



Robert Moss

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Dr. Moss is currently working with the Bon Secours Health System in Greenville, SC. He will be joining the Washington Medical Group in Washington, DC, this Fall. He is board certified in clinical psychology (ABPP) and neuropsychology (ABN). He had over 20 years in private practice in addition to academic positions, the last of which was as an Associate Professor. He has published 49 professional articles and presented at a number of papers at local, national, and international conferences. He is the joint editor-in-chief of the new AIMS Neuroscience journal. He is ranked in the top 5% of all scientists on *Research Gate*.

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: This a conversation with Dr. Robert Moss. Hi Bob.

Robert Moss: How ya doing?

Serge: So you describe, you call your approach, clinical biopsychology?

Robert: Correct. And the actual reason that I actually did that was back in 1984 when this model emerged, when I was teaching neuropsychology, was to try to separate it out from clinical neuropsychology, which is actually directed toward more assessment and treatment of brain injury or brain dysfunction. My whole area of interest has always been applying a brain model to the normal intact brain, and into psychological problems.

Serge: So what are some ways in which we could have a sense of what it's about?

Robert: Well I guess one of the best ways to kind of look at it is one of the ways I typically will explain it to my patients during the conceptualization; and the way I would typically do that is I'll first start out talking about the physiological reactions, and then I get into talking about the organization of the brain, particularly right and left hemispheres. And of course, the whole idea is I've treated so many chronic pain cases, psychophysiological cases, got cardiac cases and so forth, that I always like to have that direct tie-in in terms of the physical effects that we see tied to stress and negative emotions. The way I typically would do that is again the fight or flight system, you know this wild, dangerous animal about to attack and all these things cut out in my body, and we talk about the sympathetic nervous system activation: increased heart rate, decreased blood flow to the gut, the shaky, jittery feeling, release of adrenaline, those kinds of things. One of the keys there, as I'll explain just in a moment I'm sure, is in terms of the fact we can many times have those activated directly from the cortex, particularly the right posterior cortex, based upon memories and those things, and the person be actually verbally unaware of the activation and how that's happening.

Serge: So in a way in what you're saying, there's already the part, that part of the treatment, is already giving the patient that framework.

Robert: Exactly. That's typically done...actually when I was in practice, I was pretty efficient in terms of getting information and conceptualizing, many times in the same session. When I taught to students how to do this thing, we always break it out: we do the assessment the first session. And so it's structured in terms of the information we're gathering, but of course we inform the patient, or clients if you will, in terms of how we're going to do this so that they don't feel we're cutting them off or things. But the conceptualization is to explain how all the things have evolved based upon their own personal histories, based upon the current factors that are going on, that actually create the situation in terms of what they're dealing with. In the process of presenting the conceptualization, we're teaching the patient, we're giving them a new schema, in terms of the cognitive behavioral terminology to understand what is going on. But we're also basically teaching them, this is what we're going to be doing in treatment, we're going to be addressing these particular issues. If it's a past negative emotional memory kind of thing, we're going to explain to you how that evolved, why that is there, and then how we're going to address it in treatment. If you have loss issues, we briefly explain about what leads to the depressive state, grieving state and things like that, tied to those loss issues, or if you have an ongoing negative stimulus kind of thing, like a pain problem, that kind of thing...So we actually talk about current factors, past factors, as well as loss issues, all evolving to create, for most of the clients that I've seen, whatever their current emotional mood state may be, whether it's anxiety, depression, kinds of things. So yea, from the very get go we're actually talking about the fact of this is understanding, and so the person can not only hear logically what we're talking about, but hopefully we present enough information imagery-wise they can get a picture in their mind of the whole process here. So again that's it. And then as I say, the first step is in terms of explaining the differences between two hemispheres and how basically how they process information: the left side being a very detailed processing unit, and therefore being slower in processing speed, but the left side of the brain then controlling our ability to have spoken language and understand spoken language, our ability to read, to write, to do careful planning, those things. Then the right side on the other hand, being a much faster processing unit, but by virtue of being faster it cannot get all the details, it gets the overall scheme of things, and so then being involved in things like music appreciation, melody patterns, mechanical tasks: putting things together, taking them apart, finding our way, navigating. But very importantly, the right side is going to process the nonverbal emotional component. If you can think about the way we communicate emotions to one another, there's things like our facial expressions, our body language, intonations in the voice, and that lacks any great detail so the right side can analyze it effectively. Basically you're saying is the right side, right back side, processes emotional information coming in; the right front side programs in my own behavioral, nonverbal patterns, while the left back side allows me to understand the spoken language, and the left front side allows me to do my own speaking, talking kind of thing in terms of language.

Serge: And of course, the advantage when they communicate harmoniously, and what happens when there is less communication

Robert: Well yea, that's going to be something...in fact, when you start looking at one's history in terms of where they come from, not only does each side process the information differently, but each side is going to store its own memories for the functions it controls. That's a real key thing there, in that for example, if I learn a new word, that information's stored in the left side of the brain, and if I use that, I'll use the left side to explain it. If I form a new nonverbal emotional

memory, that's going to be stored on the right side of the brain. So any time, let's say for example we're dealing with a current day situation, both sides of the brain take in the same information at the same time, process the information semi-independently and differently, and compare against different memories in storage. So the end result is, is many times one side, the left side comes out with one solution or interpretation to what's going on, and the right side can have a different or even opposing interpretation or solution. In that case, I can verbally think one way about the situation and yet emotionally feel different about that same situation. That's that conflict you're referring to: a conflict between what the verbal, thinking aspect on the left is, versus the emotional, feeling aspect of the right.

Serge: So that conflict is going to translate into a sense of lack of harmony or congruence.

Robert: Correct. Usually in most of the patients I've seen, it is going to be basically perceived as an internal conflict as compared to if left and right, thinking and emotion are aligned, a feeling of peace or calmness.

Serge: Yea, yea. And you have an approach that says when there is an encounter, including a dialogue between a client and a therapist, there are four minds involved, and that has an impact on how that conflict can be processed in therapy.

Robert: Right, and that's one of the things when I've done training before is to kind of give, just to kind of conceptualize, or even talking with clients, if you understand that in this given room if there's two of us sitting here, there are actually four separate minds interacting. I have my right and left sides basically that are there, and you have the same thing, and it's so easy many times for us to understand that we can verbally communicate with that other person, but that's the left side of my brain communicating with the left side of the brain of the other individual. There are many times, and therapists I'm sure are quite aware of this, that I can emotionally communicate all kinds of things, and so can the client, that many times may be verbally unaware of, in terms of my facial expressions, intonations in my voice, body language kinds of things. And so, actually within a therapy situation, and process variables and things like that, the more basically I, the therapist, have my verbal thinking and emotional stuff aligned, the more I can communicate with that client of consistency, both in terms of heartfelt kinds of things that I'm saying, in addition to the words that I'm communicating. And obviously, that kind of thing can be of great assistance in terms of establishing an appropriate therapeutic milieu kind of thing to allow process to occur. But there are obviously a lot of components that are involved in terms of...and as I say, one of the things is in the very first session explaining, and for anybody who follows a systems approach and understands that kind of thing, obviously we're all a product of our own pasts, in terms of the family situation in which we were reared, the social situations, schools, those kinds of things, as we interacted with others. And the entire process is such that we're continuing to form memories as we kind of go through, we kind of determine...I guess one of the best ways to look at it is people very quickly pick up on the fact that we have a native verbal language. An example would be if I'm doing training, it's kind of like I say how many people here speak Chinese, and most of the time people are going to say nobody because it's kind of like you know that's not a language that works for me. And you ask if they speak English and the answer's yes. Well why do you speak English and not Chinese? It's kind of like it's common sense. Well of course you're brought up in the English culture and everybody spoke English and that's the language that I learned. But people have more difficulty conceptualizing in the right hemisphere we develop a native emotional language: basically this determines what feels positive, negative to us based upon the memories that we've stored. And then also in terms of how

we behave or react, in this native behavioral language would kind of translate into interpersonal behavior patterns or personality, if you will: personality programmed in from the right frontal area that controls the expression of the emotional kinds of things and so forth. And so we have a native verbal language, a native emotional language, and the client understanding kind of how this develops attachment issues early on and things like that. So again, one of the things in treatment that we do is we talk about, particularly if we're dealing with past negative emotional memories tied to relationships: mother issues, father issues, sibling issues, past relationships with spouses and so forth, is that many times one component of the emotional restructuring process that I use is to explain to the client why this person's behavior was as it is. And this is where I've done...I refer to them in there as givers and takers, if you will.

Serge: So maybe just slow down a little bit, maybe we can spend a little more time on that part, you know that native emotional language. And I think that the...you know you speak in terms of memory reconsolidation, and saying that we tend to see it more in the verbal area, but not see it as much as the same process operating in the emotional area. And maybe that might be...you know we could maybe talk a little more about that and how this applies to the emotional restructuring.

Robert: Ok. Well in terms of...yes we do things all the time with the left side, the verbal thinking side, and then when we do the same thing on the right side, we get a shift or a change in emotional reaction as opposed to a change in how I'm verbally thinking about something. And the whole concept of memory reconsolidation is actually synonymous with the same things we do every day with the left side. An example would be, let's say you have new information presented about some kind of subject, and you have not had that information presented to you before, and all of a sudden you can now add that new information in verbally, and you can gain a whole new perspective on understanding something. So now I can learn a new model for example, like we're talking about the model that I use, if I now give an appropriate explanation to the level that the person's going to comprehend it, then many times they will find "oh that makes sense, I never thought about it that way". And that "ah-ha" kind of experience verbally happens all the time, and this is how you're reconsolidating those verbal memories by adding in new information, you have a new perspective. And I would say that the front side of the brain is involved in all the action that we do, and so that occurs in the left front side of the brain. On the other hand, when we start talking about emotional memory reconsolidation, we're talking about using the frontal lobes on the right side, and basically developing then new perspectives or a new understanding in terms of this same kind of thing. There was a very interesting article, for example, that was done just in terms of using exposure procedures, in which they were doing fMRI work, and they were just...they had individuals who were phobic of spiders, and they did simple exposure kinds of things, and found that during the acquisition or the improvement that they had an increase in activation of the right frontal lobe, and the person therapeutically showed the improvement that they had less anxiety apprehension tied to seeing the stimulus of the spider and so forth. So you're getting, in this case, the activation in the right frontal area, and if you kind of think about it, I'm forcing myself to kind of sit here and watch this, but I'm exerting a feeling of power and control; I'm actually feeling more control in terms of my being able to do this. So the end result is, is that then after I've done that, the next time I see that presentation of the spider picture or the spider itself kind of thing, then I don't show the same degree of anxiety or the physiological reaction or the perceived anxiety.

Serge: Right, and so what the fMRI shows is that the learning has occurred at the right brain level, and it's not verbal learning. This is the emotional experience.

Robert: That is correct. Correct. And that's the whole concept behind all the processing through of things, the exposure procedures, these kinds of things, is you're actually, based on the theoretical model that I'm using, you're seeing activation in the right frontal area in the person who's developing, and we haven't talked...the whole concept is is that the basic unit gets involved in terms of all this cortical processing, it's called a cortical column, but you're actually forming new columns in the frontal lobe there, and these are action columns, basically meaning that they basically are the ones involved in my behavioral expression of things. And so basically I feel more in control at that point in time, and I feel less apprehension and anxiety.

Serge: Well maybe do you want to say a little bit more about these columns.

Robert: Well, if you kind of think about it, people are more familiar with computer terms like bits, a binary unit, and we talk about the bits that are there: it's either on or off kind of thing, and it's the same kind of concept that I'm using here at the cortical level. Let's say for example, and we'll probably talk about somatosensory stuff: feelings of touch, movement, those kinds of things, when they arrive in the brain, they arrive right behind what's referred to as the central sulcus in the parietal lobe, that's the primary receiving area in terms of the sensation. And what happens there is, is that theoretically, is you have a column activated for each of the points on your skin or things like that that are touched. People have seen in introductory psychology this homunculus; this is that homunculus but you kind of have your whole body parts and things like that aligned on the brain. So again, you have a sensory homunculus and a motor homunculus that basically that you can kind of see. So it's kind of like a point to point kind of thing, and so the information that arrives at the cortex is an exact replica to a large extent of what's existing on the body, or in terms of what I hear, it's an exact representation tonotopically in terms of the frequency, or in terms of the visual input, it's going to be a point to point thing in terms of exactly what my visual field is. So when it arrives at the cortex, each of these points is going to activate a column; the sensory information comes in. And then basically when those columns are activated, then they send out their information; then where their information crosses becomes another column, so this is how learning a memory actually occur. So that more or less then, let's say for example if I have a somatosensory memory, say a traumatic memory of somebody holding my wrist or something like that, and it was tied to a trauma that occurred with me, then what happens is that when my wrist is actually held by someone, it activates then the columns in the somatosensory area, which in turn reactivate the memory tied to the situation. So therefore, we're just simply talking about a mechanism by which these bits or binary units of information are activated, and for each one that we have in the back side in the sensory column, you're going to have a corresponding action column in the frontal lobes that controls my action. So it's kind of like, in terms of the frontal columns tied to what I'm speaking to you right now, those are located in the Broca's area, people are perhaps familiar with that term, but it's basically if you kind of look at where it's located, it's going to be sort of the temporal area, kind of corresponding to right before you get to where my eye would be and things like that and the temporal kind of thing. So that's going to be the area where I form those action columns tied to being able to say words, or to plan my saying of the words. And this is what I refer to as the verbal interpreter, this area, the left frontal area is actually when I'm talking in my head, that's where the action's going on.

Serge: And so it's going to have more access to the information that's coming from the same area of the brain.

Robert: Exactly, and that's the whole idea of consciousness. Most people kind of think about consciousness as being a verbal awareness of what's going on, and that's really a pretty poor explanation of consciousness because we're just talking about one restricted area in the brain, even though it's a very powerful area and it kinds of separates out humans in many cases from the other primates and things. So the interpreter basically kind of explains everything, it tries to explain everything, but it has access to a limited amount of information. And particularly, it has very little access to any information going on in the right back side of the brain because there's no direct connections between the two areas.

Serge: So can we talk about verbal consciousness as opposed to an emotional consciousness?

Robert: Sure you can, all the time. In fact, again, this is one of the key concepts that I've tried to communicate in some of the articles that I've done, and most particularly, I was kind of trying to emphasize this in the new *Therapist* article that I just did...that came out last week that basically tries to explain, consistent with psychodynamic theory, that we have this verbal consciousness kind of thing, but we also have an unconsciousness. But it's not unconsciousness in the fact that it doesn't have complete control over my behavior at times, it's just that I'm not verbally aware of that kind of thing in many cases. This is the thing, say for example you were dealing with borderline behavior kinds of stuff, where a person has great difficulty regulating, they many times will kind of seem to lose control and when they're losing control, that's actually the right frontal side actually assuming control at that point in time, that's controlling the expression, even though it's an inappropriate or perhaps overly aggressive expression. And so therefore, it's kind of like that's not really unconscious in the fact of behaviorally, the person is actually very conscious of what they're doing, it's just that it's not under the verbal awareness, verbal control, at the time that it's occurring, and basically it assumes control in terms of the expression. And again, it goes back to the fact that either side of the brain in the front side can control our behavior any given point in time.

Serge: And so, hence the effectiveness of nonverbal approaches or role plays or experiential approaches in dealing with those areas.

Robert: Exactly. And that's the whole idea is, is the way you engage the right side of the brain are experiential techniques as you're talking about, visual imagery is very effective in terms of accessing the right hemisphere; and so a combination of experiential techniques, role reversals, role play kinds of things, things such as using visual imagery, this can go a long way. And I guess I should mention one of the key things about past negative emotional memories, the ones that come back and really have a bad effect on us, are those that we store with feelings of lack of control, or somehow being personally inadequate or personally responsible. And so the more lack of control I felt at the time, and the more personally inadequate I felt at the time, the more devastating those memories will be when they get reactivated. When using experiential techniques and using imagery, the person can actually go back, address those memories, and use that to actually establish feelings of control and adequacy kinds of things. So again, if you really kind of watching...Fosha's Accelerated Experiential-Dynamic therapies, Greenberg's Emotion-Focused Therapy, and so forth, if you really go through and you look at all the descriptions of individuals that you know you see this miraculous change in therapy, then you'll see that they're actually...when you're dealing whatever that subject area is, they typically are going to experience anxiety, then it's going to give way to feelings of anger, and then if the anger is actually addressed and is expressed, then it gets to a feeling of mild sadness/relief kind of thing.

Serge: And that's done at the experiential level, that's not conceptualized at that stage.

Robert: Well, and actually, it's possible to do it all simultaneously. Again, you don't have to do either or. You'll be presenting new schemas throughout the entire time, but at the same time, you're actually engaging the right hemisphere using the experiential or imagery techniques. And again, it's not a question of either or, it's and; you're doing all of this, and you know this one and this one.

Serge: So to use your forebrain analogy, you know one of the things that happens in presenting the verbal information is that the therapist might be able to pick up on the nonverbal and express it in a verbal way, in a way that helps the client make the connection.

Robert: Well that and, if you actually...when I'm doing therapy I'm doing a lot of imagery induction kinds of things. An example would be I'm giving you pictures in your mind based upon the description, and when I basically am using words but you now have a picture in your mind. When you form that picture in your mind of what I'm describing, then now all of a sudden we've engaged the right hemisphere via the imagery kinds of things.

Serge: So maybe let's use one or two specific examples.

Robert: Okay. An example would be in terms of an emotional restructuring session kind of thing, toward the end once we've already addressed that we've had the emotional release and things like that, I'm trying to present a picture of the person that we're talking about, and this was tied to past relationships. Let's say for example, it's a parent issue. We're talking about the parent and I want to communicate to the individual this person did only what they were capable of doing, yet at the same time, you know they have no choice but to actually cause harm kind of thing to me. And so therefore, as I'm kind of going through and giving the description, I can kind of say, well this person's similar to a shark swimming around in a pool of water over here. That shark is you know always...sharks are always eating, they're always hungry, they always have to gobble up. If I put my hand into the water to try to console the shark, it's going to bite my hand off. Not because the shark is evil or bad, but because the shark is hungry, empty, and this is all it knows to do to fill its emptiness. And so in essence what I've done there is I've communicated oh it's not that the individual, in this case the parent or the other relationship person we're talking about, that is bad, it's just that they're doing only what they're capable of doing. Yet if I engage them at that point in time and try to do something to help them out, they're going to hurt me kind of thing.

Serge: Yea, yea but you know it's also you're not just explaining it but I think the metaphor of the shark and the hand being bitten which is very powerful emotionally but really gets you to have that emotional reaction. And so you don't want a shark to bite off your hand, and so it's certainly not something you want, but you can also understand that it's a shark.

Robert: Exactly right. And so you keep your hand out of the water, which then sets the stage throughout...again, there's multiple processes going on here, but in the future then it's kind of like if I engage this person again, I now have this picture in my mind is you're not capable of being different than you are, but I've got to keep boundaries here.

Serge: Yea, yea but it's also...it's interesting because it's another definition of Meaning Making, so that image, that analogy, is actually creating a new meaning.

Robert: Exactly. Again, constructivism kinds of things is going on pretty consistently throughout, but if indeed you could actually shift and...I guess the best way to look here any kind of exposure procedures, the emotionally restructuring thing tied to relationships, emotion-focused therapy, whatever, in essence if you're being effective at addressing these past negative emotional memories, then you've neutralized them. In other words, the memories are still there, but if they get reactivated, they don't reactivate with any kind of negative emotional sting tied to them. So you can...actually the whole concept here is we're neutralizing these things, and so if they're neutralized, in the future if a person then comes into contact with a person or situation that reactivates that memory, they find themselves feeling differently in reaction to the situation.

Serge: So to use the explanation through columns, is it in a way that you've built a new column in the emotional part of the mind, of the brain?

Robert: Yea, and that's actually the right frontal area, and again think about the fact of if I'm using new visual imagery to give you a picture, I'm doing that in the right back side of your mind as you're picturing this. But whenever you have a new complex column back there that represents a lot of information sensory-wise, it automatically activates a frontal column. This is basically then the action column tied to that, and this is how we can actually have what's referred to as top-down processing. I can use the front side of my brain to control the columns in the back side of my brain as I access information or manipulate that information.

Serge: So what about situations of trauma, where say you know some kind of dissociation where the memories are directly activated at a much lower level, say at the amygdala, and it you know bypasses or goes faster than say you can access the more evolved part of the brain?

Robert: Okay. Well, first off, and again this goes back to the work of Joseph LeDoux and so forth, you actually do have a direct...any time you have sensory information coming in, it can actually have a direct connection back to the lateral amygdala, that's where the information goes, and the output from the amygdala comes from what's referred to as the central amygdalas, so there's different areas of it. But also, in terms of the sensory thalamus, this is your fast route you're talking about: it goes from the thalamus back over to the amygdala, which then activates the sympathetic nervous system. And again, the direction that it goes is through the hypothalamus and then it activates the spinal cord, and then the sympathetic ganglia. However, at the same time, that same information that goes to the sensory thalamus now goes to the cortex as well, to the primary receiving area at the cortex. When it goes to the primary area receiving at the cortex, that also projects back down to the lateral amygdala, and so therefore, the fast route and the slower route through the cortex, both connect right to the same area in the lateral amygdala. Okay? So now, when you form that memory then, what happens is the memory is actually formed at the cortical level, and so therefore that's the reason that you can have a complex sensory memory. It's not typically just you know somebody touching my skin in a certain way, I'm also going to have the auditory things: what they said and things like that, and the intonations in their voice, or the things that I saw. So we have vision, sometimes we have smell involved, the olfactory kind of stuff; that's the reason people who have trauma say tied to burning, where there's flesh burning or something like that, they have a very strong olfactory memory that comes into play. But all the memories are actually stored at the cortical level, and the cortex then can directly activate, if you will, then the amygdala, the lateral amygdala, which activates then the physiological components. So it's not a question of memory being stored subcortically, the memory is at the cortical level, and we're talking about the time that it takes to reach the cortex: we're talking milliseconds, I mean we're talking fractions of seconds

here. And so that's the reason when you talk about the fast track versus the slower cortical track, that we're not talking about the fact, in terms of the memories being stored subcortically, we're talking about them being cortically. The thing about that then...the really nice thing for us psychotherapists is that means they're accessible to what we do. If there was all subcortical kind of storage, then you know you'd have to kind of think oh wow that's a boom for psychopharmacology because the only way to get to that stuff is either through psychosurgery where you're going in and do something in there or you actually have to use chemicals to get to it, but we're talking about these complex sensory memories, they're stored at the cortical level.

Serge: But what's the difference between say the memories that are fragmented, that are not integrated, that you know...versus memories that actually has the ability to be reconsolidated through experience?

Robert: Well think about it in terms of, as I've already mentioned to you, in the left front side of the brain that's where we do all our talking to ourselves in our heads, talking to other people. When we start talking about fragmented memories, we're talking about the fact I can't verbalize to you all the details, okay? Many times what you're going to find is, and if people do any kind of work where they process through things, after you start processing through whatever particular memory that person may have, you're going to find they pull back a lot of details that they weren't able to do initially when you started talking about it. And it's not necessarily a question of the memories being fragmented, as much as the fact that if they get activated it creates negative emotional states so I start to avoid the activation of those memories and any great detail. So therefore, it's kind of like oh I actually have a lot more that is there that I'm not verbally aware of. In the process, this kind of thing, is we have the person go through and talk about it, and the trauma, whatever it may be, then they will typically if they start going through, if you ask them questions and things you'll further enhance it. What was happening at that time in terms of the weather: was it sunny or was it cloudy? What kind of clothes were you wearing? Were there any smells or things like that? So you can actually bring in the other sensory components, and you can actually see they can many times start to recall things they didn't. And one of the things is they get it sequentially down; it's kind of like what happened next. Many times, the first time through, things will be completely out of sequence in terms of what happened, and later as they're kind of talking about it they'll start oh no that happened here not over here. And so therefore, they'll get it more sequentially. And again, I don't want to get into too much detail in terms of the design of the brain here, but the verbal talking thing, this is a sequential processing unit; and so therefore it's kind of like I get it into this and then this and then this kind of thing. So in essence then, it's not so much the fact that the memories are fragmented in terms of where it's been consolidated; they are fragmented in terms of the information accessible by the verbal interpreter in the left front side of the brain.

Serge: Right, right. And so something like SIBAM or other approaches that would you know bring the focus on something that's not as activated, you know is a way, a road map, to actually getting more information into the verbal interpreter.

Robert: Yea, and also though, any time, and this is one thing...another point I try to make is when we're engaging in conversation or talking with a client in there, that person many times may be talking about something that is relatively uncomfortable, but they continue talking about it anyway. Well, they're actually doing a form of exposure there; they're actually you know sitting there in the process talking about these things, and that's actually as they're doing that, that involves the right frontal area assuming control to let me sit here and process through and talk about this thing. So

we're actually forming a new frontal column kind of arrangement, if you will, in the right frontal area just by sitting there talking about these uncomfortable things. Over time, we typically will find out it has less power over me, I feel more you know like, it's not as...it's not as much as the fact that I got more control over it. So we do these things all the time that are going on in the process of therapy, being unaware of the fact what's going on, but key is we want to involve as much as we can in terms of both the left frontal area and the right frontal area to have the most effective therapy, and to have both the right frontal and left frontal align with one another. You mentioned dissociation a moment ago. If somebody has some particularly, and we see this in acute stress, let's say I'm involved in a nasty tornado situation and I felt like you know everything's completely out of control. Immediately after we see that acute stress kind of thing; I have so much negative emotional stuff being processed and going on in the right hemisphere that the left verbal talking side over here can't handle it. And so each frontal area has the ability to inhibit the other side. And so therefore, I can verbally many times inhibit the emotional thing that's going on with the emotional expression, just as the right side can inhibit the left frontal area, and that's that detachment, depersonalization kind of thing where you have both front sides here actually inhibiting one another. And again, in some of the depression literature you'll see they talk about the EEG abnormalities that are there, such that they basically see that the left front side that's going on has decreased activity in depression, the right front side seems to be more active, but both sides are actually decreased in their overall activity level. If you kind of think about what that actually means is, it's just simply saying is that well gosh you know the right frontal side is more active here, it's cutting off some of the activity on the left, and so therefore that's just the reason in depression, or particularly to high anxiety, the right being activated suppresses the left so I can't think as clearly; my thoughts get more jumbled, I become more forgetful of names, numbers, details, I put things down can't remember where I put them. So therefore, it's kind of like it's inhibiting the left side. I guess the best example I can give you are people that are test phobic: they basically go in to take a test, and they logically on the left side of their brain they know all the information, but they've had all these past negative situations in which they've had failure in the test situation, and as soon as they go in the classroom it activates their right hemisphere in terms of the memories of all these past times that I failed at these tests. And then what happens is ____ the right side, which now suppresses the left front side, and when I'm trying to take the test, I can't find the information; it suppresses that. Let me leave the testing situation and all of a sudden, there's all the answers.

Serge: Right, right, right, right. Or actually a client of mine who's a performer and has similar struggles with being on stage.

Robert: Exactly. I can't remember my lines kind of thing and so forth.

Serge: So you know as you're talking, what comes up is not just you know the specifics of what you're saying, but something about seeing psychotherapy as a process, and the observations you make as being a way to give some more dimension, and ways to use this process to advantage as opposed to simply that rough sense of it's a process.

Robert: Correct, and that's one of the things when I was teaching some of the students and so forth, there's so many effective techniques that are out there, but if you kind of read through a lot of the things: emotion-focused therapy, Diana Fosha's stuff and so forth...what they're doing is kind of like we know there's going to be something there, and these are the indicators when we start talking about something...well what I'm talking about here is we understand the way the brain is organized, we can be much more surgical in terms of what kinds of things we can identify from the

get-go. What are these areas that we need to be addressing? Like past negative emotional memories in that first session, if I see that there were issues tied to mother/father kinds of things that were influential, it's not just them, it's typically going to be things perhaps with siblings, or things like a teacher that you had, or being picked on by peers or things, or this first relationship you had that was so negative. There's all kinds of memories that will be there. Well we can kind of target and understand hey we have each of these things that are there, so we can go in and target those things specifically as opposed to kind of letting it evolve in the therapy situation and see what comes up and if that's charged material we know we need to do something with it when it comes up.

Serge: Yea. So there's a similarity, I don't mean it's the same thing, but a similarity with a diagnosis in terms of personality types in the sense that you identify in a way the dynamics that are going to be underlying the person's actions into the world.

Robert: Correct, and again that's the reason when you start looking at it...most of the time just about, I've very seldom have ever had anybody come in to see me in terms of being in therapy that says that I want to get to know myself and get better. Just about everybody I see and have seen comes in because I have negative things going on that I want to turn off, deactivate. And so their goal is to somehow decrease the negative mood state; what we all know that in the process of things we can see a lot of new making that comes out of this, but the primary thing they're coming in for is to try decrease the negative. And when you start looking at negative mood states, whether it's depression, anxiety, whatever it may be, then in essence we're talking about the fact of you can have current factors that can lead to it: I have this pain problem, I have these difficulties in my relationship...you can have past negative emotional memories they can contribute to it if those were to get reactivated by the current day situations then we're going to see that brings on additional negative mood. And then in many cases we'll have loss issues; if I have a chronic pain problem, then I'm typically not going to be able to continue doing the same level of activity that I used to do, so now I have a loss of the ability to do that or loss of ability to you know have my job thing. So in essence here, we can actually look at current factors, past emotional memories and loss issues, and we can already have a picture in terms of the areas that we're going to need to address in terms of this negative mood state they would like to see changed. So again, it gives us a means by which we can kind of start to isolate what are the areas that will need to be addressed. And I guess the other thing is is that, if indeed, I told you about the cortical column, if that is the correct level, that everything occurs in the cortex, it actually takes us in...and I'm writing a paper right now and I've had a brief paper where I've suggested this, is that we can start to understand things like Alzheimer's, autism, and schizophrenia, where they're talking about these being disordered circuits in the cortex and to cognitive difficulties or memory difficulties, well these would actually be subsumed under the fact that you're actually seeing disruption in the dynamic formation of columns. In other words, if I can't form the column, I can't form the memory. If the columns can't form, then I can't learn these things. If the columns don't form, then I have disjointed circuits in the cortex and so forth. So again, we're talking about the fact of we can understand these very, what we would consider severe mental illness kinds of things, but we also relate it to depression, anxiety. Again, we get to the same level, but the cortex does not function independent of the subcortical areas, including the amygdala, including the hypothalamus and so forth, including the mesolimbic reward or dopaminergic system and so forth; all of the things are you know interconnected. But the key is, in terms of therapy stuff, we are creatures who have learned all kinds of things, both in our social interactions, how we control the world around us and so forth, and these are the ones that occur at the cortical level, and those are the ones that we primarily can address in therapy, including in terms of constructivist kinds of things, making meaning out of things in terms of also in terms of

being able to tolerate things in terms of the mindfulness, acceptance kinds of therapies. In those kinds of things you're actually teaching the verbal interpreter on the left to not judge the stuff going on from the right hemisphere, and you're basically saying hey it's ok not to judge it, it's ok just to let it be, it is what it is kind of thing.

Serge: So the experience can be integrated.

Robert: Exactly. Everything can be integrated, and the key is that you want to have the thinking and the feeling aligned, and if you do that, it's kind of like I have a sense of peace, and the end result is I can have negative things going on in my life, but that doesn't mean I feel out of control. It doesn't mean that I feel this sense of internal conflict. If I have that internal peace and the right and the front sides are actually aligned with one another, I find that many times through all the tumultuous kinds of things going on, I can still have that sense of internal peace.

Serge: Thanks Bob.

 *This conversation was transcribed by Tanice Prince.*

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