

Embodied Emotions

An interview with Dr. Erika Rosenberg and Ryan Stagg

[0:00:09.2] Ryan: Hello, and welcome back to the science of meditation, this is day three where we are discussing emotions and resilience. I will be your host for the day. It is my honour and privilege to be here today with Dr. Erika Rosenberg. Thank you so much for taking the time to be here.

[0:00:27.4] Erika Rosenberg: Thank you for having me.

[0:00:29.3] Ryan: So my first question is a pretty broad question, maybe it's an easy question, maybe it's a complicated one, I'm not sure. But there's one level in which it's really obvious what emotions are, we're very intimate with our emotions. We have emotions every day, it is the thing that gives us meaning in our lives, it's a thing that deeply informs our relationships and in that way we couldn't be closer to our emotions. But there's this other level, like when I really think "What is an emotion?" It's sort of mysterious actually, there's these sensations in my body that arise, it influences my thoughts, my thoughts might get kind of circular, there's like a motive quality where it can really drive me, to speak or say something, or these kind of things, so maybe we can start there. What really is an emotion?

[0:01:23.7] Erika Rosenberg: Well, your grappling with it, grappling with the complexity of it makes a whole lot of sense, because emotions are inherently multi-faceted, there's many many aspects to them. So I come from a perspective on emotion that's really kind of evolutionarily driven, and also interestingly some aspects of it really dovetail nicely with Buddhist psychology, we can look into that more later, but really the idea here is that emotions are inherently relational, they emerge in a response to significant things for us, now sometimes that comes up with encountering something in the lived world around you, you know, something as simple as seeing some spoiled food on your plate and feeling revulsion, because it's not good, you don't want to bring that inside you, that kind of safety and other emotions can arise in response to personal goals or artistic preference, but the key there is meaning. That there's some meaning to you about what you're encountering in the world, you might call it an antecedent event that could trigger an emotional response. Sometimes it's a thought or a memory or a dream, it could be an occurrence inside your mind, it doesn't have to be an occurrence in the observable world around you but something happens that you come into contact with and it's relevant to you, and it has meaning, that's the relational part. That relation is you perceiving your relationship with that potential trigger, or what I like to call the antecedent event, because it's the thing that got it going. But whether emotion's triggered or not is very personal, it has to do with how relevant that event is to you, what meaning does it have? And if it has meaning to you, the kind of meaning it has to some degree will dictate the emotion that happens, you know, if the meaning has to do with loss it's likely you might get sadness, if it has to do with threat to personal safety, fear. If there's goal blockage and frustration and ego insult it could lead to anger, so there's different ways it can go. That stage we also call the appraisal stage, like making sense of this thing around you in terms of your relationship to it. Once an emotion's triggered, whatever the type, whatever the flavour, there are changes in multiple systems in the body and mind, so you have conscious experiences, thoughts, memories that get activated, you have physiological changes that get activated that really can probably be traced back to preparing our body for emergency situations in our evolutionary past, and this is something that is still adapted for us in many ways and still with us, this quick organising physiological response, at least for a lot of the negative emotions and there are expressive behavioural things that happen to facial expression, to vocal intonation, there's action patterns, it's a correlated set of changes. And for some emotions

that are less immediately related, the way they manifest in those systems is different. But emotions are inherently psychophysiological in that they involve body and mind.

[0:04:57.2] Ryan: So what I'm hearing in the first part, and just to tie it back, because yesterday in this event we were talking about self and we were talking about embodiment, but a lot of the way that you're describing how emotions arise it seems to be around where we're drawing our self a boundary of if we feel like something has sort of come into our space that we don't want in our space or there's something that's been taken from our space it seems like that can be emotional triggers. So I wonder if you can speak to some potential relationship between how we think of ourselves and then where we might get emotional.

[0:05:29.2] Erika Rosenberg: It sounded to me, tell me if I'm correct in paraphrasing what you're getting at, that you were talking about the boundaries between self and maybe other, or self and not self environment, plays a role in triggering or generating certain kinds of emotional responses. Is that correct?

[0:05:54.0] Ryan: Yes, exactly.

[0:05:56.2] Erika Rosenberg: You know it's interesting, this gets back to that relational aspect of emotion, I mean, beginning the whole thing about what is self, where do you draw the boundaries, how much do you need to have self to have emotions, that's a slightly different direction. But rather it is you in a situation, in fact Richard Lazarus who was one of my mentors, Paul Ackman was my main mentor, but Richard Lazarus who was really one of the pivotal theorists of cognitive appraisal and stress and coping, he talked about a person-environment relationship, being the sort of determining factor that's assessed during that appraisal stage of emotion, so the nature of that person-environment relationship is what dictates what kind of emotion is solicited. So I mentioned before that if the person in the environment has experienced a loss, or if there's something there that you anticipate or evaluate as a loss this <inaudible 0:07:05.3> got or someone's left you or whatever it might be, then that will trigger sadness. So there are different ways in which the individual's related to an environment. And if you're in an environment where your goals are getting blocked, YOUR, YOUR goals, that's the self-link, then that can be frustration, anger if there's a threat to the ego, that's very much related to the self-concept, self plays a big role in anger, you know, threats to that boundary, that boundary is really firm. So I was trying to illustrate two things there, first that there is a situation, a situatedness of the self in an environment and the nature of that relationship plays a role in... It's fundamental to what the emotion is and certain emotions trigger depending on the nature of that relationship. But also just saying some emotions more than others is ego kind of self, the self that is sort of illusory from a Buddhist perspective, the elevation of this ego kind of self plays a big role in anger, it can be a big trigger, insult being a trigger. And so that's another way in which self plays a role.

[0:08:23.3] Ryan: So part of what you're bringing up makes me think of this way that we generally divide emotions into a positive camp and a negative camp, like emotions that seems to bring us joy and some sense of wellbeing, there's other emotions that we generally consider as disruptive, that seem to have a negative impact on our lives. I wonder if you could speak to that sort of dialectic that gets set up and maybe speak to what might be problematic about thinking of emotions in that way?

[0:08:50.6] Erika Rosenberg: There's so much here, but it is a very common conception we all have that there are positive and negative emotions. I mean I come from a camp because of the scientific work on emotion, knowing of a lot of differences among especially the negative emotions in terms of how they look, how they manifest physiologically or whatever, so even just that a lot of things that

seem classically negative like anger and fear and sadness, whatever, are so different just descriptively, but then even if you're not dealing with the issue of whether they should be grouped together or not, just the issue of whether an emotion itself can be positive or negative, is confusing right off the bat because you don't know how people are applying the terms. Is it positive and negative in the hedonic sense, like, these feel good, so it feels good to be happy so that's a positive emotion. And a hedonically negative emotion would be something like fear or disgust, you know, it doesn't feel good. Or is it positive and negative in terms of some pro-social way, is it structured like anger to be negative because it can be destructive, there's all these different ways, so it's hard to know what people are even talking about when they say that, positive and negative. But let's take the idea that someone kind of... then there's ethical, good or bad emotions and that it's necessarily even bad to have an emotion like anger which can be seen as the seed or the energy behind hateful actions or cruelty. But is anger itself bad? So I really think, I take this perspective and you can actually find it, even though there are clear ethical guidelines in Buddhist psychology about destructive emotions and you don't want to cultivate these qualities and want to try to reduce certain qualities, something like anger, there's also a lot in there about what is really there? There's this concept of this thing like anger, if you let go of the concept of what anger is and you just reside inside the energy of that emotion, this is related to embodiment, this is one way in which bringing your mind to the body during a practice can be transformative. If you let go of the story, you let go of the thoughts and you just sit in the energy, and sit in it, don't try to make it go away, don't try to get your mind off, just be there with it, let it go, you will notice that it starts losing its anger energy in the body, and you will also notice that it will dissipate. That what perpetuates a lot of misery and destruction and suffering under emotions is not this change that comes over us that has great deductive value for us, it's what we do with it. Whether do we keep triggering it over and over, does it lead to, do we let the emotion speak and reach out and hit somebody, or take something away from them or say something regrettable, but if we can let this whole thing happen, observe, feel, it won't last forever and there's energy there. If we get into some of the Vajrayana practices there's a lot of opportunity for transformation with what can you do with that and it's not anger anymore. I digressed a little, but...

[0:12:30.8] Ryan: Well it's great, it's bringing up quite a few things for me and the first one is I heard you speaking about emotional responses from a physiological perspective, when I was doing my research for this interview, and I was really surprised when you said how long some of these emotional responses actually seem to last. So what you're getting towards and maybe you can go a little bit more into this, how does an emotional response, which I think is actually quite short, you can explain that, how does that turn into something that can last hours or sometimes even days when you're having an emotional response to something?

[0:13:05.9] Erika Rosenberg: Great question, the scientifically based answer on how long an emotion is, is based on laboratory studies of various response systems of emotion like facial expression, autonomic physiology, how long does it take for someone to go from a non-emotional state or a non-particular emotion into that emotion and gradually subsides back to not being in it anymore, and that's really short, like just a few seconds, sometimes half a second up to about four seconds, I mean those are data based on facial expression timing in particular and facial expressions of emotion can punctuate and mark emotional states even though they can have a long period of being aroused a little bit that might extend beyond the facial expression but the physiology map on pretty well to that, so it is short, at any rate <inaudible 0:14:00.7>. And so then the question is how is... Let me back up, that practice we just kind of guided through, I was describing it and kind of went into the practice of just staying with the energy. When you do that you can actually realise how short they are if you don't feed the emotion, see this issue of how we have emotions that can last

minutes, hours, days, when you're saying this is how long an emotion is, because what's happening in those cases is it's retriggering, reoccurring. There are emotions on emotions on emotions on emotions, new emotional responses and you see the activation in the responses accordingly you're not having one long anger or one long fear. With anger in particular you're generating all these thoughts "Oh, if I just done it this way, what an idiot", boom, you're angry again. Now that's one way emotions can go from lasting moments, seconds to lasting a really long time is revisiting and revisiting and revisiting, or what we do with our emotions once they're triggered is emotion regulation and one thing that people do is they can go a different direction with it, they can re-evaluate it and make the emotion go into a different emotion, that's a kind of transformation, or they can keep revisiting because they wallowing in pity or misery. Because you can do that, once you start those angry thoughts they become more likely, that you'll have more angry thoughts, because you've activated those networks in your moment. I'm going to say something about mood too, which is another way emotions can last a long time, but you can put that off if you wanted it. Because what I was going to say is there's different ways that emotions can feel like they last for days. One is you can keep retriggering it, so many instances of that emotion, and another way is that you might be talking about the establishment or the setting of not an emotion but more background kind of aspect which we call mood. Mood is more your adorning background emotional bias, that is not figural but background, so that the mood for an emotion like anger would be to be generally irritable and what that means is your anger threshold is low, you are biased toward anger, you're irritated generally and you will be more readily angered. The question is where did that mood come from? We don't always know where moods come from, they could be you wake up physiologically a certain way, or you didn't eat right, or you just had a lot of stuff happen and you get kind of the residues of a lot of emotion. So if you've had a lot of anger in one day, you've kind of upped the likelihood of going into an enduring irritated mood, or fed-up or frustrated mood, and so you've changed your background bias and just feel like crap for a while, that's the other way emotions can last a long time because moods are much longer, you can be in moods for days.

[0:17:12.1] Ryan: So with the first thing you mentioned about emotions can kind of go on, there's this, you were talking about layering, this is what I'm hearing that if you're angry and you have sort of an angry moment then you might get sort of frustrated with yourself that you were angry or you didn't want to do that. So I'm wondering, with that first thing, what the role of self-compassion or self-acceptance might play in sort of dealing with how these layers stack up or maybe finding some way of letting go a little bit in that process, so maybe we'll start with that question and then I can....

[0:17:46.5] Erika Rosenberg: Stop right there because that's a lot. What you were talking about is what we call, actually what the affect theorist Sylvain Thompkins, who was a mentor to my mentor, that's Paul Eckman, wrote in the sixties, he talked about affect about affect, and that's something that happens here. That is the root of a lot of suffering, the emotions that we have about our emotions, do we beat ourselves up for being afraid? And that's a secondary emotional reaction to self, we put a lot of energy into that and that's one of the things that can lead to the <inaudible 0:18:23.3> of misery in our lives, so if you're practicing compassion, which is to use mindfulness and kindness and understanding towards yourself and how you live in the world to see are there ways in which I'm being hard on myself, can I go more gentle just as I would on others? And you would see how you beat yourself up by retriggering and retriggering and retriggering. Feeling inadequate, what if I'd done this, what if I'd done that, and god I blew it and just learn how to soften around that so you can kind of break the chain. Compassion can break the chain, not only towards yourself but in how you relate to others. I mean if you've got a situation in which you feel like doing harm to somebody else because of something that's happened, and then suddenly you connect to them as a human being that's basically in the same boat that you are, and that really "I'm just trying to get

through this catastrophe of life", as John Caberton would say, but there is some of that, there's drama, it's a fascinating thing. It's fascinating, but we get thrown a lot, right, you're just trying to get by. And yeah, they did something that you don't like, and I'm sure I do things that others people don't like, and nobody wants to feel bad here and lets just move to the next thing, and so that kind of connection with another person can defuse cruelty. So compassion plays a huge role in emotion regulation and wellbeing, and transform it all really.

[0:19:59.2] Ryan: So what I'm hearing then is self-compassion some way of opening, like there's a letting fo process that's going on there, but there's this other advice that I hear a lot, especially from meditation teachers that's if you notice that you triggered, you're having an emotional response to something to bring your awareness into the body. And I hear that all the time and I think I probably even have told people that before, but I wonder if that's good advice and I wonder if you could say why that might be an effective sort of strategy.

[0:20:28.7] Erika Rosenberg: Well, we talked about this a little bit already when we were talking emotional energy, right, that emotions are inherently embodied phenomenon, there's always going to be some energy or something going on there, if you pay attention to just that energy and move your mind away from the thoughts, away from the story, away from the evaluating the significance of this to your own notion of who you're supposed to be. Now if you let go of that foster you're less likely to be retrigger first of all, because you're not following the story line that might elicit the emotion again so that's beneficial right there, you're just staying with the feeling of being in it and getting away from the thoughts. The other reason why it's great, there's probably many, but for me another reason why it's great to pay attention to your body is that's where you start to lose the conceptual structure of the emotion in your mind, this thing called anger, this thing called sadness, this thing called fear, because that concept of it being that thing, which is just a way of talking about what you're going through, fuels a lot of stories and retriggering and engages the mind right back down that pathway so can we loosen that and then fully be present in what your feeling and then the possibilities can go many ways, it makes it much easier to entertain the idea of connecting to another, to doing something else, to not feeding the angry story. So it's going into the body and you have to be careful, sometimes when you're feeling very overwhelmed physiologically or if you have tendencies to get panicky about, you wouldn't want to do this with someone who gets panic attacks or anything like that but just a general practice for most of us, it's really valuable.

[0:22:18.9] Ryan: It's definitely, so it's a lot easier for me to go into the body when I'm actually in a formal meditation posture, if I'm in a meditation hall, in that context it's a simple thing, but it really seems like when I go into the world and enter into relationships and at work, there's all these things that are ready to sort of trigger different responses, and I'm interacting with other people who might also be having emotions, they might be having a difficult time, and they can use it to take that on. So I'm wondering, how do we stay embodied not just on the cushion but in the actual, our day to day interactions?

[0:22:54.0] Erika Rosenberg: A situation like a day to day emotional situation, how do you stay embodied in that? Let me twist this a little bit in terms of the question, that I think it would be useful to speak a little bit to the role that knowing, having spent time in the bodily energy can do when you're in an emotional situation, so just to say that it's always harder to apply it in the challenges of a day to day situation, but if you are able to practice with it on the cushion, we could talk about that, there are actually practices where you can do it, where the actual point is to get into the emotional energy, so not just dealing with what happens to come up but certain exercises where you bring them up and you dig around till you get it going and then you learn how to be with it. So always with anything that, the translation of on the cushion to off the cushion, there's this sense that the on the

cushion time is this time when you're practicing it, to see what it's like, you're trying something out whether it's stabilising your attention or feeling the bodily energy of emotions, and your practicing it in this really easy, safe, controlled environment for it, on the cushion, where no-one's going to bother you, because starting out a practice like that while you're in the middle of a heated interaction is challenging. So let's say you've done some of that, we can talk about how you can do it on the cushion, you've done some of that, you have become accustomed to noticing what your body feels like when certain emotions are triggered, you'd get feeling the emotion, you've spent time noticing how that arises in the sort of landscape of your mind when you're consciously attending to what arises an emotion, you've learned how to recognise it. And that really helps if you suddenly get into a triggering situation in your life, usually the first thing that comes up is this physiological... this sort of like, maybe it's a tightening in your gut, or a feeling of something changing in your chest and sometimes it's the first piece of information you have about an emotion starting, because we usually don't realise that this is evaluations of how something's relevant to us, these are often very automatic, they're not like a conscious deliberation it's a quick assessment we do. And when you've worked with emotional energy on the cushion you can start noticing that the emotion is coming up, we catch the emotion earlier in this process, because emotions are processes, they start with the trigger event, there's this manifestation and changes in the body and mind, if you can catch it early, this is like mindfulness of body, mindfulness of emotion, mindfulness of self, then you are less likely to be whisked away by the energy of it, ok so you can be like "Oh-oh", I mean emotions are really informative, if you didn't feel consciously threatened but noticed your body is telling you it's anxious, that's really useful information in a situation, it can give you some pause about what to do next. So the body is information, and it can give you queue about emotions, it reveals to you what "Oh, this feels like fear, what is about this situation, why do I feel threatened? What's going on?" This is all can be here, and you can put some space there and not be as reflexive or emotional in a situation you're in, you're used to riding out an emotion. Can I add something about what an emotion is right there, that I think is really relevant. One of my teachers, <inaudible 0:26:39.0> said we can be grateful for our emotions, we have no better indicators for what matters to us, they're great teachers. And so by that case I was telling you I was noticing "This feels like what fear feels like in my body, wow, I must feel threatened here." It's like that curiosity about what you're going through that's cultivated with a lot of practice that with the self-compassion and the mindfulness practice you see these things as they arise. So let's just put that aside for a second, the other way that the body, I'm going to get into it, that you can embody your body in that situation is you can use things that you've got well-trained from meditation even if you don't get a lot of practice with emotional energy, and that is calming the body and stabilise it. Anybody who's just done some <inaudible 0:27:38.4> practice knows how to stabilise, knows how to use the breath to settle, and that's there for you. You notice this arising, I can bring myself to a space where my mind's going to be a little less frenetic and settle it a bit and move ahead. You can bring all of that into play in seconds.

[0:27:55.1] Ryan: So you mentioned I think the way that we invoke emotions on the cushion and actually have a practice of getting familiar with them, and I would love to hear you explain what that might be about.

[0:28:10.3] Erika Rosenberg: Well, there's a guided meditation that I do, I've done for years and there's other people who do things like this. Which is what I call tasting an emotion or a version of this has been used in a number of practice, in science there's reliving emotion in emotion research that Ackerman and Friezen have used, but this is a little different, you do try to get someone to... you guide someone through and you can learn to do this on your own or you can listen to a recording, I've used it in classes, where you bring up in your mind a recent situation. Let's say if you

were dealing with anger, a recent anger situation and always guiding the students to not pick a really toxic thing that happened recently, but maybe a minor irritation like the TV delivery guy said he'd be there between nine and twelve and here it is two o'clock and they're rescheduling for tomorrow, that kind of thing, that frustration of dealing with ATNT on the phone, these are things students have brought up. How can you have compassion with the people working on the other end of the line, but these kinds of frustrations, bring something up in your mind, something you can remember that's fairly recent that was hard enough to get you going and then the guidance is to then try to put yourself back into that situation without revisiting the story too much, just use the story to locate the event. Don't visit the story too much, don't think about who was right, who was wrong, but just try to remember what it felt like, feeling that, feeling that and then sitting there in the feeling of it, less to the story, more to the energy of it. So that's what I call tasting an emotion, because you're just getting a little bit of it and seeing what it tastes like, the idea is to notice it, maybe notice how any of that bodily energy changes but also to become familiar with how it feels in your body, notice where it affects you, is it a chest thing, is it a belly thing, is it breath.

[0:30:12.8] Ryan: I wonder if this gets into the possibility of transmuting emotion, because earlier you started touching on how emotions really are on some level just energy, and that there's sort of maybe a constricted way of <inaudible 0:30:28.9>open way of dealing with that energy. But maybe, as you said, you can actually alleviate to some earlier emotional trigger and finding a different way of maybe opening to that emotion or maybe you had to constrict it to the first time. Is that a little bit what you're saying or is that a different thing?

[0:30:44.0] Erika Rosenberg: What I'm saying by transmuting?

[0:30:47.0] Ryan: About this kind of meditation you're talking about where you sit down and you reflect on a previous...

[0:30:52.6] Erika Rosenberg: This is really simple, this is really straightforward. This is just a feel what that emotion feels like. Because the way I do it in class is I'll do it for an anger thing, then we'll do it for a joy thing, we'll try to capture the flavour as a way of getting to know how your body responds. But you can also do practices, that's a very practical one, you can also do practices where you go back into emotion, you can do it with physical pain. I was at a Vipassana retreat once where we were instructed to notice a place of discomfort in our bodies as we've been sitting there for an hour and go right into it, so I was going right into my knee, all of that, and that's an exercise and you can do that with emotional energy that arises, you just dive into instead of just trying to make space for it, calm it down or whatever, you're like "Ok, no, you're diving in and you're feeling it", you're feeling it and you're just being there and you can breathe or whatever, not that you're trying to breathe yourself down, just notice it. And what invariably happens, it happens to me every time, it's a very common response is that it just, it changes a lot, it sort of like seizes to feel like pain. Sometimes I'd lose a sense of where the pain went. You can't maintain that, like people dealing with chronic pain, you can reconceptualise it as energy, you can change your relationship to the pain, but it's hard to sustain because you have periods of it disappearing because you're trying to function in the world and it's very different from being in this artificial sat down on the cushion situation but you can, it will like feel powerful and then it will shatter. I will shatter, and then it will come back, you know, but it's fluid, it reminds me of using <inaudible 0:32:39.5> on its own and not trying to not engage to the thought of the fact that this can go on for twelve hours, it's the same thing, same thing.

[0:32:54.9] Ryan: So it seems like there's a lot of different ways of coming at emotions and I think we've already covered a few different ways of doing it, it's a complex issue, but one of these things that I want to get to and make sure to fit in is compassion because I know that you're a teacher in

something called compassion cultivation training, which I believe is out of Stanford and I'm wondering how sort of training compassion, this is pretty broad again, but training compassion, how that... First of all is compassion an emotion? That's one question I have, in the way that we might think of something like anger or passion even, and then what effect does cultivating compassion have on one's emotional life?

[0:33:40.7] Erika Rosenberg: Two big questions and you did a real flash of lower face fear expression right after posing it. It's a big one, is compassion an emotion? Yes and no, there is a feeling of being... let me define compassion, I mean compassion on one level is a feeling or a state or a relationship that merges when we respond to suffering in others, we feel moved and when we visit it in others we want to help alleviate it. There's a big motivational quality to it, there's a feeling that's emotional when it arises, it's kind of, I don't think it's like a little love, a little misery, because of the bittersweet nature of it, I think there's something qualitatively unique to compassion, or at least something about compassion that's shared with any deeply moving emotion like when we're profoundly moved by beauty, there's also that deep inside moving that comes up with compassion but there's primarily this really strong wish to see others be free of suffering. When you see suffering in others, to be motivated to change it, to be moved by it yourself and it involves a lot of love, it involves a lot of empathy, so it feels on some level a lot bigger than an emotion, just like many times love feels bigger than an emotion but there's definitely an emotion of love you can feel. Ackerman talks about there being different kinds of compassion, maybe like on the level, not quite on the level of anger, fear etc but really fundamental to humans that the kind of parental compassion that emerges in those sorts of situations that naturally arises, where other kinds can grow. I think there's something to that, but I think compassion makes use of our attachment systems to build a strong connectedness component. It's a very complex, affective relationship, let's put it that way. I don't know if that's a satisfying answer for you, but it's complicated, how's that?

[0:35:59.9] Ryan: I want to go back to when I asked the question, because you are an expert of facial recognition and I believe it's facial action coding system, is that right?

[0:36:10.2] Erika Rosenberg: Coding system, it's a system for comprehensively describing all observable facial movement and I mentioned Paul Eckman is my mentor, he <inaudible 0:36:18.7> developed that system and I've been working with that for twenty years and I use it in my research as a way of measuring emotion from the outside, because it's hard to know what people are feeling subjective to scientifically study it, but I also teach people all around the world how to do this measurement because it's been used as the basis for not only understanding in psychology and forensics and clinical science and medicine, but it's also used a lot as a standard for animation, developing artificial humans, whether for entertainment or for educational purposes. So yeah, I'm a face nerd, I'm a facial scientist.

[0:36:58.9] Ryan: But it seems very powerful because even then I had asked the question and I was afraid that I had asked too general of a question and I had set you up in a bad way or something and you could immediately pick up on my face, so it seems like a very powerful relational or interrelational tool for understanding and maybe interpreting communication with people, is it used in that sort of way as well?

[0:37:21.6] Erika Rosenberg: We use facial expression all the time, everybody all the time, we make sense of other people's facial expressions to make inferences about what they might be feeling, we know that a course set of these basic emotions like anger, fear, happiness, sadness, surprise has universal signals that are recognised by people all over the world. There are a lot of emotional signs that don't, but we pick up on a lot. We know, roughly, what anger looks like, the studies on

universality are based on regular people's understanding of facial expression, not experts, so even though regular people miss a lot of nuances, we get it, we make sense of... If someone doesn't have typical or in the normal realm in the statistical sense of a facial repertoire around emotion, it hits us weird, you know if someone has facial paralysis, if they've had a stroke and one side isn't working, it's harder to engage. Somebody who has trouble with eye contact, that has a huge impact on social interaction, people who've had Botox you know with non-working face, we make use of the face all the time and the unconscious mimicking of facial expression is something we're engaged in constantly in social interactions and it's one mechanism for the explanation of empathic connection or social resonance, because by mimicking the facial expression of somebody else we induce that state in ourselves. So one mechanism... There's different kinds of empathy that are typically talked about in psychology, one is this cognitive, perspective taking where you understand what someone else is going through, you've been there yourself or you've learned a lot about it, but this other kind of empathy is what we call emotional resonance and that's the feeling with, sharing the emotion, feeling the emotion too, and one way that that may occur, there's evidence that we engage in a lot of mimicry, we copy tiny amounts of the other person's facial expressions and that can trigger the emotions in us. Both routes trigger the emotion, putting yourself in that perspective can use thoughts to trigger the emotion, and emotional resonance is sharing the affect.

[0:39:47.1] Ryan: Well that's fascinating, in some ways it's almost like the emotion is being transmitted body to body through like a mimicry of facial expression is what I'm hearing there, but I want to sort of just ask another question because you were one of the lead researchers on the <inaudible 0:40:00.9> project, I believe. This will be my last question, and part of that was using facial, the action coding system to start and get a leverage point into understanding a bit maybe about the mind, because if you talk about emotion there seems to be a <inaudible 0:40:16.8> arise in the body as well as the mind, but we can sort of take the core that's to begin and understand more mind phenomenon like compassion, but maybe you could just do a brief little bit there of how this facial action coding system can give us an insight into measuring and maybe understanding the mind.

[0:40:35.7] Erika Rosenberg: Well, how about what general objective facial measurement might give us a window into the mind, because the facial action coding system is objective facial measurement and I could also talk about the <inaudible 0:40:52.7> project piece, but if you want, just generally how studying the face can... I mean, the whole reason I got into studying the face is I wanted to learn something about a phenomenon that we couldn't see, that's emotions, I was interested at the time as a young graduate student like stress and health and how does something in our psychological world change our bodies, and emotions seemed to be one way to do that. But how do you scientifically study that? Facial expressions, when we got evidence in psychology that there were consistencies across widely diverse cultures, remote parts of the planet where there were no shared information in understanding certain emotional, certain facial expressions and certain emotions, it suddenly gave the face observable external <inaudible 0:41:38.8> of somebody credibility as being a measure of emotion, as a way of understanding emotions that someone may or may not choose to tell you about, so that opened up a possibility of finding out about emotion without asking, or adding to your picture of emotion, you know you ask, it's best you talk, find out what people think they're feeling and you get their physiological information, you get any possible measure, you get other people's interpretations, and you look at their faces too. So it's a great measure of emotion to be combined with other measures, it gives you a viewpoint that other measures won't give you because it can reveal information that isn't necessarily conscious. The face can reveal subtle hints of emotion that people don't report feeling, and it's a very sensitive channel, it's also very dynamic, these things have time forces that correlate with the time forces of other measures of emotion, so

it's incredibly... And they're very specific too, we know that we can get, depending on the configuration, if you see someone tense their lips and tense their eyes a little bit you know they're angry, or they're referring to anger, depends on how it comes on the face, but if it's emerging spontaneously, even something as subtle as the glare starting to come up or the lips tightening, you can see that. We respond to that and we can see that as a sign of what they're feeling, so lay-people make sense of it but we can pick up on really subtle, tiny tiny pieces of information about emotion from the face and then if you know the emotion you can start to figure out the story, you know like why is this coming up? I was live-tweeting the presidential debate last night.

[0:43:32.7] Ryan: Oh, you were covering their facial expressions?

[0:43:36.2] Erika Rosenberg: Live tweeting it.

[0:43:37.7] Ryan: Oh, that's fascinating.

[0:43:39.0] Erika Rosenberg: It was an interesting task to be engaged in because I had to watch real carefully, their faces, and when I saw something I had to stop trying to watch anymore and I had to record really quickly so that I don't get too far behind, accurately something I saw. And what was most important to me was contextualising it, because I knew people would read the feed later, and it was sort of like right after saying this I saw this, like he said this and then this happened or she said... You know, either responding to each other, so the point is the contextualisation of certain kinds of things revealed something, if you notice this information you can suddenly get "wow, he just did this whole thing" and then a lower face fear component and it wasn't something he did all the time, it was punctuated during certain content. So you can get a picture of something that we didn't really know was there, anyway, I don't want to get into the political stuff too much, but where certain things occur is very important.

[0:44:39.3] Ryan: Thank you so much for offering your time and down this page, for everyone in the audience, we're going to have more ways that you can connect and more about Doctor Rosenberg and hopefully we'll get her Twitter on there so that maybe you can follow the next presidential debate, I think that's...

[0:44:54.9] Erika Rosenberg: I'm going to do it again, yes, it was really interesting and this was a case, I usually stayed away from these kinds of things, but this year somehow I felt that it was worth speaking.

[0:45:07.4] Ryan: Yeah, and it's so good, because they keep both of their faces on the screen a lot of the time so you can see what someone's doing while the other person's talking about them.

[0:45:14.4] Erika Rosenberg: The reaction, you know, and the waiting and the listening. What one would do while the other one is speaking was very interesting.

[0:45:21.4] Ryan: Yeah, well that's a really good reason to check out some more about Erica Rosenberg, so thank you so much for taking the time.

[0:45:27.0] Erika Rosenberg: All right, thank you.