Robert Scaer: Trauma & dissociation

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Robert Scaer, M.D. received his B.A. in Psychology, and his M.D. degree at the University of Rochester. He is Board Certified in Neurology, and has been in practice for 36 years, twenty of those as Medical Director at the Mapleton Rehabilitation Center in Boulder, CO. More recently he has pursued the study of traumatic stress and its role in emotional and physical syndromes and diseases.
He has lectured extensively, and has published several articles on posttraumatic stress disorder, dissociation, the whiplash syndrome and other somatic syndromes of trauma. He has published two books, the first *The Body Bears the Burden: Trauma, Dissociation and Disease* in 2001, with a second edition released in October, 2007. A second book, *The Trauma Spectrum: Hidden Wounds and Human Resiliency* was published in 2005. He is retired from clinical medical practice, and continues to write and lecture in the field of traumatology.

Serge Prengel, LMHC is the editor the *Relational Implicit* project (http://relationalimplicit.com).

For better or worse, this transcript retains the spontaneous, spoken-language quality of the podcast conversation.

Serge Prengel: I'm with Robert Scaer. Hi Robert.

Robert Scaer: Hi Serge.

S P: So, you've done a lot of work on trauma. Maybe one way to start would be for you to talk about how you define trauma.

R S: Well, I define trauma as any situation, any experience, that poses a threat to their safety and/or their life. And that can have many meanings, because our lives evolve in a way that we have threatening experiences. And what we do is we become sensitized to certain things. They pose a threat to us even though they might not to another person. Those kinds of threats, if they occur in a state of helplessness, the inability to deal with, to mitigate, or to prevent that life threatening experience from occurring, that will result in the event being a traumatic event. In other words, a life threat in the state of helplessness.

S P: Yeah. Yeah. So, in other words, you're not just focusing on the type of event but on the importance, the perception, the interaction between the event and the person who's in it.

R S: Yeah, exactly. And as I implied, the meaning of the event is an important factor in this.

S P: So, can you maybe expand on that, the meaning of the event?

R S: Well, I guess I can give you an example. A patient of mine saw a therapist whom I referred her to, came back and said, "This therapist bothers me, even those she's very sweet, kind and understanding." So I asked her to describe the therapist, whom I knew, and she described her down to her cosmetics including her red fingernail polish. And she then had this flush on her face and said,

"Oh my God, I just remembered my grandmother who abused me had red fingernail polish all the time."

S P: Wow.

R S: So, events that reflect old past traumas may become traumatic even though they're trivial on the surface. And that's a very important part in consideration, which constitutes the traumatic event, in any given event, in the context of ones past life experience.

S P: Yes. Yes. So, maybe that brings us to a discussion of dissociation that...

R S: Well, dissociation: there's a lot written about this, in a state, numbing and avoidance, and there's some more criteria, represent dissociative states. Numbing because dissociation is fueled by endorphins, and avoidance because of the fact that the dissociation is associated with experiencing an old traumatic memory, and as a result one avoids the experience. But in fact, I think dissociation is the thing that we perceive when we are in what might be called the freeze response, which is the third phase of the fight/flight/freeze sequence when one does face a life-threatening event, and in the case of the freeze, when one is helpless. So, the freeze is the natural physiological response to a traumatic stress. And the freeze is extremely important because it is the state of immobility, it's a state of parasympathetic dominance that is the dorsal vagal nucleus in the brain stem of all creatures in the face of a threat, results in the slowing down of the heart rate, the slowing down of respirations, and collapse, and immobility. And during that state the animal is conscious, but I think perceives what we describe as dissociation, which is a distortion of perception, a numbing of perception and of pain, and a collapse state. The freeze response is very important because one can't stay in that stay for a long time without jeopardy. In the case of mammals, they were not designed to be in the freeze response for a long state. And many mammals will actually die during that state because of the absence of adequate heart rate and respiration. So it's a powerless state, but it is a state, I think, that defines trauma because it is equivalent to dissociation.

S P: Yeah. So, you prefer to explain it in terms of the freeze response as opposed to just association.

R S: Yes, I do. Yes.

S P: Yeah. On the other hand though, you talk about the capsule.

R S: Yeah, I talk about the dissociative capsule because in the trauma literature 101 we'll see the universal acceptance of the fact that the symptoms of trauma, in which are defined in PTSD, Post Traumatic Stress Disorder, are associated with dissociation frequently, and they're also associated with, memory phenomenology. we'll declare it a memory as conscious memory that we use to access facts and events and information. Implicit or unconscious memory include the category of procedural memory. Procedural memory is that type of memory we use to access the acquisition of skills. That's how we learn to be an athlete, or an artist, or otherwise. It also is the part of unconscious memory that governs classical conditioning. Classical conditioning is a means by which we learn skills to survive, actually.

S P: So in other words what happens in the dissociation and the trauma process is some kind of a hijacking of that, or some kind of a malfunction of this conditioning process?

R S: Yes. I like to use Peter Levine's analogy of this with the fact that in an animal, or in a human being, actually, who survives the threat and goes through the freeze response, and then emerges from it in it in a state of safety, they will go through what, maybe it can be called a discharge even, in the case of a fight or flight response, where you are attempting to flee or struggle to escape, what will often happen is a motor response; a trembling, a shaking, a stiffening, a contraction of muscles which replicate the act of self-defense that was stopped when the freeze response ensued. And what that does basically is extinguishes the procedural memory for all the somatic elements of that experience; the sensations, smells, tastes, images, the body movement patterns that you try to use to protect yourself, or to flee, and going through these acts of the freeze response extinguishes all of this. And if you don't do that, if you don't extinguish these elements, they will remain in procedural memory, permanently.

S P: Yeah. So in other words...

R S: Because the brain uses that to actually survive in the future. But unfortunately this is false information because it's all over. But the brain continues to proceed that this threat is still there. And any cue that the threat will then bring up all the body sensations and even the images and even memories of that event.

S P: Yes. So, so, you know, this information is still stored, it's unfinished business, and until such a time as this is discharged, reset, then the brain still has the information that the threat at hand is still looming and can reappear any minute.

R S: Exactly. And of course that defines all the symptoms of DSM IV's definition of PTSD, if you think about it. A flashback is the interruption of one's attention in the present moment by a dissociated capsule, which is a very precise replication of all of the autonomic, emotional, and physical symptoms that come out that traumatic event.

S P: And again, on the dissociated capsule, we're not talking about just a sense of an as if, or remembering, but it's really reliving, isn't it?

R S: Absolutely. One perceives these events, one smells the smells. If there was pain involved in the trauma one feels the pain as if it were absolutely real. Because within that moment those sensations and perceptions are real. A corruption of memory, if you'd like, but they are felt as if it was happening now, not as if it happened in the past and you're just remembering it.

S P: Yeah. So, it's stored, and it's replayed, and it gives you the sense that it's happening right now.

R S: Yeah.

S P: So, you know, it has also some impact on psychosomatic problems.

R S: Well, the physiological state that the person is in when they're in, if you'd like, a dissociative capsule, replicates the physiological states that occurred at the time of the trauma. Their autonomic nervous system. Their pulse rate is up or it's down. The muscles that were trying to protect them go into spasm and tension. Everything is replicated, and during that time, their body is in the same state as they were in the traumatic event, which reeks havoc with one's health actually.

S P: Because you stay permanently in a state that is designed to be appropriate just for an emergency.

R S: That's right. You're in and out of these states. And trauma really can be defined as a syndrome of severe dysregulation, impaired, autonomic, smooth, homeostatic regulation under many systems of the body. And that includes the autonomic system, the endocrine system, the glands that secrete hormones that govern your body, and the immune system, which is also modulated by those hormones. So, you have a general systemic dysregulation of body functions, not just an emotional problem.

S P: So, when we talk about psychosomatic disorders, obviously we are not talking about something imaginary. And we are talking about something that's a symptom of a disregulation of the nervous system, which then affects the organs through the nervous system.

R S: Exactly. Yes. And these syndromes, like the way that the brain is cycling abnormally through sympathetic and parasympathetic peaks and troughs, these syndromes are associated with dysregulation backed with a sick state. And that's the problem with the medical profession is that we look at disease as being a constant, like cancer, or atherosclerosis and heart disease. But in fact disease, diseases don't have a constant state one can measure with any blood test, image or finite proof, and therefore, they're hard to diagnose other than by the interpretation of the physician. And as a result, and were also associated with the labile emotions. Emotions are also cycling, as is the body, and this lability of emotions, of course, lends itself to the physician thinking that the patient is emotionally disturbed, and that probably is the cause of their imaginary physical problem.

S P: So, of course there is an emotional disturbance, but it's not an imaginary problem.

R S: No, its not. Of course not. It reflects emotions that are associated with those states of arousal and also states of dissociation.

S P: So, for instance, in your work with whiplash, and whiplash is something that is, to many people, feels very physical, there is an accident, there is a big shock, so we expect it to be something that's gonna be organic damage, and you actually have found something where the dysregulation has a lot to do with the symptoms that people experience?

R S: Sure. I basically, as I got into the field of trauma through my early contact with Peter Levine, I had him see a lot of my therapists doing a demo, and then sent them a few patients who had dramatic mitigation of physical symptoms with a somatically based therapy for PTSD. And I did a lot of reading and began to realize that whiplash syndrome is really a syndrome of procedural memory, not a physical injury to the body

S P: So, could you elaborate on that when you say it's a symptom of procedural memory as opposed to physical injury to on the body?

R S: Well, all of the physical events that occurred in, say, in a rear end auto accidents; the throwing of the head back and forth, the shaking of the body, the stimulation of the vestibular, the balance system through the movements of the head, the images that one sees, the smells of the burning metals, the sound of the crash, all of these sensations are stored in procedural memory. Because what I found was in the whiplash victims that I treated, and I was in a tertiary center, I was in a

rehab center where I kind of got the worst of the worst, the bad outcomes. As I started to work with the field of trauma I began to do trauma histories and I discovered this predominant feature that all of these people had in common, including in my chronic pain program that I directed, was early child abuse. And this varied from alcoholic parents to incest and to physical abuse. But that was a striking feature of the correlation with child abuse with a whiplash syndrome that didn't get better. And that often did lead me because the brain is sensitized in childhood when one is abused, making the individuals very prone to subsequent trauma. And then for the physical symptoms of the repression, all could be ascribed to the unconscious memories, all of these sensations that were triggered by this event. In the average person one would experience it, would remember it, they'd be shaken but they'd recover. But if one is sensitized, as one is by early childhood trauma, then these will be incorporated in the procedural memory as part of the trauma structure, and PTSD will also accomplish this, or, accompany this. Excuse me.

S P: So, in a person who is not especially sensitized, you know, it's a shock, but it goes away. And in a person that is sensitized, there's a predisposition to, to having a problem with it, and you say it's incorporated into procedural memory.

R S: Yeah.

S P: In what way? In a sense of these, in other responses to it that haven't had, you know haven't had a chance to express themselves? In a sense of this, you know bringing back, you know, just like salt on an old wound? How does it work?

R S: Well, when one has had child abuse, one will tend to dissociate easily throughout the rest of one's life. Allan Schore writes about this. And one will freeze over and over again, even in minor circumstances. And most of the patients that I saw, and my history taking changed as I became aware of this, most of the people had a period of stunning, numbing, and confusion at the time of the accident. And in fact they continued to have cognitive problems and or diagnosis of minor traumatic brain injuries. But in many cases with my brain injury patients, uh, treating them with somatic techniques, such as Peter Levine's somatic experiencing, cleared the brain injury. Literally, it disappeared in a matter of a month, after two years of cognitive impairment. Because, what the symptoms of brain injury do to you was repair the state of dissociation, during which time you don't think very clearly. So, the physical symptoms also got there because they formed. In fact, whiplash, I can say is an example of a dissociative capsule. All the physical, and automatic, and emotional experiences are stored, are stored in exact form within all the specific experiences of that accident. And it keeps coming back. They drive down the street, a red truck passes by, and that's the color of the car that hit them, and suddenly they get back pain, they get dizziness, their vision blurs, and they feel panic. Just from that cue triggering a dissociative capsule which then interrupted their state of present moment consciousness.

S P: Right. So, so, that's why you talk about, this being a memory problem as opposed to an organic problem.

R S: Yes. Well, I say it's still organic. It's neurophysiological.

S P: Mm hmm.

R S: It's not psychological. It has to do with brain physiology.

S P: With the brain physiology, but the way to deal with it is clearing the memory banks.

R S: Exactly. And because this is a conditioned response by definition,

S P: Mm hmm.

R S: One uses processes that involve the phenomena of extinction. In other words, separating the, signals of the event from the response.

S P: Yea. So, extinction, separating the event from the response. So, how do we do that? What's your model for that?

R S: Well, you know one can look at it as Levine does. If we can elicit, or bring out the freeze discharge that didn't occur, that will extinguish all of the events, because it will occur in a state of safety, the therapeutic alliance between the therapist and the patient. And in that state of safety, the cues won't trigger the arousal system of the brain, the amygdala, within the mammalian limbic system, which is the early warning center, and if you don't trigger the amygdala then those events will occur without arousal, and it will be like ringing the bell without feeding the dog.

S P: Mm hmm.

R S: This is the process of extinction.

S P: Yeah. So, you know, disconnecting the amygdala.

R S: Yes.

S P: You talked about the alliance with the therapist, the safety. In a larger context, what is it, you know, in us that responds and helps counteract the activation of the amygdala?

R S: Well, there are portions of the brain that, provide what might be called a servo system of inhibition of the amygdala, which evaluates the severity of a perceived threat, and then either allow the amygdala to do its job to its fullest extent, or put a damper on the amygdala, because that information is not really as dangerous as it would appear to be. And these areas of the brain include what's called the orbit frontal cortex. And you have to remember this is all on the right side of the brain. The right side is the, the right limbic system, is that part that takes care of this early warning response.

S P: Mm hmm

R S: The orbital frontal cortex is a unique structure that develops in childhood, and that Allan Schore discusses in great detail. This is the part of the brain that regulates both the emotional system and the autonomic nervous system in response to threat. And it's a part that develops very specifically through the process of maternal/infant bonding and attunement. And in fact, in a child, if you do serial MRI's you'll see that the right frontal part of the brain grows rapidly and even overlaps the left front part of the brain in the attuned child. And the child that is deprived of attunement with a maternal figure it does not do that, and in fact it shrinks. And as Shore says in the absence of

development of that part of the brain, one will face a lifetime of emotional and physical disregulation. So that part of the brain is critically important, and it probably is why, in the person who's had child abuse, the odds are that they've had terrible attunement. They don't have the resources of an adequately developed right over the frontal cortex to modulate threats and stress, and they're more and more prone to dissociating with any threat, and to being traumatized with any trauma.

S P: Right.

R S: That's the first part.

S P: Mm hmm.

R S: The second part is the cingulate gyrus. It's the anterior cingulate cortex, which is part of the limbic system. And this is a part of the brain that has a wealth of mirror neurons, neurons that enable one to understand or empathize with another person's experience. Something that probably isn't innate to human beings, but certainly typifies the better part of our nature. The other, the, cigulate gyrus, is also responsive, as you can imagine, since it's the empathic center. It's responsive to interaction between human beings in a culture, tribe or family, is probably an extremely important area of the brain in the therapeutic alliance between the psychotherapist and the patient because it promotes attunement, as does the orbital frontal cortex.

S P: Mm hmm,

R S: Well, both of these centers are specifically involved in down tuning, down regulating or inhibiting, the amygdala when the threat is not of great importance. And as a result, bringing on those centers, clearly needs to be part of the therapeutic alliance. And anything that one can do to bring these on, would down regulate the amygdala and shut down the arousal system and allow all of those memories, sensations and feelings that come up during that experience, during that therapeutic alliance, to emerge without arousal, and be extinguished. Again, like ringing the bell without feeding the dog. So that is my model for the ultimate requirement, the essential ingredients in healing trauma.

S P: Yeah. Yeah. So, this is an innate capacity of the brain at two levels. One for attunement,

R S: Yeah.

S P: and one for, empathy. And in people who do not have that capacity trained or developed in childhood, there's going to be a predisposition to being more sensitive to trauma.

R S: Exactly. And that explains why trauma victims throughout lifespan will become worse, will develop new symptoms, will be trivially re-traumatized, and it can be a slippery slope.

S P: And so conversely, in your experience say with, whiplash victims. You're not in a way just dealing with the whiplash, because you're going at another level.

R S: Well you're going at a whole limbic brain and its responses. You're treating, the syndrome at

the core of its origin which is the memory systems of the brain, and the physical symptoms will disappear if they're no longer needed for survival, so to speak, because the brain thinks that those threats are still there and therefore they have to bring out this hell. Like, you learn if you're a gazelle on a Kalahari desert that a cat with spots is something you run from. And the brain continues to hold on to those cues even though there are no cats (laugh).

S P: Right.

R S: It's simply in memory.

S P: But, so, as you heal trauma do you also then increase resilience?

R S: Oh, yes, of course. That's the goal. Now you know Pavlov's dogs, ten years after they were extinguished with the bell and the food, one trial and they were completely reconditioned. One never loses all of these procedural memories. They never all totally go away. But, they will be mitigated and unimportant. And then in the later parts of the therapeutic process, cognitive therapy is still important. I don't think you can heal trauma by words alone, and I think there are a great many trauma specialists who now see this and feel that somatic methods to extinguish the body symptoms and experiences are necessary. But you do need the words to provide a meaning for the event because later when one recognizes that that terrible pain in the left side of ones neck is not due to a ruptured disk, but is due to memory, and it still comes back, they can say "Oh, I know what that is, that's my sentinel trauma muscle that's just acting up, and it's not anything wrong with me." And then they don't go into fear and arousal.

S P: Mm hmm. Mm hmm. So, there's learning, there's meaning, and so there's growth.

R S: Yeah. Exactly. I think it's transformation. I mean, I think the ultimate end part of healing trauma is a state of enhanced awareness of reality and meaning of life. You learn something from it. I think that wisdom is acquired through the healing of trauma.

S P: Yeah. I think, , if we go back to your definition of trauma through the, dissociation and the dissociative capsule which hijacks our ability to see the present, I can see that as we overcome that, it's an increased ability to be in the present.

R S: Yes, it is. Which of course is the state of grace that one needs to heal trauma. And it's it's a state that we need to, modulate the things that happen to us in our daily life, many of which are negative. You can't avoid stress.

S P: Mm hmm.

R S: And being able to access that state, I think is healing, because during the present moment, you are in a state of, of healing.

S P: Yeah. Yeah. And to go back to, something that actually affects our present moment very much and we you know can be very overwhelmed by it, things like chronic pain, things like fibromyalgia, symptoms that seem really organic, sometimes unexplainable, that are affected by stress and trauma.

R S: Yes.

S P: How do you see those things?

R S: Well, these, I consider dissociation to be a (…) spectrum. Here, everyone is familiar with what we call intrusive thoughts, or monkey brain (laughs) or brain chatter, these are unresolved approach avoidance situations inevitably. They're things that have happened to us that have meaning to our survival, they may be very subtle, but to us they are meaning for our daily existence that have not been resolved . They're issues interfering with the process that haven't been resolved. And therefore, they keep popping up. It's the thoughts that keep you awake at night that you can't go to sleep with, the thoughts that interrupt your task when you go into the bedroom to find something, you've forgotten what you came in there for. It's because you've had these little intrusive thoughts. These are little dissociative capsules. They are unresolved stress where you are helpless. Unresolved minor, threatening, therefore traumatic experiences where you don't have control. And so we experience this all this time. Now, they get resolved, and they heal themselves often, and you know trauma can heal by itself at times that it's minor if the person is resilient, but this is, this is something that we see in our daily life all the time. Trauma therapy actually would help that but it's just part of our daily life. And awareness actually can diminish the importance of these intrusive thoughts. Just know what they are.

S P: So, you're talking about a trauma-oriented psychopathology of everyday life?

R S: Yes. (laughs) I think that's a good way to put it, yeah.

S P: Yeah.

R S: We face this all the time. The more resilient we are the less we are intruded by it.

S P: And, in a way, the model that you present is one where there is a very wide range of trauma from little fairly trivial undigested events to much larger events, some that are, I would say with quote marks "objectively life-threatening", to others that are more trivial. But there is a continuum, and it's something that has to do with learning capacity to be conditioning, integration, digesting these difficult things?

R S: Yes. I make a point, I've thought enough about that to make the title of my second book The Trauma Spectrum. I think that we face traumatic experiences all the time, especially in a, an organized culture, a city state, a large civilization where large groups of people have bonded together, and who then put restrictions on their behavior in order to, maintain cultural order. Certainly much harder to do that in a city, or a nation, than in a tribe.

S P: Mm hmm.

R S: And so we have complicated our lives a lot, I think, by our, our developing these huge populations and cultures, and, cities that require, restrictions of our behavior. And ultimately, I think this then assumes the physiology of trauma. You look at the hierarchical structure of a corporation. Any paramilitary structure where there's a pecking order of responsibility and power puts one in a state as one is towards the bottom of the pyramid, in a state of relative helplessness, and subject to, being traumatized by situations that are unavoidable, unresolvable and conflicted.

And I think I consider these trauma. I consider that a lot of corporate structure perpetuates trauma. Such things as gender discrimination.

S P: Mm hmm.

R S: I think that racial discrimination or sexuality discrimination is traumatic in these cultures. And I think if you talk to a group of women I think you'll have them all agree that many of them are in situations where they are discriminated against, they can't do anything about it, and it is wearing on one's brain and spirit. And as it goes on and on.

S P: Yeah. In a primitive culture where maybe there would be less chance for trauma in the first place, you had shamanic rituals to deal with it. And in our culture we don't have so much of that, and maybe that's a place where, therapy takes on some of that heritage.

R S: Well, rituals bring members of a group together. In a tribe of course you can have rituals. We wonder why they have to have these very special dances and music and drumming and chanting and things that they do routinely to bring together the community, in this state, and of course this is healing. Rituals are dependent upon the bonding of the individuals, and (laughs) their cingulate gyrus is on lined all through the ritual process. They are detuning the amygdala with a vengeance. And I think that's the healing process for one thing in a shamanic ritual, and in tribal customs where they band together to do this, and they instinctually know that this is necessary for them to survive as a tribe and as a culture.

S P: Mm hmm.

R S: Maybe ours is football. I don't know. (laughs) I don't think so.

S P: Yeah. So, Bob, as were coming to the end of this, is this a good place to end, or is there something you would want to conclude with?

R S: No, I think this is a fair summary of a lot of my ideas.

S P: Great. Thanks Bob.

This conversation was transcribed by Jaqlyn Gabay.