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Christian E. Salas & Santiago J. Palmer-Cancel

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Neuropsychanalysis 20 years later: An interview with Oliver Turnbull

Christian E. Salas^{a,b} and Santiago J. Palmer-Cancel^c

^aClinical Neuropsychology Unit, Cognitive and Social Neuroscience Laboratory, Faculty of Psychology, Diego Portales University, Santiago, Chile; ^bDynamic Psychotherapy Unit, Jose. H. Barak Psychiatric, Institute, Santiago, Chile.; ^cClinical Psychology Doctoral Program, Ponce Health Science University, Ponce, Puerto Rico

ABSTRACT

Oliver Turnbull is a neuropsychologist and Professor of Psychology at Bangor University, Wales, UK. From 2002 to 2012 he was editor of the journal *Neuropsychanalysis*, and in 2002 – with Mark Solms – he co-authored the book *The Brain and the Inner World*. He has published roughly 180 articles and chapters on themes related to emotion, emotion regulation, delusional beliefs, and the neuroscience of psychotherapy. Oliver has been an active member of the neuropsychanalytic movement from its inception, witnessing its birth in South Africa in the 1980s, where he was Mark Solms' first student. He has also observed the later development of neuropsychanalysis, in larger communities in New York, London, and across the globe. This interview was held in April 2019, in the city of Santiago (Chile). As our community is preparing to celebrate the 20th anniversary of the Congress of the International Neuropsychanalysis Society, it seemed like a wonderful time to talk about the history of neuropsychanalysis. Notably, Oliver has attended every one of the 20 Congresses. The interview has been lightly edited for publication.

ARTICLE HISTORY

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CS: Can we start by defining neuropsychanalysis? What is neuropsychanalysis?

OT: That is a very interesting question. The simple answer is: the territory which is the overlap between psychoanalysis and neuroscience. Now that sounds a little obvious, but it begs the question of *which* psychoanalysis, since there are several schools (Freudian, Kleinian, Kohutian, Jungian, Lacanian, Intersubjective, etc.). Also, we should not only consider the various psychoanalyses, but also ponder the question of psychoanalysis as a clinical discipline versus the psychoanalytic metapsychology which underpins the field. In many respects, our field has tended to focus on metapsychology, not necessarily on the clinical element of psychoanalysis. And because of this interest in metapsychology, Freudian psychoanalysis has acquired a more central role than other schools. I think this would be Mark Solms' definition of the field, emphasizing the psychoanalytic element of neuropsychanalysis. However, other members of our community might define the field as the relation between neuroscience and the psychotherapies (plural), rather than just psychoanalysis. But that is the name that Mark chose. Other names have emerged over the years. For example, many years ago Mark used the term "depth neuropsychology" (by analogy with Freud's "depth psychology") (Turnbull & Solms, 2003). More recently,

the book by Katerina Fotopoulou, Donald Pfaff and Martin Conway used the term "psychodynamic neuroscience" (Fotopoulou, Pfaff, & Conway, 2012). Now, I believe that names are important, but they are not *that* important. If you are building a new discipline, it seems to me better to have a big tent, and I would rather include different perspectives and people, rather than exclude them. Another idea that I would stress, which we emphasize in the paper "What is Neuropsychanalysis?" (Solms & Turnbull, 2011), is that neuropsychanalysis is not a new school of psychoanalysis. Instead, it should work as a bridge between *all* psychoanalytic schools, contributing towards commonalities, offering insights about what is at the heart of the psychoanalyses, and the psychotherapies, and providing data on the neuroscience of this common ground. That, for me, feels like the heart of our enterprise. The alternative, which I don't favour, would be: "Ah! I found something that shows that Freud or Jung or whoever was correct."

CS: In relation to that, how do you understand people's enthusiasm about the field, and the appeal of neuropsychanalysis to many clinicians and neuroscientists? Why has it become popular over these twenty years?

OT: I would like to think that the one reason for its popularity is the "science" offering for the psychotherapy

community. Solid evidence for the psychotherapies has been rather modest over the years, and yet people want to understand mechanisms. So, if you're a psychotherapist, science offers something solid and evidence-based. In contrast, for the neuroscientific community, the inter-discipline brings an interest, or awareness, of parts of the mind that have been historically ignored by cognitive neuroscientists. It brings feelings, personality, and motivation to the equation – and perhaps delusional beliefs – things that are not always studied by mainstream neuroscience. The little British joke that I like to make here is the concept of a “Birmingham screwdriver” (other countries use different terms), which means that “if the only tool you have is hammer, then every problem looks like a nail”. So, if the only tool you have is cognition, then any clinical presentation that you see must be interpreted as some variant of a normal or a derailed cognitive process – you don't have affective explanations in your toolbox. In which case, how would you explain complex and interesting psychological processes such as defense? So, my summary would be that neuropsychology brings science to the psychotherapists, and new aspects of the mind to the neuroscientists.

CS: I like your suggestion that a novel contribution of neuropsychology has been to place emotion – a foundational process of the mind – on the table as an object of study. This makes me think about the review you wrote (Turnbull, 2001a) of the *Handbook of Cognitive Neuropsychology* (Rapp, 2015). There you made the case that emotion has been historically a “blind spot” for cognitive neuropsychology. Why do you think that it has been so difficult for neuropsychology and neuroscience to understand the relevance of emotion?

OT: I think there are at least two elements. The first one is just historical. In the middle of the last century, the behaviorist revolution completely denied mind, or at best sought to ignore it. Entire generations of psychologists were raised in that behaviorist mindset: “Can we even talk about mind, can we really trust subjective experience?” Later, in the mid-sixties, starting with Ulrich Neisser, cognitive psychology becomes possible, so there is a shift towards the experimental study of the mind and its processes, but with a clear focus on the “clever” bits of the mind. So, for many decades, cognition became a territory on which experimental psychology felt safe. Then, gradually from the 1980s, cognitive psychology becomes cognitive neuroscience. In that respect, cognition it is just the one continent (if you like that analogy?) that experimental psychology could recover from the behaviorists. But the continent of

emotion remained unexplored. The other reason, I believe, is that emotions are famously difficult to study, because they are so slippery and transient, and importantly subjective. I can tell you that *I* feel something, but how do *you* really know that, if it is just first person experience? Experimentalists trust cognition, they trust its speed-accuracy tradeoffs, its millisecond measurements, more than they trust subjective reports. Perhaps there is also a cultural element here, which obviously exists for all human societies, but has a particular relevance for the West. I am talking about the northern European Protestant world, where feelings are not so easy to discuss. And now you want to go around studying feelings all the time!

CS: You have mentioned now that neuroscience has tended to focus on a third person perspective of the mind. In the chapter you and Solms wrote in Panksepp's book *Biological Psychiatry* (Turnbull & Solms, 2003), you proposed that a core element of neuropsychology was the bridging between first person and third person perspective. To me that is perhaps one of the most appealing and challenging elements of our field. Can you say a little bit more about that, perhaps tells us what you were thinking at that time when writing that chapter, and why were you putting such “linking” endeavors as a key element of the discipline?

OT: I think at the time people were asking: What is it that makes neuropsychology, or whatever you want to call it, unique? There were several competing hypotheses, of which *emotion* is the one that I believe wins the race. First-person perspective was another competing hypothesis, particularly due to the relevant place that unconscious mental life had in psychoanalytic theory and technique. Let's remember, at that moment in history, and still now, psychoanalytic technique was a novel tool to access the phenomenological experience of brain-injured patients, and to explore neuropsychological deficits and the neuro-architecture of the mind, from a totally new point of view. It seems that the mind, for example in respect to emotion and subjectivity, was best approached through the first person – perhaps we should say can *only* be approached through the first person, so we should be profoundly interested in listening to our patients. Also, we were very early in the process of developing this field. It was not like “I have a theory of this box in the cognitive system, let me test that hypothesis”. It was more just finding a patient, with a particular sort of lesion, and trying to understand what their experience of *being a mind* (as Mark likes to call it nowadays) was like, by listening. I think that during this phase in the history of neuropsychology,

at the time of *Clinical Studies in Neuropsychanalysis* (Kaplan-Solms & Solms, 2000), listening to how focal brain damage changed the experience of being a mind felt like the way forward – and still does.

The patient that comes to mind right now is the woman with the left convexity lesion, Mrs K. She has a form of audio-verbal working impairment (perhaps, classically, a conduction or acoustic-amnesic aphasia?). She describes her mind as being empty or blank, that she can't think of concepts, or actively manipulate them. She struggles with using her ability to think in a very specific way, and can relate the subjective correlate of that change. You don't get that kind of information by giving somebody the Digit Span sub-test, which of course she does very badly at. The big question is: what is it *like* to be a mind that doesn't hold information for a while? The answer, according to her, is that it's frightening and embarrassing. And, I think in many ways, that the attempt to understand what it is *like* to be a particular kind of mind is at the heart of our discipline, in a way that I don't get when I read a cognitive neuropsychology paper or textbook.

CS: I couldn't agree with you more. I have always thought, for example, that we don't have enough information of this sort in HM's case. There are a couple of brief descriptions about his subjective state, things that he anecdotally said, observations from a third-person perspective – but what was his subjective experience? Perhaps the closest we have in cognitive neuropsychology is the case of SM, the woman with no fear after a bilateral amygdala lesion, studied by Damasio and Feinstein (Damasio, 1999; Feinstein, Adolphs, Damasio, & Tranel, 2011). But even in that set of articles, the first-person perspective is elusive, and a secondary character in the play. There is never a raw transcription of an interview, something that allows us to grasp what is like to be a mind that does not feel fear. The only exception here is perhaps Damasio's patient B, who presented a preserved experience of feelings despite bilateral damage to the insula (Damasio, Damasio, & Tranel, 2012), or the amnesic patient JL, who underwent a long-term psychoanalytic psychotherapy (Moore, Salas, Dockree & Turnbull, 2017).

OT: I absolutely agree with you, and I think about my neuroscience colleagues who often ask, "How am I going to get them [their neuroscience colleagues] involved in this process?" So I try to explain them that no one is asking them to stop using quantitative tools or techniques, but simply adding another layer of complexity to the problem. Just ask the patient a bit more about what it is like to be in that world. And at this

point it is perhaps important to consider two aspects of this problem. The first is not to forget that the question "What is it like to be a mind?" is at the heart of mental illness. Arguably *all* mental illness, or at least *most* mental illnesses, are disruptions – usually aversive disruptions – of subjective experience. Our patients describe things like an unbearable sense of loss and sadness, that is with them every morning when they wake up – "Please can you help me with that?" It is not, in essence, a cognitive problem, although there are cognitive impairments in depressed individuals, and cognitive solutions to manage negative patterns of thinking. As Mark has so often pointed out, the key point is that, at the end of the day, it is far from simply a cognitive problem – and cognition is far from the heart of the issue. In mental illness, there is something wrong with subjective experience – it's a first-person problem. So, we are missing potentially all of the important parts of the DSM-V if we don't focus on subjective experience.

The second element is morality. I think so much of what constitutes moral decision-making for us, as a society, is founded on purely mental engagement, and on the subjective consequences of actions. Perhaps an example: you have been injured, and I am scheduled to be sentenced for that in court. How do we determine whether it's a crime, and what of its severity? Well, does it appear that I intended to injure you, or was it an accident, and what degree of premeditation was involved? Was your injury "painful" or not, and was it a physical or a psychological injury? Did I gain malicious pleasure from your injury, or did I immediately regret my actions? Indeed, were we engaged in some sort of sado-masochistic activity in which apparently painful actions are actually pleasurable to you? Do I now feel remorse, and/or will I be capable of remorse after some sort of therapeutic intervention? In so many ways, the subjective is at the heart of those decisions. I have also talked about morality in relation to subjective experience in animals, or young humans, or those in the later stages of dementia. Does it change whether you are going to eat an animal, or how you kill an animal, if you know whether it's sentient or not? Does it change your attitude to abortion or circumcision if you knew that the *in utero* foetus, at whichever week, or the young child, was sentient or not? How should we treat the elderly with degenerative conditions who struggle to learn new information but can implicitly remember if someone is nice or mean to them? These are questions that science really can answer, but I'm not sure that the public, or the courts, have caught up. So, I think the subjective perspective may be *difficult* to investigate, but that doesn't mean that it's not enormously important for us as a society.

And, by the way, it seems that it is becoming more important with time.

CS: Will you say that a virtuous cycle can be created by exploring the subjective mind of, for example, a person with severe amnesia, and how that feeds into the experimental side of those interested in memory disorders? I emphasize this point, since to me there is an epistemological issue here. You cannot reduce first person perspective to third person perspective, and *vice versa*, you can only connect them. Would you say that, by understanding the subjective, you can build hypotheses that you can test experimentally later, perhaps a more complex hypothesis, thus improving your knowledge of a specific phenomenon?

OT: There's no doubt that studying the subjective brings a different perspective, which is really novel, to the study of any of these neurological patients. The question then is what you do with that additional perspective. There is a temptation, however, to over-read whatever theory you happen to think is correct, and by confirmation bias say "this proves my theory". Now, if you use that data to drive better experimental investigations, then you make what I think is a really virtuous cycle in all of that.

CS: Any example that you like ...

OT: Well you chose amnesia earlier, so let's try that. The world of the multiple memory systems, of Daniel Schacter and his colleagues – the last 50 years of memory neuroscience is all about showing how there is not just one memory system, there are five or six different kinds of memory, all running in parallel, as far as we can tell. And I find it very interesting that, if you look at historically almost any of those diagrams, those nice branching declarative, non-declarative diagrams, with boxes for semantic memory, episodic memory, procedural memory, there is nothing about feelings. Perhaps you might read something into labels about "conditioning", and a reference to the amygdala. Yet, for over a hundred years, all the way back to Edouard Claparade, we have evidence that emotional memory is potentially preserved in amnesic patients. But is not till recently that we, and I mean "we" in the biggest sense of the word, as a scientific community, have been able to demonstrate the preservation of those subjective experiences in amnesic patients. Did this knowledge arise from listening to those patients? I don't know, but I know that the confirmation completely arises from those patients. So, just to take the Tranel and Damasio patient, the one with bilateral encephalitis, Boswell (Tranel & Damasio, 1993). You probably know the

experiment. Boswell is exposed to confederates for several hours a day, across a week, where the different individuals behave towards him very differently: notably a "good guy" who was universally kind and charming to Boswell, and a "bad guy" who systematically behaved in unkind ways. Later on, the experimenter asked Boswell whether he recognized the names and faces of these guys and, of course, he did not. However, when asked to choose from pairs of faces – where one of them was one of the collaborators – who they would ask for a treat, Boswell would pick the good guy at well above chance levels. This experiment was based on Boswell's subjective report, on his affective preference for particular people. There are no reaction times in this experiment. It is an experiment about feelings, and it is pretty convincing. If I look backwards, when I was training, a long time ago, it was a taboo to ask patients these types of questions, but now it has become much more acceptable. I think the field probably prefers this sort of data if it has some electrophysiology to go along with it, but at least now it is legitimate to ask subjective questions to those patients.

CS: You have mentioned emotion as perhaps the most important process that neuropsychology has brought attention upon. It is without doubt your number one. Any other mental processes that neuropsychology has contributed with a particular perspective?

OT: Sure. I think we have had a very good route into delusional beliefs. As psychoanalysis has long known, all human beings (including at times even some U.S. presidents) are a bit prone to believing things that are not true. But our patients are particularly striking. They are psychiatrically normal until they had their stroke, and suddenly they have these remarkable delusional beliefs. To me, they are excellent examples of how information can be processed outside awareness, but shaped by feelings, and they give us a real opportunity to test those processes. I think, particularly because these delusions are often so encapsulated, that they offer a very powerful window to these phenomena. Just to briefly talk about confabulation, and I'll return to my Birmingham screwdriver example from earlier, the confabulation literature had said for a long time that the reason these patients confabulate is because of their executive impairment. This is true, of course: the magnitude of executive difficulty is proportional to the delusional beliefs. But that model completely fails to understand the encapsulated nature of the delusions. So, you can speak to these patients

about sports, politics, or the weather, and they are fine. But then you enter into the corner of how they feel about some of the people that they care about, and things begin to change. For example, the family member, who looks like my wife and sounds like my wife, is an imposter – the famous Capgras delusion. And suddenly they have become delusional! Here Katerina Fotopolou makes an interesting point where she demonstrates, using memory stories, that the delusions tend to appear more frequently when they are about the *self*, not about others, and they tend to be delusional only about negative stories, but not about the positive ones (Fotopoulou, Conway, Solms, Tyrer, & Kopelman, 2008). Just like (dare I say it) the current U.S. President, these patients are sensible about most things, except *bad* news about *themselves*, and then suddenly it's all “fake news”. So there is more than executive impairment here, in my opinion. There is an interaction between various aspects of cognition, including executive impairment with – critically – the emotional consequences of ideas. And this interaction and balance appears to be relevant to sustain key aspects of personal identity.

CS: So, there is some sort of regulatory failure.

OT: Yes. We might view it as an impairment of emotion regulation (see Turnbull & Salas, 2017). That they can't tolerate something bad about themselves, and so they have a choice, between a painful reality, or a pleasant delusion, and they choose the pleasant delusion. I am always reminded that this is a developmental achievement. When we are young, we all want to live in a more pleasant reality. And it is a very adult thing to be able to recognize that we are not as beautiful, or as charming, or as clever as we would like to be. As an adult, I should accept who I am, because this is the truth. But that requires an element of inhibition, of tolerating frustration (a reality principle!). So, we can see cognition, working rapidly and outside conscious awareness, creating delusional beliefs in these patients. Our view is that emotion has a key role driving this process.

CS: I think that you use a specific term for this, right?

OT: “Motivated cognition” is the phrase that people use most often – to what extent is our ability to think shaped by the emotional consequences of ideas. And I think this is a very coming process in psychology. We see it in the confirmation biases that run through Danny Kahneman's work, or the motivated forgetting that runs through Mike Anderson's work. Perhaps, to tie it to the analogy that I introduced earlier, I think that cognitive psychologists

have mapped out most of the continent of cognition. And they are running out of raw material, so they're starting to realize that the relationship between feelings and cognition not only has lots of potential as a new topic of study, but also that it explains some very important parts of the mind, including why human beings are not as rational as we like to think we are. These are big topics. There are whole careers worth of work, on just on one strand that flows from what we have discussed.

CS: Returning to the beginning of the interview, why do you think that Freudian metapsychology has been so popular and useful to build the neuropsychanalytic program?

OT: Because no other domain of the psychotherapies does what Freud did. I'd be happy to criticize Freud for ten minutes, but he was a genius, wasn't he? And especially, a genius because of generating the metapsychology. When I look at CBT or DBT or ACT, or any of them, they are psychotherapies. Use these techniques, and your patient hopefully will get better. Aaron Beck does not say “here is my grand theory of the entire mind” that includes a drawing of the mental architecture, and this is how the mind works, and psychotherapy is one part of that. In contrast, Freud presented a really big set of ideas. I am not sure he was completely right, but it takes a big thinker to step back from your small part of mental science and try to think of what the overall mental architecture is. I think that is the reason why Freudian metapsychology has been particularly useful in driving the neuroscience of the mind.

CS: What you are saying makes me think of two ideas. The first one is that neuropsychanalysis formally begins with –

OT: Obviously, Freud, but that is a well charted path, from the *Project*. But it is not hard to pick a couple of names that are historically important. In an old paper I wrote many years ago (Turnbull, 2001b), I remember speculating on why neuropsychanalysis didn't take off right there? And there is something in Schilder's work, which also has a psychoanalytic connection. I think it's also very interesting to talk about Luria, who of course also has an early psychoanalytic link. Mark has written extensively about that, and rightly so, I think. We have some good evidence of Mortimer Ostow making an attempt in the 1950s. I was fortunate enough to interview him 15 years ago, towards the end of his life (Turnbull, 2004). And, clearly Howie Shevrin, in his remarkable and rigorous way, focusing on unconscious processing, from the

sixties. The interesting question is “Why it doesn’t take off until Solms?” Would you like me to make a short list of reasons why?

CS: Please, go ahead.

OT: I think the parallel development of affective neuroscience is vital. A neuroscience of feelings comes alive in the 1990s, with especially Jaak Panksepp, even Ed Rolls, in his own way, Joe LeDoux, and of course Antonio Damasio. So, at last, there is a good foothold in the neuroscience. I think in the psychological sciences, consciousness used to be a taboo topic, and somehow people were able to start thinking about what consciousness might be, and what dreaming is, and listening a bit more to our patients. Thirdly, on my list, and apologies for using the word twice in one interview, but Solms is a genius. He was able to make a bridge, thanks to Luria’s approach in part, which I think was very helpful. The last element, I think, is the setting of some formal institutions, in addition to the stuff that is published by Solms. I think having a Society, and a journal, and a Congress, all helps to bring people together. I will never forget that first meeting in London, in 2000. It was incredible for me, it felt like a gathering of people who had all been in their lonely offices, all thinking about these sorts of things, and finally they joined together in the same way that, I don’t know, the first Star Trek convention must have felt like for science fiction enthusiasts all around the world, or any other niche interests. Like having an extra family.

CS: It also develops a sense of community.

OT: Exactly. I think the Society is now at at least forty regional groups. People went back to their homes and set up groups, and meetings, there is a real sense of community in that. But also having a journal to publish the material in, and once a year a Congress for everybody to come together. I think I got to four in that list. I wouldn’t like to choose any of them in particular, but I think the combination helped to light a flame, which you don’t see with Ostow’s moment, or Shevrin’s, or any of the other ones. None of them quite take off.

CS: Last couple of questions. Twenty years later, what would you say are the forthcoming challenges for neuropsychanalysis, and somehow around the same lines, what is the future for neuropsychanalysis? How do you see it?

OT: We talked about some of this earlier today, which is that most of our community are psychotherapists, of one description or another. Sometimes not even necessarily seeing neurological patients, and what they want is

practical bits of advice about how to apply neuropsychanalytic concepts in the treatment room. So they often ask: “How does this change the way that I treat my patients?” I think that is what they would like, and this is a challenge. The other challenge is more conceptual, I think. This is to try to have an emotion-themed approach at the heart of various training programs across the world. If you asked me what I wanted for Christmas, it would be two things. The first would be that people who train as neurologists, as psychiatrists, as psychologists, get an understanding of basic emotions and their brain architecture, and the relationship to disorders of mental health and so on. That should be the foundation of their training, and that needs us to help build training programs across the world. I know that we have been involved in the British version of this, with a role in the re-accreditation of British psychiatry, which the Bloomsberg group in London is working on: to put affective neuroscience at the heart of psychiatry. An international spreading of that would be the first of my two Christmas presents. The second one is the same idea, but in a different domain, and more ambitious, which would be the end of the DSM. For my money, I think there still will be a DSM-6, but I predict not a DSM-7. All of those tick-box lists, those historical categories, cannot survive, because it has no direct connection all the way from the molecular to the systemic. Psychiatry is unique in all of medicine in not being able to do this. You can do it in cardiology, oncology, neurology and so on, but not in psychiatry. As I think Jaak used to say: “The unit of currency is emotions”. The chapter titles don’t need to be psychosis and anxiety disorders. They need to be FEAR, RAGE and SEEKING or whatever. Then within each chapter we can see how that emotion system is modified by “too much”, or “too little”, or “too much but well inhibited”, or “how this system switches that one off”, what this system looks like developmentally, and so on, in each of those domains. I think once you start to use emotion as the unit of currency and the root cause of psychiatric disorders, you change things. And we have the opportunity to make that change, as I’ve said to Mark, and we put it in the last chapter of the *Brain and the Inner World* book – although people don’t often read that bit. It was an idea I’ve had for a long time, that science will always discover things, in the end. A new psychiatry, based on the proper natural kinds, which I think are the basic emotions, will arise anyway, even without neuropsychanalysis. But if neuropsychanalysis is clever and influential, it can be at the heart of building that process, and getting to the problem long before it would happen without us. If we don’t do it, they’ll do it on their own, and maybe it will arrive twenty or a hundred years later. But I would like

to think that the great contribution of this generation could be that – to help to build a new diagnostic system based on the stuff that really is true, and train a generation of clinicians so that we have the reunification of neurology and psychiatry which we've been waiting for 150 years for, since they were separated at birth.

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