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Essay Review

Science in Psychotherapy and Clinical Psychology

By

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The Neuroscience of Psychotherapy: Building and Rebuilding the Human Brain by Louis Cozolino, 2002. W.W. Norton & Company; New York. 377 pages.

Science and Pseudoscience in Clinical Psychology edited by Scott .O Lilienfeld, Steven Jay Lynn and Jeffrey M. Lohr. 2003.The Guilford Press; New York. 474 pages.

Cozolino is professor of psychology at Pepperdine University, and a clinical psychologist in private practice. This book is part of a series edited by Dan Siegel, and of course is likely to create much interest in a community of psychologists desperate perhaps to add to the arsenal of what could be considered evidence based practice in a health science. Adding this book to the considerable weapons of mass destruction provided by Scott Lilienfeld and his colleagues, our cup runneth over this year in mental health science and neuroscience.

Both books provide stunning, if not entirely novel reading, kind of the stuff we all know, but like to see in print. The first enthrals but overall disappoints, the second is compelling reading, no let down, reflecting on their chosen audiences.

Psychology is coming of age, that much is clear, when we can go in for the kind of introspection that we require of our patients. Of course, if one is to believe Joe Griffin (see *New Scientist*), introspection might not be the best approach for us, leading to depression and overloading our REM sleep capacity, leaving us drained in the morning……

These books of course don't leave us wasted: both books approach psychology and its cousins (like the 'small' APA ones) from the same perspective, looking for what works and what doesn't. Most of us would respond with the knee jerk of CBT, and perhaps a range of others more to our liking, and a spirited email exchange among the discussion groups would follow.

Cozolino's approach has more of the narrative to it, Lilienfeld and colleagues is a much more staccato rendition of facts and figures, of

which the assault on Dissociative Identity Disorder (DID) is the most representative, with some repetition, necessarily but a tad 'lets skip the next few lines' engendering. Most impressive in terms of writing is the introduction to this book, with a stunning intro by Carol Tavris (I don't know who she is, but she *is* good), chosen by Lilienfeld and colleagues to shoot first by asking damning questions.

Cozolino begins with a foreword by Siegal, and then three chapters of an overview, dissecting out the tangled web of origins in neurology and psychology, a nice intro for the neophyte, but nothing new here. His theme of rebuilding the brain is introduced in the second chapter, and then the heuristics of various forms of therapy, such as Gestalt, Psychoanalytic theory and so on, producing a series of working hypotheses at the end of the chapter, a basis for which to begin analysing how the collection of therapies presented produces change at the neural level, all very superficial and most of which again is no news except perhaps to the novice, but setting the stage for what is to come in section two.

Here, a foray into the legacy provided by evolution begins with the movement from micro to macro, from individual cells to systems of cells in networks, passing through brain development and plasticity, to understanding the critical periods of pruning and arborisation, as development unfolds, a short and meatless chapter. The following chapter which embarks by discriminating between the implicit and explicit learning modes of the brain is well done, but again superficial, with a few case studies and some personal inputs, but for one uninitiated into the amygdala-hippocampal pathways, this would prove fascinating to a certain point, but the implications of errorless learning (see Barbara Wilson and colleagues from the UK) and emerging work on scaffolding by Konstantin Zakzanis and collaborators from Toronto, are not touched on here, nor the obvious history of the Soviets, Luria and Vygotsky, all of whom began the fascinating work which this chapter could have drawn on, rather than what appears to be a superficial approach to a really fascinating arena. This is just too short and succinct

The next chapter, on laterality, does mention who it must, namely Gazzaniga, but neglects the fascinating approach to evolution that Gazzaniga presented in 2000, wondering as he did whether the corpus collosum actually enables the human capacity of meta cognition *(see Sugarman 2002, Revista Espanola de Neuropsicologia, Executive functions and evolution: why our toolboxes are empty? 4(4), 351-377 for a brief discussion.*) Again, there is just so much more out there, I felt all let down by the superficial discussion, even if one is targeting the novice or the mildly uninformed; Cozolino has such a nice structure, the skeleton could have benefited by a lot more meat. He does however take this further, and applies the principles of laterality that he has elucidated to some psychopathology, but as one can see by reading the summary at the end of the chapter, he does not accomplish much. I also note the use of the royal imperative "We" in his summaries, as in "we have moved on", but he seems to be alone on the cover, so I am not sure why "we" are invoked, petty point, but I was left with my cross stitch threads hanging, and so felt again unfulfilled. After all, invoking a rich repertoire such as Gazzaniga, especially since publishing his excellent and mammoth volume as editor in chief of "The New Cognitive Neurosciences" in its second edition from Bradford MIT in 2000, without making a meal of it, is saddening.

The book warms up in part three though, with the organisation of experience within the healthy brain, again a superficial analysis peppered with a few case studies, but unconvincing, even though the complex subject of executive functioning and consciousness is tackled with aplomb in all of one and a bit pages of big typeface, and that takes some skill as a writer, which Cozolino clearly possesses. It is his editor I am being unkind to, he lets the meat burn

off: what a nice structure, but where is the depth? This is emerging as a book written for non-neuroscientists, and guess what? That's right, that's who it's clearly for, and by now I am getting it straight, its doing its job very well indeed, none of the facts presented is too advanced, or wrong, just right in fact for its audience. Even I can find a truffle in a dark forest, when the smell is right, blind hog that I am.

Into this arena, the discussion on the executive brain, comes a discussion of the backbencher of the heteromodal cortex, the parietal lobes:

> Because behaviour is easily observable and measured, neurologists have focused primarily on the behavioural aspects of brain injury. However, there is more to the human experience than behaviour; there are also the experiences of self in the world and inner subjective space. These more subtle and subjective aspects of human experience have received little attention in neurological examinations (page 145).

Now I have a problem with this. Neurologists (bless them) have paid scant attention to the behavioural aspects of brain injury until very recently, and behavioural neurology is a relatively recent development, as is neuropsychiatry. Indeed, the emergence of Kurt Goldstein, Alex Luria, Lev Vygotsky and others following on Freud's neurology and dissections in order to discover the human behavioural outcomes of neurological integration or disintegration, are acknowledged in most textbooks as the parents of such knowledge. Simply put, the neurological exam is the lower end of the neurological spectrum and in no way does the testing of reflexes, cranial nerves, gait, eye, tongue, forearm and finger movements constitute a neurobehavioural assessment as practiced today. Von Bronin aside (see reference to 1963 work on page 145), the expansion of the parietal rather than the frontal lobes in evolution and the very superficial explanation on page 146 of what Adams & Victor and other neurological tomes consider to be our awareness of our body and its relation to the external world, does not constitute proof that the tertiary association areas and Brodman's 40 and 7 are the seat of our awareness, any more than the ancient tomes (1978. 1987) referred to on page 147 provide any better evidence. Localising the function of the parietal areas with the human experience of wholeness and position is just silly: the amygdala has a huge representation from the gut, the auditory and visual areas, and Tony Damasio's three recent works are hugely and anecdotally influential in making one seek awareness in the feeling, the apperception of visceral emotion, as the seat of our knowing where and how we exist in juxtaposition with the external and internal world, in recursive, second order cybernetic feedback loops within a homeostatic, allostatic, capable organism. I mean really, this won't do, not in 2003. There are many explanations out there in contemporary science, none of which are present here. As for the "imaginal world", I prefer Russ Barkley's "simulator", which draws on more contemporary views of the brain, even if he largely ignores Damasio too!

The rest of the book works on the construction of narrative, and the sculpting of the brain and interpersonal self, and the nature of psychopathological and traumatic brain changes. Especially this last part is much better in terms of research evidence and writing, such as in PTSD and borderline personality for instance, again, too brief. Self-injurious behaviour alone would be a wonderful place to look in this book to support the title.

The fifth section, which embarks on the reorganisation of experience, refers to psychologists in their role as clinical neuroscientists, able to create an individually tailored enriched environment to enhance brain development (page 291).

That is a noble aspiration if I ever heard such a thing, here is the value in this otherwise vegetarian cookbook for carnivores: students of

psychology in their under- and post-graduate years need to go out and buy this damn book. It's a valuable entry-level tool to introduce the unwilling practitioner of psychodynamic thought into the real world of mind and its antecedent brain without engendering a feeling of being overwhelmed by neuroscience, as fascinating as that world is for such as myself. For the psychologist who wishes to aspire to the role of scientist-practitioner, this is the launchpad, unthreatening and flawed as such a start must be, in order to promote some motivation to continue into the vast unchartered world of cognitive and behavioural neuroscience where there indeed be dragons, and of course hippocampi.

Into this arena comes Dr Cozolino and his concept of the manageable stressor of psychotherapy that should promote synaptic or neuronal plasticity (he doesn't distinguish this well enough), but nevertheless I believe any follow-up work should demonstrate with much more depth, how he believes the scientist practitioner should accomplish this, case by case, discussing it with the complexity lets say, of Othmer, Othmer and Othmer, 1999. Otherwise we are still left at the level of treating 'fat ankle syndrome', and not getting to the core of brain in mind.

Lilienfeld et al's book is of course driven by various authors, a catalogue of the greats, and this approach of course is unfair, but worthy competition for Cozolino and Siegel.

The book is similarly divided into five parts. Firstly, chapters investigate the science of clinical judgement, with Garb and Boyle examining our tendency to use pseudoscientific pronouncements and cling to them as if they were evidence based, pointing out how difficult it is to learn from clinical experience, as opposed to hard research. Very true, especially the part about the availability heuristic, recalling some of Goethe's (?) words, that we see only what we look for, recognise what we know.

Hunsley, Lee and Wood proceed with a discussion of controversial and questionable assessment techniques, including the Rorschach, TAT, Projective drawings, anatomically correct dolls, and a less easy target, the Myers-Briggs. Perhaps the 14 000 bits of research on the MMPI put them off?

McCann, Shindler and Hammond are next, with the science and pseudoscience of expert testimony, picking up on where Tavris left off. This is a great chapter, with a slightly Americocentric slant to start, but still informative, and then a wonderful overview of the contentious basis of expertise in psychological testing and assessment, prediction of violent behaviour, eyewitness testimony, battered woman syndrome (as a defence), and rape trauma syndrome. They do not stop there, but move on to sexual addiction, homosexual panic, black and road rage, premenstrual dysphoria, paraphilic coercive disorder, co-dependency, factitious disorder by proxy, neo- and infanticide syndrome, child sexual abuse accommodation syndrome, and other favourites, which we may think exist, but lack the basis of establishing their veracity as diagnoses in the literature.

Lilienfeld and Lynn move on smoothly into a very contentious diagnosis outside of the USA, that of Dissociative Identity Disorder (DID). As is typical of all the chapters, the reference lists are huge, with a range of opinions carefully and sometimes repeatedly addressed. Hundreds of bits of research are here, and this chapter carefully examines all the attributions made by experts in this particular disorder. Another feature of all the chapters is a very helpful glossary, defining each contentious term in sharp detail.

Part two covers more general controversies in psychotherapy. The opening gambit is a move towards a science of psychotherapy research, examining the present status and evaluation of our trade. Garske and Anderson compare efficacy and effectiveness, outcome-based research, and the emergence of efficacy research, here comparing the now famous and perhaps over-quoted, over-emphasised Eysenck research and the more contemporary rebuttals

of such refusals of the efficacy of what we trade in as a profession. Suggestions are made for the development of taxonomy of the human change process, on two levels. One level is a more abstract description of treatments, focussing on understanding treatment approaches, and the relationship to outcomes, something I wish Cozolino had focussed on. The second process would try to link psychotherapeutic phenomena to basic psychological processes. Coordinating these two approaches would have enriched the former book and the author's persuasiveness substantially. Qualitative researchers of course are not usually in search of definitive answers (page 169 of this chapter).

Marg Singer and Abraham Nievod investigate new age therapies, and this chapter is one of my favourites, especially with the historical overview with which they begin. Also useful is their analysis of why these seemingly damned theories are so popularly embraced, calming me down every Friday night when I watch my sister-in-law use a Swarovsky crystal to answer life's major questions, after first establishing which swing direction is 'yes'. My 6-year old daughter caught on to this, and is now using very cheap crystals to good effect, but with frightening outcomes for a young boy called Adam, if he only knew…… But I digress, away from paragraphs labelled transformation, purification, justification of decisions, and a more formal discussion of the ethical and legal issues of accountability, and that last list of potential transgressions is endless (age 190). The authors suggest that all therapeutic relationships be considered fiduciary relationships. Informed consent, satanic ritual abuse, DID, space alien abduction, among others where psychotherapy has gone awry in the authors' terms, get the treatment they deserve.

No such book would escape a chapter on recovered memory, and the chapter by Lynn, Lock, of course Liz Loftus, and Krackow and Lilienfeld does not disappoint. The usual stuff is there, hypnosis, guided imagery, age regression, both past life and present, symptom interpretation, bogus personality interpretation, and so on, including a good look at self-help books, a nice touch. Cognitive interviewing is however rescued here, as is hypnosis in some contexts, and the possibility of some long forgotten memories resurfacing, with caveats. A balanced and strong chapter, typical of what Scott Lilienfeld seems to do so well in combining authors and topics.

Part three gets even juicier with a discussion of the treatment of specific adult disorders, starting of course with the treatment of trauma related stress disorders. There is a long hard look at EMDR with predictable conclusions. Others, such as CBT and TFT (thought field therapy), are also examined, again with predictable conclusions for all of us. Lohr, Hooke, Gist and Tolin also move onto Critical Incident Stress Debriefing, a subject close to my heart, especially after the 2002 murder of my boss by gunfire. I held to the Cochrane review's conclusions that compulsory debriefing should cease, and directed my staff and contemporaries to do just that: stick to what happened, not what did not.

Alcoholism is next, with MacKillop, Lisman, Weinstein and Rosenbaum. Of course the AA treatment is the first in line (integrate it in, not stand alone, and with no reference to the original lines of thinking in AA which inform Miller in Motivational Enhancement Therapy), then the Johnson intervention (no evidence of efficacy), then Disulfiram therapy (perhaps in the elderly stable otherwise alcoholic, otherwise Nah), then Moderation Training and controlled drinking (abstinence is outmoded and doesn't work, but for whom does harm minimisation work?) Project Dare (waste of $$$ for something that perhaps doesn't work), Social learning theory and cognitive or social skills training (needs more work on evidence) but hello, here comes the work on MET, and this is dealt with extensively as a brief technique, with considerable evidence that it works.

And then of course we turn to herbs…..Walach and Kirsch took on this daunt-

ing task. Despite the industry's efforts, the picture remains ambiguous and multifaceted with regard to depression certainly, and of course the placebo effect is a major confounder of any discussion in mental illness generally. Hypericum takes a considerably longer time to discuss, with predictable debunking as a fix for more severe illness. Gingko, my favourite research topic, is dealt with over 1.5 pages, not enough, it is a complex drug, and consequently not much is made of it apart from acknowledging its enhancement of blood flow in the brain and other organs. Kava Kava, pain medication, and the parallels between medication and herbal remedies are covered, but this is the weakest link in the book and could have been more extensively dealt with.

Part four deals specifically with childhood disorders, and of course must kick off with ADHD, with Waschbusch and Hill presiding. I will cut to the chase on psychostimulants. There are limitations: while the child is taking them, treatment gains are maintained. Not all children respond favourably (70-80%). Of these, only a minority approve to 'normal'. There is a paucity of evidence on long-term improvement of outcome for these kids. Case still open. Behaviour therapy needs long-term work to prove its outcome. Combining the above treatments is promising, but not definitive, and needs more long-term outcome research. TCA's and non-stimulants are not definitive, and should be considered second string. There is some value in classroom based treatments, but Russ Barkley was not convinced when last I heard, and neither are these two authors, who quote from him a few times. The unsupported treatments are also evaluated, including dietary management, cognitive training programmes, nutritional and dietary interventions, EEG and sensory motor integration (SIT) all go unsupported.

Autism must take its place here, and so it does with Romanczyk, Arnstein, Soorya and Gillis writing here. No positive results are found for facilitated communication. SIT goes unsupported here too. Auditory integration training is popular, but unsubstantiated. Relationship based models, with humans and Dolphins, no luck there on a science outcome basis. Secretin is only anecdotally efficacious, and may be unsafe, inducing seizures or stopping breathing here and there. Diet; also dangerous when gluten and casein are removed. Vitamin B, dangerous and toxic, that's all in terms of outcome. ABA remains the recommended treatment given its historical base and Romanczyk's work on the subject I guess.

Part five looks at self-help and the media, and the controversies that abound there. Rosen, Glasgow and Moore look at self-help, and provide guidelines for this lucrative 'giving away' of psychology.

Nona Wilson concludes the book, with her discussion of the commercialisation of mental health issues, another useful discussion, particularly with regard to Dr Phil, of Oprah launch-pad infomercial fame, a shameless display of advice giving, not therapy.

So comparing this to the previous, the first is enjoyable, the second momentous and valuable, both could be bought, but I would spare the money for the second, unless I could get both, in which case I would give the first to my students, the second to me.

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