Brain2Brain
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A sea change is beginning to occur in the mental health system. An international movement to break down the boundaries among the different schools of psychotherapy to find common denominators is occurring. These common denominators are brain based. The new integrative model subsumes the relevant contributions of the past and discards the purely theory driven cul-de-sacs based only on the tight confines of a particular school.

During my last 40 years working as a mental health administrator, training director, and psychologist, I have seen many phases, fads, and theories burst on the scene only to fade away a few years later. Many of these phases and theories conflicted with one another. People seeking help from one therapist may hear a completely different perspective about their problem than they would from another well-meaning therapist from a different theoretical school.

The focus of this book is to provide you, the therapist, with suggestions on how to integrate all the domains of research, including neuroscience, in a down-to-earth manner to help clients understand and deal with depression and anxiety. The techniques that I will describe are supported by a broad body of research and consistent with what we know about how the brain works. Going beyond what has been called evidence-based practices (EBPs), these methods are ones shown by research to be most efficacious for helping people who suffer from various psychological problems. I explain which brain systems are either over- or under-activated when clients are anxious or depressed. The methods I describe to help clients with these problems bring together all areas of psychological research and neuroscience that are relevant to psychotherapy. I offer suggestions on how to help clients learn to activate areas of their brains that have been underactivated and how to quiet down those areas that have been overactivated, so that they can enjoy life without being plagued by anxiety and/or depression. By learning more about the brain, clients understand what they need to do to neutralize excessive anxiety or lift depression.

Consider this book a user manual for the brain. New cars and DVD players come with user manuals. Our brains do not. Clients can learn to use their brains more effectively. Today we know quite a bit about which brain networks are over-activated and which are underactivated with anxiety and depression. Thanks to brain imaging techniques developed in the last 20-30 years, such as functional...
magnetic resonance imaging (fMRI), we can not only identify those neural firing patterns but also see how certain psychotherapeutic techniques can calm down overactivated areas while activating those areas that need to be activated. Essentially, we can teach our clients how to tune up their brains.

This book attempts to normalize psychological disorders and their resolution so that you can explain and make more tangible recommendations to your clients. We must leave behind those counter trends that pathologize normal human reactions to life stressors.

**LETTING GO OF THE 20TH CENTURY**

To gain an understanding of where we are going, it is important to use a bird’s-eye perspective of where we have been. During the 20th century, as psychotherapy became a healthcare profession, the various schools of psychotherapy had little in common. This was because theorists of each school possessed very little understanding of how the brain worked. Some theorists even thought that brain activity was irrelevant. Freud and James did consider the brain important. However, Freud could only hypothesize about what the future might bring, saying “We must recollect that all of our provisional ideas in psychology will presumably one day be based on an organic substructure” (Freud, 1914). The father of American psychology, William James, speculated that “The act of will activates neural circuits” (James, 1890). Because they and others could not base their theories on the operation of the brain, a disparate range of theories emerged, from radical behaviorists to primal scream. We could refer to this era as the Cartesian Era, a brainless period with no common denominator.

The theoretical schools of the Cartesian Era became walled-off silos with self-reinforcing concepts relevant only within each school. Each built-in infrastructure of presumed competency and proficiency using the jargon of that theoretical school. Conferences are still held for devotees of those schools of thought where esoteric lectures are given and understood only by those with higher levels of acculturation within those schools. Many schools issue certificates. I once had dinner in Brisbane, Australia, with a group of “Level 4” eye movement desensitization and reprocessing (EMDR) practitioners. During a break in a lecture I was giving in Wellington, New Zealand, a woman approached me identifying herself as “one of the 24 masters of emotionally focused therapy (EFT).”

If a person from one of the many incarnations of the psychodynamic schools were to attend a conference of cognitive-behavioral therapy (CBT) or vice versa, even the most basic presentations would sound like a discussion among extraterrestrials. More troubling is the effect on people with psychological problems that we are trying to serve. As they go from a therapist of one school to a therapist of another school, they become increasingly confused by what they hear and what they are asked to do to recover from their psychological problems.

Turf battles among professional disciplines have left clients even more confused. Not surprisingly, the psychotherapy efficacy studies during the Cartesian
Era were bleak. For example, in 1952 Hans Eysenck published a study that showed that the mere passage of time was as effective as psychotherapy for many people. In the late 1950s, Timothy Leary, before his Harvard professorship and his devolution into a psychedelic haze, did a study in the Kaiser Permanente system that showed that people on a wait list for therapy did as well as people in psychotherapy.

In 1980, Smith, Glass, and Miller published the results of a large meta-analysis of multiple studies on the efficacy of psychotherapy. At the time, there were already in place many of the elements of a major change which served to obscure the insights that could be derived from the study's results. Their book, *The Benefits of Psychotherapy*, showed that psychotherapy in its generic form actually did work to help people with psychological problems find relief. But it was too little too late. Around 1980, a variety of factors combined to bring most mental health professionals to partially agree on a unifying model to embrace. The first factor was the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*, which served as a more valuable contribution to our field than *DSM-I* and *II*, which contained far more theory than science. *DSM-III* was three times the size of *DSM-II* and contained science, albeit light, supporting its concepts. For example, there was a more coherent conceptualization of trauma, and the term “posttraumatic stress disorder” was born.

Simultaneous with the publication of *DSM-III* were the inventions of the selective serotonin reuptake inhibitors (SSRIs) and an opportunity to prescribe antidepressant medications that could not be used in a suicidal overdose. Prior to that time, the tricyclic antidepressants (TCAs) then in use often were associated with intentional or even accidental overdose. I was a community mental health administrator during that period, and I lost three clients who attended my programs to TCA overdoses in one year.

Occurring in the 1980s was the increasing dominance of CBT and the research demonstrating particular CBT techniques that eventually became known as EBPs. By 1990, economic forces converged with the *DSM-III*, medication, and evidence-based therapy developments to form the elements of managed care (which some call “managed dollar”). Last but not least, licensing laws were being refined, and practitioners within the system were required to attend accredited academic programs and internships to practice.

All these developments combined led Lloyd Linford and me to call the era beginning in 1980 Pax Medica (Arden & Linford, 2010; Linford & Arden, 2009). The term “Pax Medica” is, of course, a play on words, taken as a metaphor to mean the medical model. Similar to the concept of the Pax Romana (Roman peace), where 2,000 years ago Roman citizens could travel anywhere in the Roman world without problem and expect to be relatively safe, mental health providers who operated within the context of Pax Medica need not feel their competence was threatened. The medical model of Pax Medica dictated a pecking order of professionals. Since medication was considered one of the principal treatments for people with psychological problems, and psychiatrists,
not psychologists, are licensed to prescribe these medications, psychiatrists are at the top of the pecking order.

Pax Medica has led to multiple cultural side effects that include regressive changes in the way mental health disciplines are conceptualized. Medications removed psychology from psychiatry and moved psychology toward the medical model. Since medication was seen as the first-line treatment and because it was presumed that the patients suffered from “chemical imbalances,” psychiatrists retained their top position in the pecking order of mental health professionals.

Pax Medica is essentially a one-dimensional medical model that shaped economic forces to solidify around an emphasis on medication and less psychotherapy. Mental health professionals quickly fell in line and even began to speak “clinicalesa.” We referred to ourselves as “clinicians.” When we sat in “treatment planning meetings,” one might say “Okay, what’s the diagnosis?” In response, another clinician would say, “Well, clinically speaking…” Another clinician would say, “Well, what’s medically necessary?” Everyone sat there quite smug feeling like they knew what they were talking about.

Consistent with the Pax Medica concept of missing brain chemicals, biological psychiatry envisions psychological disorders as having a genetic etiology. The fact that the environment can contribute to changes in genetic expression and the brain changes with experience through neuroplasticity was not part of the intellectual landscape.

Pax Medica envisions discrete psychiatric disorders, similar to different medical diseases, such as diabetes, multiple sclerosis, and heart disease; so depression, anxiety, posttraumatic stress disorder (PTSD), dissociative disorders, and now, according to DSM-5, even bereavement is considered a medical problem. When two or more symptom clusters satisfy the diagnosis of two categories, the “clinician” notes “comorbidities.” One of the many problems with this one-dimensional model is that often there is considerable overlap in many syndromes and often similar neural circuits are implicated, especially in anxiety disorders. As Bremner (2005) stated, PTSD and acute stress disorder (ASD) are better thought of as part of trauma spectrum disorders than as discrete disorders.

Many clients and unfortunately too many mental health professionals bought into the simplistic idea of genetic determinism that developed in the Pax Medica era. As such, they subscribed to the belief that some people, despite their best efforts, are genetically determined to develop “major depressive illness” for which the only cure is the “right medicine.” This archaic belief does not emphasize that clients do anything to improve their mood. Believing that they are predestined to be depressed, they argue, “Why try?” They feel helpless and hopeless, which only increases their depression.

Clients need to be told that the field of epigenetics has shown that genes can be either expressed or suppressed by many factors that can lead to or away from depression. Some behaviors turn on genes; some turn them off. For example, psychosocial factors, including lack of social support as well as traumatic
interpersonal events, such as intimate partner abuse, add to the risk of genetic vulnerability for depression.

The brain can be rewired to develop a habit. You can explain this to clients by describing how prior depressive episodes increase the chances of becoming depressed again. The severity of the depression increases the risk for more depression. Prior suicide attempts increase not only the risk of subsequent suicide attempts but also more episodes of severe depression.

Until approximately the year 2000, all the mental health professionals were aligned behind Pax Medica. Then the cracks in the alliance began to show in a steady stream of psychopharmacology efficacy studies published in highly esteemed journals, such as the New England Journal of Medicine and the Journal of the Medical Association, which seemed to dissolve the very foundation of the medical model. Indeed, during the first two decades of the 21st century, numerous articles detailing well-crafted studies have shown that the efficacy of antidepressant medication has been greatly overestimated and the long-term use of antianxiety medications is countertherapeutic.

One study, based in part on information derived through the use of the Freedom of Information Act, found that over the past 30 years, studies showing positive effects for antidepressant medications were 12 times more likely to be published than studies showing no efficacy (Turner, Matthews, Linardatos, Tell, & Rosenthal, 2008). It would be far too simplistic to assume that this disparity is due only to the mammoth power of big pharma. The culture of Pax Medica had a zeitgeist that psychological disorders can be cured, or at least managed by medication, the principal mode of treatment.

In an article published in Scientific American aptly entitled “Antidepressants: Good Drugs or Good Marketing?” it was suggested that due to the power of the simplistic model of what causes depression, only 50% of all drug trials over the past century were published or reported (Dobbs, 2006).

The early and widely touted success of SSRIs was based on faulty methodology as well as selective reporting. A large scale reanalysis of the studies of the efficacy of SSRIs indicate positive results fall between 56 to 60% (Taylor et. al., 2006). The fact that over half of patients taking SSRIs did become less depressed is respectable, but when compared to the percentage of people responding to a placebo, the hype related to the serotonin effect loses its luster. According to a meta-analysis of studies of people who are depressed, between 42% and 47% respond positively to a placebo (Arroll et al., 2005). That is roughly 10% less than the numbers of patients who responded to SSRIs, but how many of those responding favorably in the SSRI group actually experienced a placebo effect in response to the side effects of medications? Perhaps they may think, “Well, my stomach doesn’t feel right, but I guess that is the price you pay for medicine to work.”

Thanks again to the Freedom of Information Act, researchers from the University of Connecticut and George Washington University obtained efficacy data submitted to the Food and Drug Administration (FDA) for six SSRIs (Kirsch,
They found that 60% of the SSRI studies failed to show that they worked better than placebos. Roughly 80% of the patients’ responses were duplicated in the placebo group. And when each group took a depression inventory after treatment, the score differed by only 10%.

The research literature has presented a growing body of criticism of the popularly assumed “truth” that low levels of serotonin cause depression. For example, although there is no direct way to measure the amount of serotonin in a person’s brain, some researchers have attempted to lower the body’s production of serotonin. Neurotransmitters are synthesized in the body from precursor amino acids. Serotonin is synthesized from tryptophan. Researchers at Arizona State University subjected people to a tryptophan-free diet to reduce their serotonin levels. While healthy people without a family history of depression showed no effects, one-third of healthy people with a family history of depression became depressed. The immediate question in regard to this finding is: What about the other 66% who did not get depressed? If serotonin is the sole culprit, these findings question that theory (Delgado, 2000). What is most striking is that two-thirds of people being treated with antidepressants became depressed after a mere five hours. But antidepressants usually take up to four weeks to be effective. This finding seems to suggest that the SSRIs do indeed affect serotonin systems, but how? Another study, from a completely different angle, showed that the drug called tianeptine (brand names Stablon, Coaxil, Tatinal, and Titanerax) reduces depression; but it also acts to reduce serotonin levels (Fuchs et al., 2002). Tianeptine is the most popular antidepressant in France.

The brain is far too complex for linear Pax Medica explanations that depression is the result of low serotonin levels. Neurotransmitters do not operate independently. A change in one neurotransmitter will result in a nonlinear change in other neurotransmitters. Indeed, as Dunlap and Nemeroff (2009) pointed out, “It is now generally believed that disrupted signaling of no one single neurotransmitter is the etiologic agent for major depressive disorder because the monoamine systems interact extensively, both in the brain stem at the level of cell bodies and in the terminal projection regions” (p. 1069).

Researchers at Vanderbilt University found that 81% of those taking an SSRI relapsed in the year following treatment, while only 25% of those receiving CBT relapsed (Arroll et al., 2005). Similarly Sonia Dimidijian and colleagues from the University of Washington randomly assigned 240 people with major depression to a medication (paroxetine [Paxil]), a placebo, CBT, or behavior activation groups for 16 weeks. They found comparable results between behavior activation and medication. But in a subgroup of severely depressed people, behavior activation outperformed medication, CBT, and the placebo. Four times as many people dropped out of the medication treatment group than the CBT or behavior activation group. Behavior activation reaps rewards in behaviors that continue well after therapy. Such benefits do not accrue to patients taking medication, even when there is a positive response to the drugs.
In his book *Anatomy of an Epidemic*, Robert Whitaker (2010) meticulously detailed the alarming rise of people diagnosed with bipolar disorder and attention-deficit hyperactivity disorder (ADHD). There have been many factors contributing to the trend. The rise of big pharma represents only one part of the converging forces that have led to more diagnoses resulting from more disorders to treat with medication. The number of contributors to the development of DSM-5 with affiliation to big pharma companies increased significantly over the number contributing to DSM-IV. It is well known that a significant number of psychiatrists receive their continuing medical education (CME) credits at luncheons and dinners sponsored by drug companies. More psychiatric medications are available than ever before, and with DSM-5 more diagnostic disorders to “treat” with medications. This alarming trend is consistent with the general attitude of the large portion of the population that wants easy answers for complicated problems.

I do not mean to say that Pax Medica has not served a purpose. It has brought us all on one page from the confusion of the Cartesian Era. However, it offered a very limited understanding of brain function, with its focus on missing brain chemicals and its principal treatment, medication.

While I am not proposing that psychiatric medications should be avoided, minimizing their use until other approaches are employed is far more prudent than the excessive prescriptions inherent to the Pax Medica era. Before making a referral for a med evaluation or reaching for the prescription pad, mental health professionals should have clients try exercise and diet, which actually up-regulate neurotransmitter systems instead of down-regulating them.

Psychiatric medications certainly have a place in treatment. However, mental professionals, including primary care physicians who write 60% to 80% of the antidepressant and antianxiety prescriptions, go there far too quickly. Far too many people who do not need medications are prescribed medications.

Medications should be prescribed based on client genome, age, gender, and situation in life rather than a generic one medication per diagnosis. There are numerous reasons why the maxim “less is more” represents more than simply a sensible caution. Older adults cannot metabolize medications as easily as younger ones, and thus they require careful monitoring. To assume that the increasingly overburdened prescribing physicians have time to watch for synergistic reactions to other medications is hopeful thinking at best. Monitoring all the medical conditions and changing life situations of each patient is hard enough within managed care. Therapists should assume the responsibility of communicating details about each patient to the prescriber, given their higher frequency of communicating the sessions.

**EMBRACING THE 21ST CENTURY INTEGRATIVE APPROACH**

The fragmented Cartesian and one-dimensional model Pax Medica trends of the 20th century are being replaced by an integrated multidimensional model of the 21st century. Brain-based therapy integrates the common factors. Thanks to major