:41:10 - 00:36:01:12

By a Ratchedemic not going the conventional route while holding your academic and intellectual acumen, combining those two things together. And once you do that, you've got a different lens, a different vision, a different perspective on the world. And when you follow that pursuit, the world is hacked.

Christian (host)

00:36:01:12 - 00:36:25:22

I want to ask you about a word that I don't hear you talk about, but I feel like it must be of similar meaning to others that you say. I'm curious about the idea of prototyping and I'll tell you why that comes to mind. I just interviewed a guy named Scott Witthoft, who is been part of the d.school at Stanford for a number of years.

Christian (host)

00:36:25:22 - 00:36:52:04

And he just released a book just this week called This is a Prototype. It's actually helping people understand the process of prototyping. And he said something in our conversation this week that reminds me of something you said, and I'm just wondering what you would do with this. So he said that when we prototype, so whether we're an engineer or a designer or a dancer, but when we prototype, the point of the prototype isn't the thing.

Christian (host)

00:36:52:14 - 00:37:18:15

The solution, the answer. The point of the prototype is to embody the question. And so I'm curious about that design-oriented language. What that is or isn't for you. But I sense that there's this idea of embodying ideas, whether you're making it, it's with the hand or it's with dance and allowing the body to fully float through an acoustic sonic experience or just to lean into your truth.

Christian (host)

00:37:18:15 - 00:37:44:28

Like, I believe there's this idea of there is a question and a truth that's an innate dance in what you speak, and that there is an embodiment of it in metaphor, in an absolute like mind. The sweat is on my neck. And talk to me about what is prototype something you value chair is in a different world and say things like Tell me what comes to mind.

Chris (Guest)

00:37:45:05 - 00:38:03:22

The concept of the prototype. Every time I hear the word, I think about a song by Andre 3000 where he's talking about, you know, a woman that he's fallen in love with. And he goes, You know, I think I'm in love again, you know? And if you're not the one, then you are the prototype. I bring that up really.

Chris (Guest)

00:38:03:22 - 00:38:37:10

It's like, you know like you are the prototype. But what he's doing then that's powerful for me is that he's making this concept of a prototype embodied in a human being. And for me, each of us

is a prototype of a way to exist in a world that has not existed before us. Right. We're uniquely constructed human beings with a multiplicity of experiences and backgrounds and stories and cultures that makes us wildly individual.

Chris (Guest)

00:38:37:10 - 00:39:01:10

I mean, that's the beauty of the world, is that the human beings within it are so radically and drastically different based on their environment and how they construct themselves, what they consume, like all that. Yet you go to places like schools or out in the world and you realize that based on geographic context, people are so eerily similar, right?

Chris (Guest)

00:39:01:21 - 00:39:40:18

How does a species of radically weird and different prototypes of new humans erase all of their complexity and depth to copy somebody else? And that to me is what scares me about the world, that you have all the prototypes dulling, the uniqueness that makes them the one right. And they all follow an invisible, collectively constructed one. And I think that is okay.

Christian (host)

00:39:40:21 - 00:40:09:23

So here's a non-scientist asking a scientist a weird question about science. I imagine there's an evolutionary biologist out there that's like, Chris, all due respect, there's a reason we mirror one another. There's a reason neurons function, there's a, there's, there's, there's this reflecting back what we see. And so there's that, whether it's survival or humility, there's this component of being human to reflect.

Christian (host)

00:40:09:23 - 00:40:21:01

And I don't want to say repeat or to I don't know. There's something in there. Yeah. There's this sense of ritual, ritual, and ancestry. So talk to me about that. I'm curious.

Chris (Guest)

00:40:21:01 - 00:40:48:19

Human. Yes, we are all human. But it's not necessarily a genetic phenomenon I'm describing here. I'm talking about the sociological complexity of individuals. You know, I'm talking about you know, we all bleed red. You know, we all have chromosomes we like, we all have. We're like, yeah, though biologically we are somewhat similar environmentally, sociologically, ecologically we're different.

Chris (Guest)

00:40:48:19 - 00:41:10:13

We're different. And I mean, I could, I could, I can live on one-quarter of the person lives in another but beyond the fact that that, you know, we may be breathing a similar air, but the air in my home is different. The way my mother calls my name is different. Right. Um, the sounds I play for my children may be different from the sound.

Chris (Guest)

00:41:10:20 - 00:41:38:28

And what that means is that the uniqueness in the social dimension of our existence means that we are all mortal types. And the more we embrace our Rachedemic identities and Lehman's who are the magical departures that we are from this invisible norm, that we tend to ascribe ourselves to. The more we have opportunities to be able to create new beauties.

Chris (Guest)

00:41:38:28 - 00:42:12:21

New possibilities are the like. Yes, you know, I'm once going to a party with a friend and was a club and she swore to me that she was an amazing hip-hop dancer. And so we went to this hip hop club music comes on. She looks up at me and said, Chris, I'm about to dance. And I was like, All right, we clear this space for her to dance?

Chris (Guest)

00:42:12:25 - 00:42:35:15

And then when she started dancing, she's sort of counting in one and two and three and four. And she had a choreographed dance that she had memorized. So technically, she was a hip-hop dancer, but she wasn't a hip-hop dancer. You see, I'm saying, because if you're a real hip hop dancer, you want a club, you ain't in your rhythm and your steps.

Chris (Guest)

00:42:35:29 - 00:43:00:05

You just dance and baby you fly, you see, I'm saying. And so for her, I would have preferred her to be herself, then try to be a hip hop dancer for me, because now she's norming herself to a perception of what a hip hop dancer is. And she's looking like a whole fall out on the floor. You're better off leaning into yourself than trying to lean into some invisible other.

Chris (Guest)

00:43:00:05 - 00:43:16:01

I think the world leans into these norms, these archetypes of how you should be. And we are prototypes of new possibilities, and we don't explore those possibilities. And that's why we have regurgitation of the same old practices, the same old hurts.

Chris (Guest)

00:43:16:22 - 00:43:33:26

The same old, same old racism, because we've never given ourselves the opportunity to explore the selves that exist within us. The prototypes yet to be that hide within us.

Christian (host)

00:43:33:26 - 00:43:57:11

You have talked in many ways and things I've read. It's that you've either been interviewed or written yourself or conversation we've had or about that education at its best, most meaningful is about the imagination and it's about freedom or liberation. And I think as I've listened to the last 40 or so minutes, you've come at that from multiple directions.

Christian (host)

00:43:57:11 - 00:44:23:11

But it's been a backbeat over and over and over again. That curiosity or beauty or magic is locked in the belly of that child. And when she arrives and she's three, she already has that infinite there, but there's this liberation. And you just talked about, you know, an adult who, in essence, had her act together and, you know, you went to the club and she didn't give yourself permission to be liberated.

Christian (host)

00:44:23:11 - 00:45:03:15

Like, in some respects, her imagination was limited by the form, and she was again, it's part of training in classical training, in all kinds of mediums. And so I think that's part of the crux of like the art, if you would, versus just being in the art. So that idea of imagination feels really interesting to me. And what I'm thinking about is that for good reason and part of the reason I wanted to talk to you tonight is you are an unrepentant advocate for we have to create the conditions so that young people can fully live their imagination and be fully liberated.

Christian (host)

00:45:03:24 - 00:45:35:24

And you're making me realize how rare it is for an adult to do either at any level of significance. And so it strikes me that part of the challenge of this is in real-time, we have to figure out how to do that on behalf of young people or in collaboration with young people. But if we don't do that for ourselves, our peers, our colleagues, and our mentors, we might be dozens of generations from now before we get even close to what your thesis is saying we should have done yesterday.

Christian (host)

00:45:35:24 - 00:45:42:08

So I'm just I'm struggling. Will that challenge you? But also loving it?

Chris (Guest)

00:45:42:08 - 00:46:11:20

Loving what you said is so beautiful. And in the end, what you said is the answer is with young people that the answers come. You know, I think for, you know, just like, well, you know, you know, you can't expect to do all this stuff. I'm, you know, and I'm like, I'm not expecting you to do anything other than let your ego aside to be with young people so they can teach you the essence and beauty of curiosity.

Chris (Guest)

00:46:11:20 - 00:46:31:24

That is, that we all start off with, you know, that's the bag. We all had it. And as we go through the world, we lose it, we toss it set aside. And so if you want to recover it, you got to go back to the people who have it still, which are children. Right. Because I tell people, it's not like know, you know, I'm in my forties now.

Chris (Guest)

00:46:33:03 - 00:47:16:14

I still feel fly. I still feel young. I still feel that I love being 40. I love the experience says I love the wisdom of Barnard. I love the experiences I've had. But I'm not locked into 40 because I'm always engaging with young people. And I'm here in new terms and new words, new expressions and new viewpoints like, you know, I was listening to a podcast the other day from this young man who's 21 years old, and I learned some things about how I need to engage in the world is it's about a recognition that age, experience, and credential does not dictate knowledge and humility allows you to be able to know that anybody can teach you something.

Chris (Guest)

00:47:21:02 - 00:47:49:16

And most times the people who can teach you the most are children because children have not yet lost what we've lost on our journey to being other than what we authentically are. And so, you know, the answer to your question, I guess, the statement is, you know, it's hard for adults if they want an adult, if they want to have all the answers, if they want to think that their experiences mean that they have the information, it's hard for you then.

Chris (Guest)

00:47:49:27 - 00:48:16:09

Yeah, but it's not hard for adults who recognize that they have just as much to learn from children as they can teach and that they have a way of looking at the world that you may have lost and that you need to be able to recover, you know, and you know, I always think about people who, like, played classical music and are like just experts of their craft because it's technically accurate and you just be all revered, right?

Chris (Guest)

00:48:16:09 - 00:48:38:28

Because they have all the technical skills. The one that stands out among all of them is the person who can inject a dose of humanity. You know, a dose of youthfulness, a dose of play. Well, I just want to be a grown-up who always lives in and then in pursuit of a little dose of play. And that's why teaching is so valuable.

Chris (Guest)

00:48:39:00 - 00:49:24:00

You know, when you teach, you are eternal. You never get older. You grow in years and you grow in wisdom. But you're you always still have that connection to the essence of humanity, which is what exists in the souls of young people. And you know, that's the magic of teaching. You sometimes teach for it for them, but sometimes you teach to be able to retain that freshness, that newness, that, that all that that that unknown, indescribable thing that is found in the souls of young folks.

Christian (host)

00:49:24:00 - 00:49:49:06

If you haven't used the word wisdom today, I feel like it's in the accent of everything you said. Talk to me. You've mentioned Ancestry and it was with you know, it was a wonderful reimagination of the A in the word steam. And we can probably have a whole hour about just to what degree the word steam has weight in the world of.

Christian (host)

00:49:49:06 - 00:50:03:11

It's just a counter to the political and economic you know, kind of support of STEM. But I love that you have invited people to think about that. It's not just adding an art class to Science Week. So yeah.

Christian (host)

00:50:04:04 - 00:50:20:16

It's about authenticity. So but tell me, I haven't heard you talk about wisdom. You said elders, you've talked about this deep truth in the children, which in wisdom to me feels like a really vital part of what, you know, you feel, you do. What is...

Chris (Guest)

00:50:20:16 - 00:51:21:20

Wisdom? I mean, I don't think wisdom. I think what I know it's not okay. I know wisdom is not a function of age. I know wisdom is not fixed. I think of wisdom as it as it's a thing that you can invite into your space. That's what I think of wisdom. And I think that young people oftentimes have the ability to allow it to sit with them because they exist with curiosity, playfulness, and joy.

Chris (Guest)

00:51:23:10 - 00:52:12:04

And I think wisdom loves to hang around with folks who are curious, who can play and have joy. And I think that if as an adult, I remain curious, I still play and I'm always in pursuit of or sitting in joy with them gets inhabited within me. And whenever those things are absent, wisdom is absent from me. I mean, I think a young person who is curious and plays and is reflective, you know, we hear like kids, kids say the darndest thing.

Chris (Guest)

00:52:12:04 - 00:52:14:20

No, that kid was curious.

Christian (host)

00:52:14:21 - 00:52:15:01

Of course.

Chris (Guest)

00:52:15:02 - 00:52:40:14

The kid was playing and then. And then and then they said something that is wise because of that. And so I think that is just the thing that comes to people when they again, have the conditions to make wisdom be, you know, feel comfortable with them and then get shared with through them.

Christian (host)

00:52:40:14 - 00:53:15:13

Thank you. Thank you. I'm hearing about joy in a different way than you showed earlier. And I

keep coming back to the fact that one of the non-negotiables may be a recognition of joy and there can be happiness. It can be laughter, but there has to be joy in the wondering or if there's joy in the doing, if there's joy in the debate, learning is inevitable.

Chris (Guest)

00:53:15:21 - 00:53:16:13

Absolutely.

Christian (host)

00:53:16:13 - 00:53:21:04

There's curiosity. If there's curiosity without joy, you can be a cynic.

Chris (Guest)

00:53:21:06 - 00:53:22:01

Absolutely.

Christian (host)

00:53:22:03 - 00:53:42:24

And you can step in and step out even faster. So I'm struck by that. Let me we're going to wrap up. It's past midnight where you are, where I am right now. It doesn't feel that late, but it feels it's like the way night feels. I'm curious if you had a this is going to be towards the end of our talk tonight.

Christian (host)

00:53:43:13 - 00:54:15:11

If you had a year to go, exist in a different organization, a different community, a different set of experiences, it wasn't going to lead to a book. It wasn't going to lead to research. It wasn't going to necessarily become something you would share with the world. But it was just a chance for you to go in and be absolutely new and to be affected like fully affected by what you are exposed to.

Christian (host)

00:54:16:14 - 00:54:36:06

If I just said we're going to give you a year and that's the expectation, what would you start to imagine you would want to do? And it could be quite literally, I want to work in that firm or I want to go live in that country. Could be quiet.

Chris (Guest)

00:54:36:06 - 00:54:36:27

Literally, that is.

Christian (host)

00:54:37:20 - 00:54:38:22

Something more spiritual.

Chris (Guest)

00:54:38:22 - 00:54:42:12

Or crazy. It's going to sound super crazy. Crazy.

Christian (host)

00:54:43:24 - 00:54:46:03

All right.

Chris (Guest)

00:54:46:03 - 00:55:12:09

If I had to do something radically different from a year, I'd go somewhere else and do exactly what I'm doing right now. Like Chris, I love what I do. I love being able to teach teachers. I love being able to teach children. I love being able to write down ideas that come to me that I know Will help people.

Chris (Guest)

00:55:12:09 - 00:55:48:10

I love conducting research to find answers to deep that I pose. I love building classrooms that young folks walk into where they feel alive. I love creating programs like Science Genius that turn science into something fun. Like, I, I, I never, you know, there's no longing for something other than this. And maybe and maybe like, on it, maybe if I was doing something else, I'd that about something else to try.

Chris (Guest)

00:55:48:13 - 00:55:51:11

I love being here, you know. I mean.

Christian (host)

00:55:53:08 - 00:56:18:09

I love it. I love it. Well, anyone that's listened to any portion of what you've shared before would be surprised by the answer. That didn't sound convenient. That sounded. That sounded firm. So just a quick little segue where you talk about your love being here. Where could our viewers and listeners find out more about you on that?

Chris (Guest)

00:56:18:09 - 00:56:21:22

The easiest way to find me nowadays is probably on social media. So.

Christian (host)

00:56:22:15 - 00:56:29:15

Of course. Is there one of those is they're one of those channels that for you feels like it's the most you?

Chris (Guest)

00:56:29:29 - 00:56:50:23

None of them are the most me. They're all just little pieces of the full and based on whims and fancies. I share some things and you don't share them. So I went live this morning in a car ride

and I go silent for another three weeks. But I am sort of tuned into them that they're just resources.

Chris (Guest)

00:56:50:23 - 00:57:22:21

But that's it, folks. When I get in contact with me, not act for something on Twitter or on Instagram, it's cool. Okay. It probably the easiest way and most accessible way of than in that, you know, you know, I've got these jobs, you know, that allows me to do my work, you know, contact me, do them. I'm currently at the Robert E Naslund Endowed Chair in Curriculum Theory at the University of Southern California and a Director of Youth and Community Partnerships at the USC Race and Equity Center is a super cool job.

Chris (Guest)

00:57:24:15 - 00:57:35:17

A founder of #hiphoped and founder of Science Genius. So that's me as well.

Christian (host)

00:57:35:17 - 00:57:53:24

I appreciate you, Chris. The last thing I want to share with you is when I first had the pleasure of crossing paths with you, I was we were both at an event in Half Moon Bay, California: Big Ideas Fest, probably 2012, 2014. Somewhere in there. And you know, I think the founder of Atari had been on stage.

Christian (host)

00:57:53:24 - 00:58:13:24

I mean, there were some really interesting speakers. And then this guy got on stage. He had bright green pants on. I loved it. And I remember it was this sense that you already had a reputation and a voice and credibility.

Christian (host)

00:58:13:24 - 00:58:38:23

I just was new to your story, but it was this beautiful thing. It wasn't a preacher. It was a pastor that loved the people that he was able to share the walk with. And it was this energy and it was raw, but it was just so right. And I felt great gratitude to just watch you share more and more of that in different ways and to know you a little bit.

Christian (host)

00:58:38:23 - 00:58:51:03

Just as fathers and I admire the heck out of you and just really appreciate having this time, you know, look forward to sharing you, you know, be and share with some new people. Hopefully, as this episode goes live. But thank you for setting aside time.

Chris (Guest)

00:58:51:03 - 00:58:55:27

No worries man. The pleasure is mine and the feeling is mutual, dear brother.