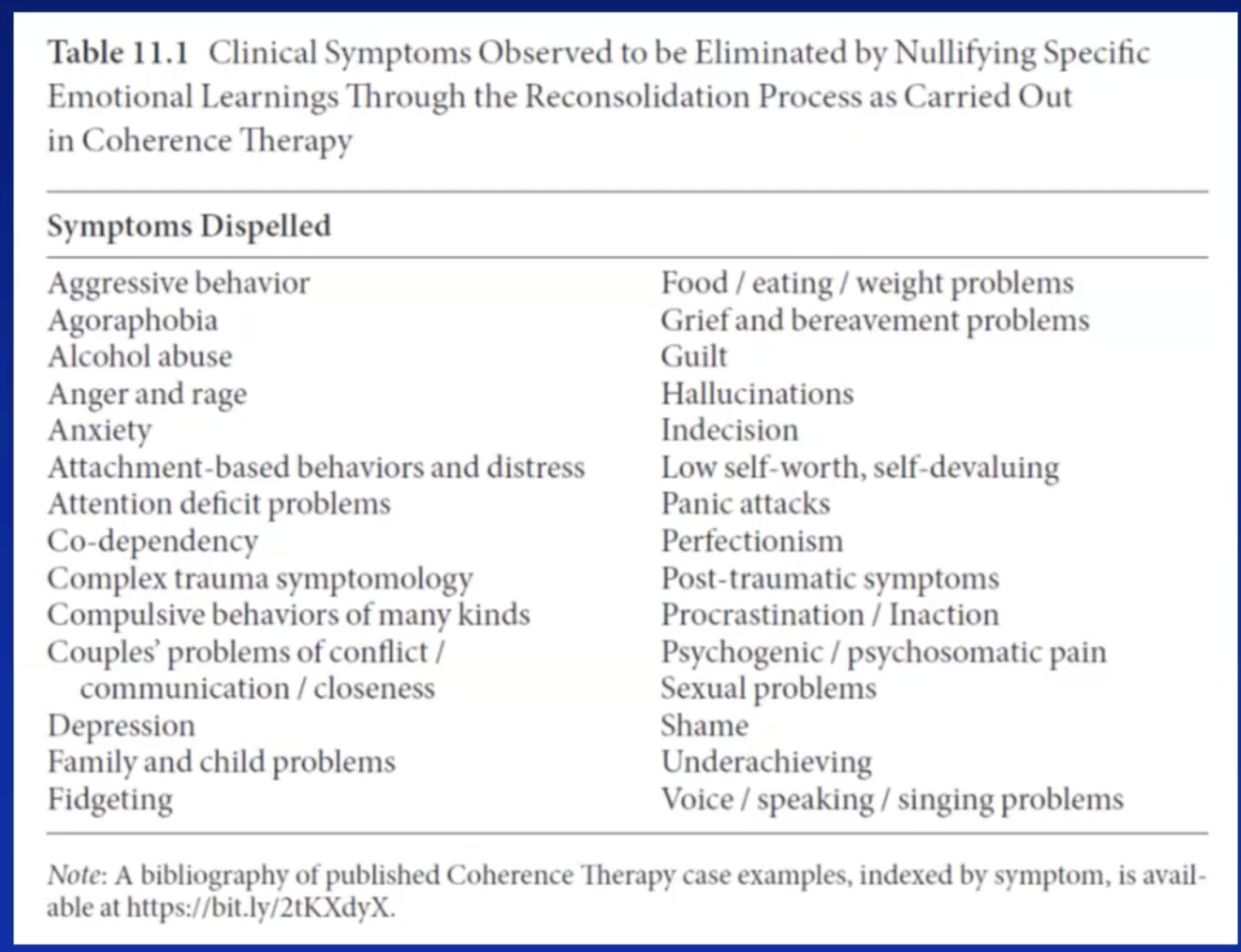
Lecture 9: Therapeutic Implications of Memory Reconsolidation

We are going to be talking about different modalities as it relates to memory consolidation. Our ultimate purpose in this course is to really understand how this all works specifically about psychodynamic psychotherapy and about psychoanalysis. This is a therapeutic implications of memory reconsolidation. Based on the way things evolved during the course I thought I was just going to talk about therapeutic implications in one lecture, but I decided to divide it up. Last week we talked about the importance of emotion processing. Now we're integrating this with a memory reconsolidation perspective. One way of thinking about it is that emotion processing an increasing emotional awareness is necessary, but the beauty of the memory reconsolidation perspective is that it provides the specific context where the person has difficulties and where the emotion processing and other changes need to be worked out. We're going to be talking about several things today. We will speak in general about what memory reconsolidation as a change process in psychotherapy. We will discuss the basic science of memory reconsolidation. Proving that a change in psychotherapy is due to memory reconsolidation is very difficult and hasn't been proven yet. Moreover, not all psychotherapy modalities work by memory reconsolidation. I'll say a few words about CBT. For those of you who have looked at the 2015 article in behavioral and brain sciences. The people who were least enthusiastic about our perspective were people from CBT. It's not that memory reconsolidation is impossible in a CBT context, but it's not what's being targeted. Nevertheless, if we're interested in enduring change, memory reconsolidation is a potentially unifying paradigm across modalities. I'll try to talk about several diverse modalities quite different from one another that all may work by this mechanism., We're also going to focus on psychodynamic psychotherapy and psychoanalysis. We're going to talk about memory reconsolidation as it applies to time limited dynamic psychotherapy. In the case of Becky that you've heard about, you're going to see Becky today because we have the Becky tape. I am going to show two 4-minute segments. We're very fortunate that Hannah Levenson is with us online and can answer questions and comment. Then, we are going to spend a fair amount of time talking about some psychoanalytic case material that I've presented at psychoanalytic institutes recently in Germany and talk about how we can understand the change process and how interpretations work from a memory reconciliation perspective. Finally, depending on time, we will discuss a few slides on Freud's concept of “nachtraglichkeit,” and how it is a concept that he put out there that wasn't adequately developed, and I think there's a lot of potential for future development.

Jeffrey Smith, who is a psychiatrist in New York and head of the psychotherapy caucus of the American Psychiatric Association, and President elect to the Society for the Exploration of Psychotherapy Integration, points out that we have hundreds of different kinds of psychotherapy, but there's maybe this common infrastructure that really explains change across all modalities. There is memory reconsolidation which is updating the problematic memories; there's extinction which suppresses them; and there's new learning which out competes old problematic learning. Those are3 final kind of pathways. Memory consolidation is not the only one, but it's the only one that changes the pathogenic memory mechanisms. The other two are intact and create vulnerability to relapse. And then you call for the 3 plus 4 infrastructures for facilitating factors: arousal regulation, motivation, safety, and relationship. These are the common factors that would be present across all modalities.

Here's my take on cognitive behavioral therapy. Currently, I think CBT is the most popular method of psychotherapy. I think that's because people are coming in with symptoms and it really helps people with symptoms. It is typically a relatively short-term treatment’s focuses on reducing symptoms or maladaptive behavior, and it focuses on what maintains symptoms, not their origin. As a matter of fact, people in CBT say, we can't possibly understand where the symptoms and psychopathology come from, so let's just look at what maintains the pathology. When looking at patterns and social relationships, the internal working model is not a major focus. Importantly, CBT treats emotional distress like anxiety and depression as a symptom, and not as a mechanism of change. When I'm supervising residents who are learning CBT, and we're also trying to train them in psychodynamic psychotherapy. In CBT, they’re trying to get rid of distress and in emotion focused therapy, we want them to go into the distress. In some ways they're kind of contradictory approaches and difficult to sort out. I would say that CBT capitalizes on the two other mechanisms of the final common pathways. Inhibiting symptoms, for example exposure therapy with extinction, and learning alternative behaviors. Therefore, memory reconsolidation doesn't fit super well with CBT, which is not to say that it can't happen, but it's not a focus. I tried to get some handle on the literature, it's difficult to be systematic. I think this is representative in terms of initial response rates of anxiety, and I think it holds for depression. You get about a 50 % response rate. In terms of relapse rates, I found this one study of longer term follow up at 6 years of relapse of 40%. If that's the case, then we have enduring change for 30%. Improvement is important, people feel better, and they can come back for treatment. But again, we're looking at the question about enduring change.

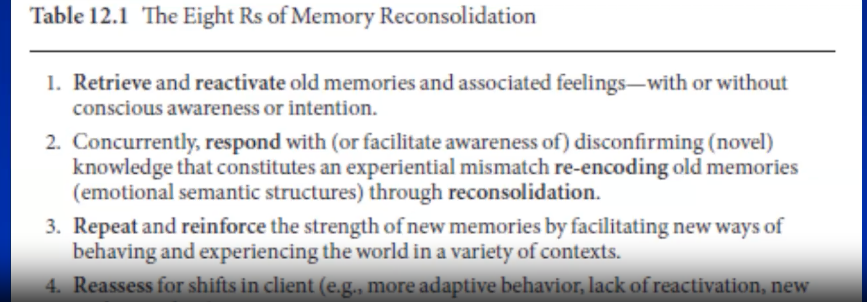
Meryl Kindt in Amsterdam have tried to create changes in psychotherapy from memory reconsolidation perspective and haven’t yet been successful. This is what they say is necessary. There are 4 steps. You must have an interaction between reactivation and manipulation. To demonstrate that you must have the reactivation without the manipulation, the manipulation without the reactivation. And then the combination of the two. That's great if you're doing an experiment with animals and maybe even healthy people, in psychotherapy that's hard to do. Then the time dependency. You must intervene within 4 to 6 hours of reactivation. Experimental studies show, you can reactivate the memory beyond 6 hours and then manipulate. However, it doesn't have the same effect because that reconsolidation window has closed. You must intervene in this window. With memory specificity, you must do these manipulations with one memory and not another, and show that the memory that you manipulated changed, and the one you didn't manipulate didn't change. This is hard to do in psychotherapy. The dissociation of immediate and delayed effects. You can do your manipulation within 6 hours, and on the same day you should check to see whether things have changed or not. It should not have changed right because sleep is necessary for reconsolidation. You must demonstrate that the altered memory is not only present the next day, but in long term follow up. This is difficult in the context of psychotherapy. What can we do? So, here's an example of my idea about how you could demonstrate the three steps of memory consolidation I talked about in a case report. You must establish the stability of the current maladaptive pattern, you must retrieve autobiographical episodic memories that contributed to what is now personal semantic knowledge about the self-that’s expressed in beliefs and procedures in multiple settings, and you must recall and experience the old memories and the painful affect. That is step one. Then there is step two, which I've highlighted as corrective emotional experience. It's bringing in new emotional information. You must specify the new information that's introduced, it might be facts or emotions. The information might be provided by the therapist or the client, and it must be inconsistent with what was previously learned and be unexpected, and therefore create a prediction error. Then, very importantly, you need to juxtapose the old and the new. New information must be experienced while the old memory and old feelings are actively recalled and experienced. For step 3, you need to have repeated experiences of construing and responding differently, and then demonstrate stability of the more adaptive pattern in long term follow up. This doesn't meet all of Merlyn Kindt and colleagues’ criteria, but it's a step in the right direction.

I want to introduce you to Bruce Ecker, who deserves tremendous credit for being the pioneer who first talked about the importance of memory reconsolidation, neuroscience, and psychotherapy. This book, “Unlocking the Emotional Brain,” was published in 2012, but he started giving major lectures on this in 2006, and remember it was only in 2004, that that native paper came out. I admire him very much. This table is taken from a chapter in the book. What he's done is produced a whole series of case reports demonstrating erasure of the problems. It's quite a list of different kinds of difficulties. I look to see if borderline personality disorder is on there ,it's not, but attachment, basic behaviors and distress is listed. Here is a case vignette that's included in the chapter that I find compelling. He calls his therapy coherence therapy because he's trying to align the implicit emotional learnings that are the problem with conscious, explicit understanding. This is a 51-year-old man who came to therapy because he was dissatisfied with his occupational accomplishments and his salary. He had a history of changing jobs every few years. So, Bruce used the technique that I think is very clever. He asks the patient to imagine what it would be like to not have the symptom of changing jobs every few years, and when he did that this produced anxiety, and this was his way into figuring out what the implicit learning was. And I think that that's really kind of instructive and fits with the idea that we're recurrent maladaptive patterns involve keeping intolerable emotion out of awareness. If you don't have the symptom, then the intolerable emotion starts coming back. Well, what did he find out? The anxiety was linked to the memory of his father, who worked in a factory for 30 years or more. His father's job provided adequate salary to support the family, there were several children and a wife. But the father was continuously miserable. It was not uncommon for the father to come home and say, never stay in a job for too long. Having identified the target problematic implicit learning, the contradictory information was identified. You need to figure out, first, what's the target learning, what is the problem. You need to find information that contradicts it, and so in his case, there was some teachers who had been in their job for a long time, and they were gratified. Bruce then engaged this juxtaposition step check to the target learning and contradictory information and to really experience it. There was a successful outcome and the patient ended up being happy as a college teacher at a community college at 6 years follow up. Now this all happens, in the domain of 5 to 10 sessions. He is really arguing that it's leading to permanent change, and this is a proposed universal template for transformational therapeutic change. He says there are these 3 phases. Preparation phase, you must identify the symptom (i.e., changing jobs). The retrieval of memory contents generating the symptom, the target emotional learning (i.e., This is what father said over and over). Finally, the identification of contrary disconfirming knowledge or experience. So that's all preparation. Then he intervenes with what he's calling the erasure sequence. You reactivate the target learning, destabilize the target learning by activation of contrary knowledge that creates a mismatch with a target schema. He thinks that to destabilize that learning, it needs to be confronted with prediction error, this contrary information. Nullification of the target learning, a few repetitions of mismatch for counter learning during remainder of session. Then there's the verification of the target learning erasure. You have symptom sensation, non-reactivation of the target learning and effortless permanence of the change. I've never actually tried to do his exact procedure. So, in his chapter in our book Bruce listed what he calls areas of convergence and divergence between what he wrote in his book in 2012, on what we wrote in 2015. I think the beauty of this is that we developed this kind of independently and came to the same conclusions which I think is remarkable. Some convergences are lasting changes due to memory reconsolidation; the interaction of episodic memory, semantic memory, and emotion in implicit emotional learning is the critical mechanism in symptom creation and in the change process in psychotherapy; he has basically held that this is a paradigm for integration and unification of the psychotherapy field. We were making claims along those lines in the 2015 paper as well. Where do we diverge? There are three areas. The first is destabilization. What is necessary for destabilizing the target memory. I've worked closely through the years with Lynn Nadel, who's been at the forefront of memory research for the past 40 or 50 years. Lynn created the multiple trace model, and they held that it was reactivation of the memory alone is sufficient to destabilize it and put it into the labile State. Bruce quotes various evidence to say that that's not sufficient. You must be exposed to prediction error to destabilize the target learning. I think that when it comes to the process of corrective change that it's a moot point. A corrective emotional experience is a prediction error. It's a correction. It's inconsistent with what's expected. I can tell you that Lynn Nadel and Bruce Ecker had extensive conversations and they didn't change each other's minds. I was thinking about the Nader study where there was fear conditioning with a shock and a tone. You play the tone alone, and then you inject the neomycin, and the memory goes away. I don't see any prediction error there. Is the counter learning, factual, or is it emotional? Of course, we have emphasized that the new information is emotional. He would say the core of it is factual. In the example that I gave, the father said, don't stay in a job for a long time. That's a fact. It’s not emotional per se, but it obviously carries with it emotions. Hannah Levenson uses the example of a man in therapy who thinks back to his tyrannical father and blames himself for not standing up to his father at the time. Hannah says, you were just a child. That's a fact. To me that carries a lot of emotional weight when you hear that statement. Bruce says, well there's a few milliseconds difference. That's the nature of the difference that we have, it's small. Then, the third point is, is emotional arousal necessary for memory reconsolidation. We had a private conversation about it, and I said that I'm only talking about reconsolidation in the context of psychotherapy. Of course, you can have reconsolidation, that's not emotional. For example, when you learn one list and you learn another list at the same time, that's memory reconsolidation. My point is that we agree on so much, and we differ so little. It is kind of independently developed, I think it's interesting.

The potential for unification of the fragmented field of psychotherapy. I've just listed a few of the types of psychotherapy where memory reconsolidation may be relevant. Coherence therapy is a very structured approach that Bruce Ecker has developed. Emotion focused psychotherapy, gestalt experiential tradition developed by Less Greenberg, two chair work, empty chair, accelerated experiential dynamic psychotherapy by Diana Fosha really, emphasizing support and presence of the therapist to help in emotion processing. Schema therapy, rescripting therapy, these all may work through this mechanism. I'll say a few words about Eye movement desensitization and reprocessing (EMDR). Psychedelic therapy, propranolol assisted memory consolidation, psychodynamic psychotherapy, and psychoanalysis. EMDR it's basically as a treatment for PTSD. and the idea is that you activate the traumatic memory, and the original model had the therapist guiding the patient to move their eyes back and forth. The early thinking was that may be like rapid eye movement sleep while you're awake. It was produced a change in the PTSD symptoms, and it's subsequently been found that you don't necessarily have to move the eyes. It can be other repetitive movement. The critical component is, you activate the memory, and then you're doing something else that maybe kind of distracting and maybe dampening the emotion. Francine Shapiro, who is the person who developed EMDR by sensitization reprocessing, says the basis of clinical pathology is hypothesized to be dysfunctional stored memories with therapeutic change resulting from the processing of these memories within large adaptive networks. Unlike extinction-based exposure therapies, memories targeted in EMDR are positive to transmute during processing and are again stored by a process of reconsolidation. I had the opportunity to give a long talk on memory reconsolidation to the Neural Psychoanalysis Association a couple of years ago. Someone who practices EMDR In New York said, I agree, this is this is how it works. Hallucinogen and psychotherapy are kind of a broad field, but it's an exciting area. What I find exciting is the treatment of MMDA assisted psychotherapy for PTSD. I'm just going to read this to you. “MDMA assisted psychotherapy with the treatment of PTSD has recently progressed to phase 3 clinical trials. This is 2018 and it's not fully approved yet, but it's getting there. It received breakthrough therapy designation by the FDA. MDMA used as an adject during psychotherapy sessions has demonstrated effectiveness and acceptable safety in reducing PTSD symptoms during phase 2trials with durable remission of PTSD diagnosis in 68 % of participants. The underlying psychological and neurological mechanisms for the robust effects in mitigating PTSD are being investigated in animal models and in studies of healthy volunteers. This review explores potential role of memory reconsolidation and fear extinction. MDMA enhances release of mono amines, serotonin, norepinephrine, dopamine and hormones, oxytocin, and cortisol and other downstream signaling molecules like BDNF to dynamically modulate emotional memory circuits by reducing activation in brain regions implicated in the expression of fear and anxiety related behaviors namely, the amygdala and insulin, increasing connectivity between the amygdala and hippocampus. MDMA may allow for reprocessing of traumatic memories and emotional engagement with therapeutic processes. The hallucinogen induces the state, and the psychotherapy is there to essentially provide support and make sure that it's a good experience. As Hannah pointed out recently, it's highly recommended, then, that there' be continued psychotherapy, maybe for a few months, to help consolidate the gains. The fundamental change seems to be through memory reconsolidation.

Use of propranolol to promote reconsolidation of traumatic memory. I have some experience with this. This was developed by Elaine Brunei in Montreal and was inspired by that original Cahill study. Remember where propranolol was given before watching an emotion-inducing film, and the propranolol prevented encoding of the emotional context of the memory but didn't interfere with the neutral content. He has developed a method for the treatment of PTSD. Propranolol is a beta blocker that blocks sympathetic beta receptors in the heart and in the brain, the amygdala. It is a drug that's used for hypertension because it blocks fight and flight responses. It also crosses the blood brain barrier and inhibits the activity of the amygdala. That is why it blocks the encoding of emotional content in the Cahill study. The idea is, let’s have people reactivate the PTSD memories but we'll have them take Propranolol before they do that. The dose is based on ideal weight based on height. There are sessions. In session one you take the propanol an hour before, and then you create a narrative that's several paragraphs long, where you describe the traumatic event, and everything that happened that you remember all the details, all the sensations, all the emotions, all the thoughts, the sequence of events, so that you relive it. Then, for the next 5 weeks, you come back each week, you take propranolol an hour before and then you read the narrative, and it's highly emotionally evoking. The rest of the half hour session is spent doing ratings before and after. After 6 sessions you're done. We did this with a woman who had prolonged grief. She was 60 years old, her daughter was 27. The daughter had congenital heart disease that was corrected at birth, and she was doing well. But age 27, she's on the treadmill, and she died suddenly due to a ruptured aorta. The women's life changed dramatically. The normal grief process just didn't end. She stopped doing anything that was fun, her relationship with her husband changed, her life basically came to a standstill. Under my supervision there was a resident supervising who treated her. Her impact of events scale ratings came down steadily. This scale, which is a PTSD scale has a maximum score of 88 with a cut off for PTSDs at 33. Her baseline was 54. Over 6 weeks’ time, her impact scale was 17. Then we followed up 3 months later and it was 9. ? Then the resident graduated and then she dropped out of treatment. There is the possibility that she has relapsed, we don't know for sure. and we're trying to do an assessment. Elaine did a placebo controlled randomized trial that was published in the American Journal Psychiatry. You can see the results here.A screenshot of a computer screen

Description automatically generated In the orange is the placebo. And the green is the Propanol all. It's like 30 in each group, and there's a significant reduction in PTSD symptoms. These people haven't gone into remission, but they're improved. I think what's going on is that this treatment is the opposite of how trauma happens. Trauma in the brain is exhibited by the amygdala being hyperactive, and the hippocampus and prefrontal cortex are greatly inhibited, go offline or not functioning well. In this context, we're reactivating the memory, and it's the opposite. You're inhibiting the amygdala and the prefrontal cortex in the hippocampus are intact. You can reconsolidate the memory without the fear and the autonomic activation. The extent to which it's truly revising the entire memory and creating remission, I think this technique isn't effective enough for doing that. But nevertheless, this can help people lead to significant improvement, which is important.

Let’s talk about TLDP developed by Hannah Levenson, and then we're going to talk about psychoanalytic case material. I’m going to try to show a video. Hannah’s chapter is chapter 12 on your list. She created this clever table with 8 hours of memory reconsolidation. 

Step 1: You must retrieve and reactivate old memories and associated feelings with or without conscious awareness of intention. Step 2: you must concurrently respond with or facilitate awareness of disconfirming novel knowledge that constitutes an experiential mismatch, essentially re-encoding old memories and emotional semantic structures through reconsolidation. Step 3: Repeat and reinforce the strength of the memories by facilitating new ways of behaving and experiencing the world in a variety of context. You then must reassess the shifts in the clients and make sure that new changes are enduring. A screenshot of a computer

Description automatically generatedHere is another table from her chapter talking about different kinds of corrective experiences and insight. Both implicit and explicit processes. There is this phenomenon of reenactment, which is very foundational to psychodynamic psychotherapy. This is the transference response. This is the recurrent maladaptive pattern in action and patience. You engage with them emotionally, and you start feeling like responding to them the way other people respond to that. As a psychodynamic psychotherapist, you hold back, and you think about why you feel that way. Implicitly, there's an emotionally learned pattern through transferential enactments. The therapist dis-embeds, unhooks through the therapeutic relationship, and implicitly the therapist is responding differently to the patient than they expect. Now those patterns can also be named and discussed. That is explicit processing that constitutes emotional insight. Now, these are all in the context of the relationship in psychodynamic psychotherapy, but it's also thought to make use of not only what's happening in other relationships, but also talking about things and interacting. and a non-re-enacted way. Implicitly, the novel delivery, the tone of voice, for example, the mannerisms, behaviors can constitute corrective emotional experience. You can also bring up disconfirming information which leads to insight.

A case study of Becky. To quickly review, Becky’s mother was alcohol dependent. Becky learned that she needed to attend to her mother's needs and not her own. Her father was demanding and expected top performance. Becky became perfectionistic and learned not to impose her needs on others for fear of rejection if she did. She left her boyfriend, Brian. He was often in considerate. She kept her feelings to herself and cried herself to sleep. Therapy involved paying attention to emotional pain, recognizing her needs, and then coming to feel that she was worthy of being treated well by virtue of corrective emotional interactions. Finally, acting on her relationships to increase the likelihood that her needs be met. I am going to illustrate step one activation of old memories and the associated painful emotion with the first clip and then step 2, corrective emotional experience with the second clip.

Video clip: Session 5: brief dynamic therapy over time. Well, good morning. Feels different, and it maybe you want to try something different than what I was done before. Oh, but it's scary! Well. because it's so different than what you've done before. Yeah, I mean, those walls weren't constructed for no good reason right now, it takes a long time to protect yourself and a family where you were sometimes the mother to your mother, and you know your father was. Yeah, very much like, . you want me to do this, I'll do this. Are you? So, you know, those walls weren't constructed for no reason they had value back. Then I needed them back. Then you probably did very much. I mean, how else would I? year old girl deal with what a year, old girl had to deal with I couldn’t. I think if I didn't have the fault, I wouldn't be the person I am today, either which is a value that I think it's important to be able to recognize that you are who you are because of what you've done and the relationships you've had in the past. And it doesn't. It doesn't make you person or wrong. It just makes you the person you are. And if you want to change. Got to recognize that there are things you need to change. So, can I have you say something, and as you say it, I want you to like, own it.? And I want you to see how your body feels right. I am a valuable person. I am a valuable person. I am a valuable person. What if this tears, saying those tears could talk. What are they saying? No, not this is a very private internal battle. ? So, what I'm going to keep goings hard. I don't know why that would affect me so just saying that I just Harley's head. Is that because it doesn't feel real? You can't own. It can’t own it yet. and I just don't. It's awful. It feels awful something so simple. Just so. Some of what you're wrestling here on the other side of the wall is not only the response from that person. It’s not only Brian saying, no, we are not a valuable person. But it's you like believing that. Oh, yeah. oh, yeah.very much. very much. So, it's hard for me to bring down those walls when I don't think I necessarily. You know. should or, you know, like I'm valuable not to do a dog looking in a mirror. And I, he's a reflection and he say, Bad dog! That's funny. That's pretty much the same thing. The messages we tell ourselves about ourselves got it in there. I, and then we start owning them like the true. as opposed to just messages, that at that developmental level we were at, or because something from that it happened or and now, so we have that perspective. And then we kept telling yourself that year after year after year until yes, . I like. I said that it came a part of the message. you're all time well, you're like having yourself , . Yeah, you hear it all the time I do. And then you fear you that down the walk everyone else is here. What you you're a negative as opposed to. This is just a message. And unfortunately. and then I guess with that it's just the fear that the message will be confirmed. Yeah, so. and in a strange way. since you don't let people see who you really are, it is being confirmed It can never be disproven So in a way. And this is some fulfilling processing, Because there's no way. There's no one to say no. That's why this and I want to say this confirm. I get the things in here of any disc information. Thank you very comfortable. and feel more valuable than any other place that you know any other relationship, just because you haven't, you know. And let me ask you. because I feel like you've really taken down your wall here. But right do you feel just because I'm a therapist? And this is my position. And even though privately I'm making all kinds of judgments. I couldn't possibly let you know that. And I'm just kind of being the down name. Now that you've let me really see you. I really do. Thank you. Yeah, I think it's not fake at all. and I don't think you'd be that way. You don't see the type, you know. Say something to your face, and then you know not, you know. Say something else to someone. . so there you have it. What did you think? Oh, well, the lecture isn't over. So, there we go. all right. So, I thought, you know, given that this course is about psychotherapy we have a little bit of psychotherapy in the course. She didn't understand what Hannah meant about disconfirmation, but I think we got the point. She really felt valued by Hannah in a way that she hasn't by other people.

In the chapter, Hannah presented this data about the narrative of emotion process coding system developed by Lynn Angus at the University of Toronto. It is a way of capturing the change process. It captures the manner and quality of narrative organization, emotional processing, and therapy sessions. A diagram of a diagram

Description automatically generated with medium confidenceThere are 3 different categories. There are problem markers in red, transition markers in purple, and change markers in blue. Hannah is of the belief that there is an isomorphism or congruence between3 things. What TLDP is and does, memory reconciliation as an explanatory model, and then narrative of emotion process coding which is a kind of empirical way of capturing what's happening in the sessions.A screenshot of a computer screen

Description automatically generated What you see here on the left-hand side are minute by minute, independent blind ratings of the any Pcs coding for both therapist on the left and the client on the right. What you see in red, or pink is the old pattern, in yellow is transitioning, and in green is discovering something new. You can see that there's some old pattern at the beginning, there's a lot of transitioning, and then more and more green. The way to connect these is that a narrative is a description of how experience is encoded corresponding to a memory or schema. That links a cps to memory reconsolidation, and a corrective experience from TLDP as a prediction error that connects to memory reconsolidation. The findings from this independent coding are consistent with the conclusion that interactions in session 5 facilitated change through memory reconciliation. Again, it's not possible to prove it, but I think the general strategy of putting forward hypotheses and then testing them, and seeing if the hypotheses are confirmed is probably the best we can do for now.

One of the things that I sometimes hear when giving talks on this is, aren't you just explaining everything? What are you really adding? We're not doing that. For one it really does have implications for how you do the therapy and I think that the comparison to Mark Solms approach is a good example.A screenshot of a medical report

Description automatically generated Here on the left is this table from Hannah's chapter, that reviews all the elements of corrective emotional experience. Must have experienced traumatic events which we're not deal with successfully in the past, client must be re-exposed to these emotional situations, re-exposure must occur in more favorable circumstances. The client must face the re-exposure. The exposure does not need to occur with the therapist. The therapist expresses an attitude different from that displayed by the person during the original event. The client must handle or react to this novel situation in a different manner that might take repetitions before a new ending occurs. Insight is neither necessary nor sufficient to bring about corrective experience. Patient may have insight into this, but the experiential component holds predominance. Trauma becomes repaired in some way, and the results should generalize. This is my best accounting of Mark Salm’s view. He says, working within the transference is essential. If there's a focus on insight, not on new experience. With the analysts help, the patient becomes aware of the prediction that motivates the maladaptive behavior. Through insight, the patient understands where the behavior came from and now realizes it's not working. The new behavior is learned that outcompetes the old and the vulnerability to relapse remains because these old procedures cannot be reconsolidated. One of the things that I want to ask Mark is, in his method, how is the old painful emotion transformed from intolerable to tolerable? This correct emotional experience approach that I'm advocating really highlights, the intolerable emotional experiences being avoided, brings it out and attempts to transform it. I don't see that in the approach that he takes, and to me it is that intolerable emotion that needs to be transformed so that we're not compelled to keep doing the same procedure repeatedly. If you don't modify that intolerable emotion, then the motivation for that old procedure is still there. Yes, you have a tough job to develop new procedures that out compete, and it can take a long time, and it may not be that successful. The whole reason I am doing this is if psychoanalysis, we're to adopt this kind of approach, I think it might be made more efficient and more effective.

Now, as we've talked about corrective emotional experiences have been kind of maligned in the history of psychoanalysis. I realized that what we're talking about is schematic memory and we're not talking about specific experiences. We're talking about something more ongoing and maybe corrective. An emotional relationship is really where the action is. This concept retains the primary focus on the transference as the focal point of therapeutic interaction. It bypasses the conceptual baggage of corrective experiences, it captures and highlights abundant, relevant, implicit as well as explicit emotional processes and the therapeutic interaction. It provides repeated emotional responses and experience inconsistent with expectation. While old memories and old feelings in the transference are activated entirely consistent with how memory reconsolidation works. It provides a plausible explanation for how emotion, leading schematic memories that are older, stronger, and more differentiated can be slowly updated over time. The goal is to develop a working model of social relationships, t8hat's not the goal of CBT. Insight consists of understanding what the internal working model is, but understanding alone doesn't change the working model. There's no expressing them does not change the emotional elements of the schematic memory. You must experience and express. A working model on this change, how future situations are construed and responded to instead of anticipated root of fuel, sham and rejection, analysts’ response with compassion, empathy, and acceptance. The implicit emotional messages inherent in interpretation may matter more than the words used to promote insight. Whereas insight extends the gains achieved from new experiences.

I'm going to give you a case vignette from a couple of psychoanalytic sessions. This patient has a history of an incestuous relationship with her father. She's been in analysis less than a year with a male analyst. The analyst was about to go on vacation for 3 weeks. In the session, the patient said she had no plans for the coming case. The analyst asked why she didn't make plans to enjoy herself but got little response. In the next session, the patient talked about how this time of year was a difficult one for her, because this is when the incest started. The analysts commented that he could see now that his question in the previous session about possibly making plans to enjoy herself was inappropriate, and she admitted that the question had made her angry and disappointed. Sessions 3 and 4. In the next session she reported that she had contacted an old boyfriend and had sex with him. The whole experience had been ugly, the place was unattractive, and he was insensitive and too pushy. The analyst made a series of interpretations, pointing out, among other things, that the sexual experience reminded her of her experiences with her father where she felt forced and out of control. He also pointed out his own insensitivity reminded him of how she felt about the upcoming break. In the next session, the last session before the break, she was in a good mood. She said she felt optimistic about how the break would go. She said it's been extremely important for her that she and the analyst could talk about her sexual experience and what it might mean in the context of their psychoanalytic work. She repeated several times, that it had been so good that we could talk about it as if the talking had been more important than the content of their talk. This is what the analyst said. My question about making plans to enjoy herself was experienced by her as insensitive as I fail to explore the reason for her foul mood at the time, and unknowingly proposed a solution that didn't address the problem. By acknowledging what in retrospect was an error, it repaired the disruption in our connection and her sense of trust to me. We've made it possible for her to share the events of the sexual encounter. The sexual encounter was one that she felt was embarrassing and a bit impulsive. Therefore, her expectation was that she would be judge, shamed, and rejected. Instead, when I responded in a way that was corrective, not because of the interpretation per se, but because of the indirect emotional effects of the interpretation. It helped her overcome her sense of shame, and fostered her ability to feel that she was an acceptable and worthwhile, perhaps even lovable human being. This is my commentary about direct and indirect effects. When he responded as he did, interpreting the connection between the sexual encounter and her incestuous experience with her father, both of which were aversive but not explicitly described as such. Additionally raising the possibility that her need for the sexual encounter was related to the anticipated extended interruption of the treatment, the interpretations had two effects. The first was to explain the meaning of her behavior, which is the traditional goal of interpretation, and enables the construction of a new narrative. But this is not enough. The second set of effects was indirect, and likely more important because they enable the patient to have several types of corrective emotional experiences. First, he did not judge, reject, or turn away from her in disgust. This was the inherent message of the interpretation. I don't reject you because your behavior was in fact motivated by factors of which you were not aware. It was necessary for the interpretation to be accurate because it validated the non-judgmental nature of his response to her. There really was a way of understanding what she did related to the past and current relationships. It was the indirect emotional meaning inherent in what he said that mattered. That she was an understandable and worthwhile human being whom he cared for, not the explicit content to the interpretation per say. Second, he didn't attempt to soothe her directly, which, if he had, she might have experienced as overly intrusive given her previous experience of incest with her father. Rather he conveyed sincere concern indirectly by recognizing that the interruption of their work together would have an important impact on her and was possibly affecting her current decision making. My conclusion is, what matters most is the nature of content of the emotions conveyed and activated in the inner subjective emotional field between patient and analyst. The first step in the change process was achieved. Old memories and old painful emotions were activated, as well as their reincarnation in the present. The validity or accuracy of the interpretation was important in several ways, not only because the understanding of it promoted by connecting the present with the past. The old painful memory was reactivated. The traditional way of thinking about why you go back to the past is to make the unconscious conscious. Low and behold, you're reactivating the memory that's relevant. The accuracy of the interpretation also proved that the analyst was really listening, really cared, and was not judgmental. The caring and non-judgmental attitude conveyed in this exact context is what mattered most, is the end made possible by the means of the accurate interpretation. So corrective emotional relationship results from a series of micro corrective experiences. A treatment involves many experiences, this type in any given session. These encounters might be considered micro corrective experiences because they're counter to expectation, positive and thus corrective. They are micro because they may not even be explicitly registered or experienced in awareness by the patient in the moment. Collectively they create what might be called the corrective emotional relationship, a new way of experiencing self with other. This is why she stated that it meant so much that she could discuss the sexual experiences with him, but didn't comment on the value of the insights or new understandings per se. This is a reminder that corrective experience automatically updates future predictions. Corrective experience is unexpected, adds to the episodic experiences that comprise schematic memories. Creates an experience and an interaction with the therapist becomes the basis for the clients. predictions and future social context. This means that corrective experiences directly change future construes, and the internal working model without the need for explicit interpretation or conscious understanding. This is the stark difference between my perspective and Mark Solms It's an illustration of how a new way of experiencing self with other can have transformative effects without interpretation.

Nachträglichkeit. In 1895 and 1896, when psychoanalysis began, Freud described memory pretranscription, and deferred action as “the pathogenic effect of a traumatic event occurring in childhood, manifesting retrospectively when the child reaches a subsequent phase of sexual development.” In other words, the sexual molestation only becomes a trauma in this view, once person grows up and understands what it's all about. Freuds theory of deferred, action could be simply stated. Memory is reprinted, so to speak, in accordance with later experience Freud used the concept again in the Wolfman case in 1918, although he never offered a definition, much less a general theory of deferred action. It's generally accepted that Freud viewed it as part of his conceptual repertoire. After Freud, psychoanalysts have used the concept of deferred action to understand the transformative effect of interpretation on previous understandings and personal narratives. The influence of memory reconsolidation, however, could be broader as it could be the foundation for a model of ongoing and evolving emotional development. Obviously, that's the case I'm making for how the internal working model develops through the implicit process of relational knowing. Implications for the concept of regression, past, present, and future experience is always being interpreted through the lens of the current form of the internal working model. Memory reconsolidation could potentially be used to describe a general model of enduring change within psychodynamic psychotherapy and psychoanalysis, explaining how both new experiences and new understanding promote change.

I think Freud deserves enormous credit for recognizing the importance of transference, emotion - memory interactions, pathogenesis in treatment, and the malleability of memories. These seminal observations insights can be updated from a neuroscientific perspective. Predictive processing is ubiquitous. All relationships are necessarily viewed through the lens of past experiences. Schematic memories are sufficiently complex to capture the maladaptive patterns that are primary treatment focus in psychodynamic psychotherapy and psychoanalysis. Emotion preferentially influences both the encoding and content of memories as well as future predictions. This interaction should be optimized for therapeutic benefit. Memory reconsolidation alters the problematic schematic memory itself, creating the basis for enduring change which is a hallmark of psychodynamic psychotherapy and psychoanalysis. These are the take home messages that I wanted to convey to the psychoanalysts that I presented to in Germany. Consider whether enduring change can occur by working on transforming emotions with outside relationships, not just the transference relationship. Interpretations may work primarily through the implicit emotional messages conveyed. Reconsolidation of memories may be more foundational for healthy development pathogenesis and treatment than even Freud realized.