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THE REVOLUTION IN TRAUMA PSYCHIATRY:

BESSEL VAN DER KOLK'S STRUGGLE FOR A NEW TREATMENT PARADIGM

INTRODUCTION

For years I sat through the hospital's interminable Board of Overseer meetings with nothing to say. Unlike many of my fellow Board members who were medical doctors, I never had a day of medical education, and I knew absolutely nothing about hospital administration. I was just a local college professor who by circumstance had become an attorney. Every third or fourth Board meeting the Chairman would squint in my direction just long enough to make me wonder if perhaps he knew my name.

Then one day—decades ago now—a psychiatrist friend of mine named Bessel van der Kolk called to ask if I were still on that Board. When he learned that indeed I was, he went on to describe how he was searching for a new institutional home for his well-respected psychiatric research facility, “The Trauma Center.” He asked if I would consider introducing the idea to the hospital Board, reminding me twice over to emphasize the fact that the Trauma Center turned a net surplus each year. As van der Kolk was almost certainly the best-known trauma psychiatrist in the world, I could see in this opportunity—I think he was still in mid-request-- how I might *finally* have something to contribute to one of those lackluster Board meetings. I even went so far as to picture the Chairman's myopic squint melting into a grin as he calculated what a valuable opportunity this was: bringing in a renowned scholar, incorporating his respected research center into the hospital, and adding a yearly positive cash flow to the hospital's bottom line. How could anything possibly go wrong?

Well, it did go wrong—badly wrong— notwithstanding my strategic decision to wait two Board meetings until I could describe this amazing opportunity in the presence of the Chief of Service of the Department of Psychiatry-- who was scheduled to make a routine report. The big day came, and for every second of his allotted half-hour, the Chief droned on about the most mundane of developments in his department. Whether it was his viscous, slow monotone-- or the excessive heat from the summer sun that beat down through the windows— something was increasing Board somnolence to previously unexplored levels. Even the Chairman of the Board was nodding off, only to be rudely awakened when his head occasionally snapped upright. He seemed at significant risk of whiplash.

Anyway, when silence finally fell upon the room and the visibly refreshed Chairman asked the Board for questions—there were none. So... I somewhat hesitantly raised my hand for

the very first time ever in that boardroom. In complete astonishment, the Chairman nodded in my direction. I smiled, turned my gaze toward the psychiatry department Chief, and set out to describe how the famous trauma psychiatrist, Bessel van der Kolk, M.D., had called to tell me that his internationally renowned research and treatment center was searching to relocate to a new umbrella organization. I explained how he had asked me to explore with this Board if there were any interest in discussing a possible alliance between the two institutions, and I briefly described the astonishing advances van der Kolk and his colleagues had reportedly made in understanding and treating traumatic stress, and how they had accomplished this by developing an innovative approach.

During the few minutes it took me to deliver my little spiel, the psychiatry department Chief had remained perfectly still and entirely silent. He stared intently into my eyes, seemingly concentrating on the details of the message I had been commissioned to deliver—or so I thought at first. At some point, however, I noted his increasingly audible breathing: something was brewing inside the man. What I didn't know was that his ever-rosier cheeks were like the infamous 'bubble' that developed on the face of Mt. St. Helena before its massive explosion in 1980. When I finished speaking, the Chairman of the Board— whose face was beaming with delight over what seemed like such unequivocally good news-- asked the psychiatry department Chief for his reaction to Dr. van der Kolk's proposal. Silence fell upon the overheated room while we waited for a response—and then, just like the Washington State volcano—a verbal eruption ensued.

The essence of what the Chief said is indelibly etched into my memory-- especially the final few sentences. These were delivered with unrestrained emotion-- and quite a considerable amount of sunbeam-enhanced spittle. "There will never be counter-culture psychiatry in my department. Never. Not while I'm the Chief of the department-- not ever. Because if he comes here, I'll resign. So will others."

As you might imagine, I was completely floored by the entire experience. It was like being too near an explosion. Now it was I who sat motionless and speechless— sort of in shock, I suppose. Eventually I rallied enough to look over at the Board Chairman—who was glaring at me over half-moon eyeglasses with an unmistakable "you-broke-it, you-fix-it" look in his eyes. Clearly, it was time for a strategic retreat—and so, without further delay, I announced to the Chairman that I wanted to withdraw what I had said, and immediately followed that up with a request that he read out loud the next item on the day's agenda. And that was that for my matchmaking career.

BESSEL VAN DER KOLK, M.D.

Before I even introduce you to the psychiatrist who caused all this trouble-- the doctor whose name is identified with the revolution in how a significant percentage of contemporary psychiatrists conceive of and treat traumatic stress-- I need to disclose the nature of my relationship with Dr. van der Kolk. We met sometime in the 1980's, and over the ensuing four

decades we have had a truly symbiotic professional relationship. Van der Kolk— but let’s call him “Bessel,” everyone always does -- served over and over again for me as an expert witness in trials that I litigated. Many of these cases concerned the abuse and neglect of children, with the most famous case being one that added incest to the intergenerational sexual abuse of children. This three-year-long, massive litigation case is briefly described later in this essay, and fully analyzed elsewhere. (1)

In the other direction, I have represented Bessel and his Trauma Center in many legal matters, including a week-long, knock-down, drag-out jury trial where we learned of our complete victory when the jury’s foreperson read the verdict out loud. In addition to providing litigation representation, I was often consulted by Bessel on many children’s social service agency and Department of Children and Families issues, as my law career involved serving as general counsel to many of Boston’s largest children’s social service agencies. More recently, when Bessel decided (once again) to remove his distinguished “Trauma Center” from (yet another) umbrella agency where it had been housed— this time to reorganize it as a stand-alone charitable foundation-- he turned to me for the requisite legal work. Subsequently, he invited me to be a founding Board member of the new entity, “The Trauma Research Foundation,” and to serve as its General Counsel.

So, this essay is anything but objective reporting. On the contrary, it is the story from the inside of one of the rarest of scientific accomplishments: when the life work of a scientist is so creative, so forward looking, that it ends up revolutionizing its field of inquiry. Successful reconceptualizations can be momentous: they have the power to materially change how other scientists envision their topic and approach their work. And, very occasionally, paradigmatic changes in science can have an even grander effect: some manage to alter how the public perceives, interprets, and understands the world in which they live. Darwin’s discoveries are perhaps the ultimate example of this: arguably, no rational mind in our era can think its way around the fossil and comparative anatomical evidence that explains both the origin of the species and the descent of man.

The revolution Bessel and his many colleagues have championed was of the more modest variety: it merely attempts the reconceptualization of trauma psychiatry. Bessel, who emigrated from Holland to the States when he was sixteen, remains a vigorous and hard-working research psychiatrist even today as he nears eighty years of age. His Trauma Center is without question the world’s premier center of learning for trauma-informed research— even more so than it was nearly three decades ago when he first sent me into the breach of battle in that infernal hospital Board room. The Center has achieved national and international visibility through its funding of cutting-edge psychiatric research into body-mind trauma treatment techniques, both by its own professional staff, and by psychiatrists from across the country and abroad. In addition, each year for the past thirty-three years the Trauma Center has organized a week-long colloquium, where thousands of trauma-informed mental health professionals gather to present their research findings to one another. Finally, and just as importantly, the Trauma Center benefits in multiple ways from Bessel’s worldwide visibility, which has skyrocketed since the publication of his extraordinary book, *“The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma.”* (2)

Why do I label the book “extraordinary”? First, because it has sold well over three million copies in English, which kept it at the top of the non-fiction best-seller lists of both The New York Times and Amazon for over a hundred weeks. These sales numbers are *two orders of magnitude* beyond book sales by other medical doctors, where selling thirty thousand copies is considered a noteworthy success. (3) *The Body Keeps the Score* currently has over 41,000 reviews on Amazon—a number equaled by very few other non-fiction authors. Additionally, the work has been translated into thirty-eight foreign languages, the sales of which are not even included in the above numbers. To my mind, the astonishing magnitude of these sales numbers for a scientific work—for any work of nonfiction-- tells us that there is something quite profound taking place here.

The book is also remarkable in that it is written in an open, approachable style, making its content available to anyone who wants (or needs) to read about traumatic stress—or to anyone who wants (or needs) to understand why pure, traditional psychiatric talk-therapy is limited in its capacity to help victims of traumatic experiences. Bessel’s book, while brutally honest about the depths of dysfunction that traumatic stress can generate in the lives of war veterans, rape survivors, and maltreated children, in the end is also hopeful about the possibilities of reaching through to patients. Bessel describes a dozen recently developed body-mind treatment techniques, some of which are proving to significantly improve patient outcomes.

Third, and perhaps most importantly, the book is noteworthy because it approaches the topic of traumatic stress and trauma-informed psychiatric treatment from a dramatically revised perspective. While elements of Bessel’s approach were addressed in the 1880’s at the very earliest moments of psychiatric medicine, Bessel and his colleagues have markedly advanced both the theory and the practice of trauma psychiatry over the past forty years. His fame -- and those crazy book sale numbers -- are most assuredly a sign of how effective the approach that Bessel advocates has proven to be in the real-life clinical practices of tens of thousands of mental health professionals. But the success is also a product of Bessel’s willingness to engage in a relentless personal struggle to promote the new paradigm-- and when I say struggle, I mean the term quite literally.

WHAT TO DO WHEN A ROOSTER LAYS AN EGG?

It seems nearly impossible to exaggerate how determinative and inhibiting paradigmatic dictates and constraints can be on one’s thinking—and even on one’s perceptions. This is spectacularly true when we refer to grand-scale paradigms, in the sense of the *Weltanschangen* — worldviews-- that organize a given society’s perception and conception of everyday life at a given time. The fact that private minds are in significant part given order by public paradigms is just as true for modern man, of course, as it was for our ancestors. Consider, for example, why in our science-informed world we find it literally *impossible* to settle for a magical explanation for an illusionist’s tricks. Magical explanations, in our era, are logically unacceptable to our minds because our notions of causality filter them out. We are scientists—all of us—because we were raised in a scientifically informed paradigm of thought. It is not at all a matter of chance that magic in our era is invariably relegated to sideshow status—which, by the way, represents a precipitous descent from the central role that magical thought played only half a millennium ago.

The late, and erudite scholar E.V. Walter leaves us a charming essay (4) that takes our attention back five hundred years ago when the logic of causality in the Western *weltanschauung* was just in the process of transitioning from a magical to a rational logic of causality. To make his point about the nature of this fundamentally important change, Walter elects to tell us the story of one of the more peculiar moments in the history of this transition: the medieval animal trials. Europe in the 1500's was inexorably moving away from the magico-religious worldview of earlier times, but as it rushed forward to embrace the rationalist-scientific worldview of the Renaissance, the Enlightenment, and the oncoming scientific revolution-- it occasionally tripped over its own feet, as in the animal trials. (5)

The most famous of these trials took place in central Europe, with Switzerland hosting several of the most notorious cases. At the time, magico-religious explanations of real-world events existed alongside the new rational, linear explanations—in significant part because 16th c. scientists' capacity to explain natural world phenomena remained entirely modest. But the scientific *method*—including the requirement of rational discourse based on demonstrable evidence—predated the arrival of many of science's substantive contributions. And where in the historical record does one first see an insistence on the employment of rationalist procedure? In the newly formed law courts! Then, as now, a law court's procedural rules were all about ensuring measured, calm, rational debate controlled by evidentiary rules that disallowed hearsay, and assured both sides to a dispute a full opportunity to put forth their evidence and argue their case. All of this was aimed at assuring an evidence-based, rational outcome. But can a court issue a rational verdict for a magical crime?

Professor Walter describes one animal-trial that provides a clear example of the epistemological awkwardness of the moment, what with its coterminous, contradictory notions of causality. The matter involved the rats of Basel. Yes, the rats. We know from the historical record that in the mid 1500's the area's vermin had overrun and destroyed much of the year's barley crop, and that famine loomed. In response, a criminal action was filed in court, indicting the city's rats as defendants. The era's most flamboyant criminal defense attorney, Bartholomew Chasseneux— sort of the Alan Dershowitz of his day-- volunteered to represent the rats. The court records tell us that when the prosecution moved for a directed verdict based on the defendants collective failure to appear in court—and hence their legal default—Attorney Chasseneux successfully argued to the Court that it was procedurally inappropriate to ask the city's rats to respond to the town crier's announced summons-- because there were simply too many cats out in the streets for the rats to safely make their way to court. Acknowledging the soundness of the defense's argument (!), the trial Judge then set a new default date, and ordered the town crier to call out and post notice that all cats were to be taken indoors on the newly set return date. When the rats yet again failed to appear at the subsequent hearing-- notwithstanding the feline-free streets-- the prosecution's renewed motion for a default judgment was granted. Thereupon, the vermin were found guilty of the crime of being agents of the devil, with the court's sentence being excommunication by the Church.

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**IN THE SOCIAL SCIENCES PARADIGMS NEVER DIE...
THEY DON'T EVEN FADE AWAY**

Even in the physical sciences, it is no easy matter to introduce an overarching new paradigm and convince others to abandon older, now demonstrably inferior approaches. The great German physicist, Max Planck, phrased this phenomenon about as succinctly as possible: "... a new scientific truth does not triumph by [its proponents] convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it." (6)

In the social and psychological sciences, this is even more the case. We undertake research in fields of study which by their nature—or perhaps by the infancy of our sciences-- are seldom if ever characterized by timely, quasi-universal, recognition and acceptance of revolutionarily innovative approaches. At times this can hold true even when the newly proposed model clearly provides more robust explanatory power: at best, the new approach is likely to be labeled as an "alternative approach," with practitioners free to work from whichever platform they elect, with very few if any controls or sanctions. We have never had, and do not now have, any arbiter, or any recognized and respected process to decide between older and newer paradigms. There is no central academy to think through and announce which explanation explains more, or which model produces fewer anomalies. While it is true that agencies which fund social science research sometimes formulate their decisions based in part on a comparison of competing theoretical models, the big story is the relative inability and unwillingness of social scientists to grant recognition to new research models, or to put outdated ones to rest.

Take for example the work of the renowned French sociologist, Alain Touraine. Touraine set out to explain the student movement that first arose at Cal Berkeley in 1964. By 1968 almost identical student uprisings were repeated in hundreds of universities throughout the Western world, and perhaps most notably in Paris. Touraine taught Sociology at the Nanterre campus of the University of Paris – where his most movement-involved graduate student was none other than the movement's leader, Daniel Cohn Bendit. So, how to explain the universality of the student movement? What was going on in Western societies that might explain the quasi-universality of the movement?

In contrast to reductionist explanatory models that were floated by top American sociologists—for instance "contagion theories" that analyzed the spread of student activism as if it were due to a virus—Touraine proposed a wholly new model that attempted to explain the ubiquity of the movement through an analysis of the underlying economic and social structures that were present in all the Western countries. His model, very briefly explained, distinguished "crisis movements" from "political movements" from "social movements." Crisis movements, he argued, are short-lived, one-issue movements, such as "not-in-my-back-yard" protests. In these ephemeral associations, movement adherents are bound together by only one single issue, often having nothing else in common whatsoever. The model explains why a resolution of the single issue at stake leads to a definitive dissolution of the short-lived association between the activists. In contrast, political movements—whether progressive or regressive—are formed among adherents who share a more general common outlook that they apply to a range of substantive issues. In addition, they do this over an extended time-period, and they come to know and relate to each other far more generally. More rarely, Touraine's hypothesis continues, underlying structural changes in the mode of production and the associated patterns of social organization, distribution, and consumption, give rise to true "social movements." These

uprisings, formed and fueled by alterations in the underlying economy, produce activists who so broadly and profoundly identify with one another that they often alter their lifestyle precisely to be more like one another. They socialize together, they marry one another, they create and adopt new sub-cultural patterns—all to make their everyday lives consistent with their movement’s redefinition of how one ought to think, what one ought to read, how to talk, how to dress, how to groom, how to dance, and, more generally, how to live their personal and family lives.

Touraine’s model, to my mind at least, provided far greater explanatory power than did a contagion theory (which was, at most, an analogy) -- or any other form of reductionist, social-psychological model. I say this because I was a full participant in the Berkeley student movement of 1964, and I can personally attest as to how profoundly insightful Touraine’s model is when I look back on how I became swept up in the movement that was to shape my college years. I made these same points in my 1971 preface to the English translation of Touraine’s book on the French student movement of 1968, *The May Movement: Revolt and Reform* (7):

“In the *Conflict of Generations* Lewis Feuer makes an unconvincing attempt to provide a psycho-dynamic explanation of the student movement. The movement is seen as a generational struggle coming from “deep, unconscious sources: “vague, undefined emotions which seek some issue, some cause, to which to attach themselves.” In the San Francisco sociological convention of 1968, Talcott Parsons carried such non-sociology further. Confronted with radical graduate-student, counter-convention “truth squads” who held up placards spelling out “horseshit” at appropriate intervals, Parsons describes such activities, and the student movement, as an Oedipal displacement. The attack on the Alma Mater was the unspeakable Oedipal crime accompanied by open aggression on the father-faculty. Seymour Martin Lipset has on a number of occasions taken a psycho-structural orientation which concludes that the movement is “deviant behavior.”

Fully half-a-century after I published these words, nothing has changed. All of these wildly varying explanatory models are still extant. While I personally experienced an explanatory power in Touraine’s model that was an order of magnitude greater than that found in Parsons’ or Lipset’s haphazard explanations, there was—and remains-- no conceivable forum in which any argument or evidence I could have offered would have succeeded in causing either Professor Parsons or Professor Lipset to rethink their positions. Had I tried, my efforts would have been entirely overwhelmed by the unequalled academic prowess and positions of power enjoyed by both men-- each having served as a President of the American Sociological Association. When the factor of differential academic power can easily and assuredly overwhelm a demonstration of superior explanatory power, fruitless explanatory paradigms will not—or will only very belatedly—be displaced, and knowledge in such spheres of inquiry will advance at a snail’s pace. As the matter was more artfully phrased by the late social philosopher, Alasdair MacIntyre: “Methodology textbooks in the social sciences resemble nothing so much as they do texts in military colleges in countries that are about to lose wars.” (8)

**YOUR DEPARTMENTAL CHAIRMAN, YOUR FUTURE TENURE,
AND YOUR PROMISING NEW PARADIGM**

MacIntyre's point, my imagined debates with Professors Parsons and Lipset—and my experience in trying to introduce Bessel to that hospital Board decades ago-- raise the enigma of deliberate institutional blockage (or delay) of paradigmatic updating in a given field of scientific research. Thomas Kuhn (9) and many other historians of science have documented this issue in detail and remind us that this practice occurs in the physical sciences just as it does in the social sciences. Both spheres of scientific inquiry are subject to many types of social forces, some of which invariably end up waging or encouraging rear-guard battles against change in general—and most assuredly against a change involving the acceptance of a revolutionarily new theoretical formulation.

Some of those staging regressive reactions to proposed new paradigms do so as a product of an overt ideological conflict (the Catholic Church and Galileo/Copernicus), while others do so as a by-product of academic gamesmanship. But perhaps the most interesting refusals to update moribund paradigms are those cases where the inability or refusal of a scientist to recognize and adopt the increased power of a newly proposed paradigm is *neither* a by-product of ideological opposition nor an assertion of academic power relations. In such cases—when a researcher is societally and professionally free to adopt a new research paradigm but is unable to succeed in doing so—there is the distinct possibility that the scientist may be stymied by a self-made barrier: an epistemological blockage. That is, an individual scientist may simply be unable to overcome the old paradigm's categories and logic of conceptualization, because their unexamined continued use of the old paradigm's conceptual elements may disenable them from grasping and appreciating the advantages of the proposed new model. After all, a great deal of not only *what* scientists think, but also of *how* they think, is a product of the epistemological concepts and operational logics that were presented to them when they were educated in their field of study. Thinking oneself “up and out of” an outdated research paradigm into a new alternative paradigm takes a considerable degree of intellectual humility-- and a great deal of hard work retooling one's thought processes. This is true for any practitioner of “ordinary science” contemplating adoption of a newly available research paradigm, but it is true in spades for the revolutionary scientists who proposed the categories and logics of the new paradigm. It's hard work to change your own mind, but it's far, far harder work to change everyone else's.

While we are talking about “changing your mind,” it seems worthwhile confirming what should be obvious: the very enterprise of science is all about remaining open to the need to change your mind. And, from time to time, this includes the profound degree of change that is required to move on from a reigning paradigm in favor of an updated reconceptualization. Science is *never* about the search for “truth”: that endeavor belongs to the worlds' many religions, most of which are in the business of trying to reassure their flock that their religion (unlike all others) has a direct line to the truth—usually with a capital T. Science, in contrast, is a simple, straight-forward undertaking: you propose a research design; you gather, analyze, and share the data; you seek and take heed of peer feedback; and—perhaps most importantly of all—you keep your mind open to revise what you previously understood in the light of what you've learned. Scientists, unlike religious leaders (10), are (or are supposed to be) exhilarated by being shown a more powerful approach. And arguably in medicine, including in medical research, the Hippocratic Oath imposes on a doctor or medical researcher the *duty* of carefully considering the advantages of adopting the new approach without delay precisely because it promises better patient outcomes: “I will respect hard-won scientific gains of those physicians in whose steps I

walk...” Perhaps obstinate physicians should take greater heed of the fact that one of the classical routes to medical malpractice is the failure to stay current.

With these general thoughts in mind about the many factors at play when a scientist introduces demonstrable evidence of a better model and a more productive approach, let’s turn to look at the singular career of Dr. Bessel van der Kolk.

BESSEL VAN DER KOLK AND THE ONGOING REVOLUTION IN TRAUMA PSYCHIATRY

Addressing how we humans react to traumatic stress has always been a part of psychiatry. The early advances took place in late 19th century France, mostly involving studies of hysteria, a somewhat mysterious syndrome characterized by unprovoked emotional eruptions, extreme vulnerability to the suggestions of others, intermittent paralysis, and bothersome tics. Early researchers referred to traumatic memories, as “mental parasites,” referring to the unwanted persistence of such debilitating recollections. Jean-Martin Charcot and Pierre Janet set up a research laboratory in Paris, and later published a widely read book on what lay at the root of what we would now call posttraumatic stress disorder (PTSD). These first progenitors of modern psychiatric science theorized in their teachings and writings about the intense emotional arousal that accompanies traumatic happenings, and how victims seem unable to avoid repeating the actions and emotions that occurred during the events. Janet was quite explicit that traumatic memories are of a different nature than the memories of a day’s ordinary events. Quotidian memories fade quickly for most of us, he posited, while traumatic memories, when triggered, lead to a trauma victim’s involuntary reexperiencing of the emotions he or she felt at the time of the trauma. In addition, Janet reported that his patients also reported that at times they had a frighteningly vivid recall of the sensations experienced during the original event. Janet also described how such memories were dissociated— that is, not integrated into a story with a beginning, a middle, and an end.

In 1885 Sigmund Freud traveled to Paris to study with Charcot-- after whom he would later name a son. The fruit of these studies came eight year later when Freud—working with another of his mentors, Josef Breuer, published a paper on hysterics, greatly influenced by both Charcot and Janet. Freud and Breuer wrote that “... these memories are not subject to the “wearing away process” of normal memories and “...persist for a long time with astonishing freshness.” Moreover, the authors stressed, ordinary consciousness was not in control of traumatic memories, or as they phrased it “...are not at the patient’s disposal...” The article also includes-- with remarkable foresight-- the observation that “*these experiences are completely absent from the patients’ memory when they are in a normal psychical state, or are only present in a highly summary form.*” [Italics are the authors]

Clearly, Breuer and Freud understood that traumatic memories and the affects they had on trauma victims were of quite a different nature from memories of non-traumatic past events. Nevertheless, for reasons not fully understood, they simultaneously—and somewhat illogically-- overestimated the power of their newly developed talk-therapy to treat both non-traumatized and traumatized patients with one and the same therapeutic strategy. As they phrased this in their 1893

paper, “...to our great surprise... each individual hysterical symptom immediately and permanently disappeared when we had succeeded in bringing clearly to light the memory of the event by which it was provoked and in arousing its accompanying affect, and when the patient had described that event in the greatest possible detail and had put the affect into words. Recollection without affect almost invariably produces no result.” (11)

Despite the obvious inconsistency of this assertion with the authors’ own analysis of the very particular nature of traumatic memories, it was this over-the-top claim that proved to have an outsized effect on academic psychiatry. To this very day, the “talking cure” that Breuer and Freud heralded as the definitive cure-all continues to dominate mainstream psychiatry, and it is still lauded by many a professor in graduate psychology and psychiatry courses under its current brand name, “Cognitive Behavioral Theory.” When Freud subsequently turned his attention from investigating how his patients reacted to, remembered, and were affected by traumatic shock (often, their sexual abuse as children) to exploring their wishes, dreams, and fantasies, research on trauma and its aftermath ground to a halt.

Then along came W.W.I with its prolonged litany of horrors and the subsequent return home of hundreds of thousands of physically healthy but mentally destroyed veterans. They presented with strange psychological behaviors, undiagnosable medical complaints, and massive memory loss. Thousands never spoke again, although they were physically capable of doing so. Many, perhaps most, of those who could speak chose to never discuss what they had experienced. In reaction to this flood of psychologically wounded warriors, the British developed the diagnosis “shell shock,” which thereafter stood alongside the previous designation for these conditions: “neurasthenia.” There was, however, an important practical difference between the two diagnoses: only a shell shock diagnosis entitled a veteran to a disability pension. As the War dragged on into 1917 and the numbers of these horrifically compromised veterans continued to grow, the British General Staff issued an Order which read “In no circumstances whatever will the diagnosis “shell shock” be used verbally or be recorded in any regimental or other casualty report, or any hospital or other medical document.” (12)

After the War, matters got even worse. In 1922 the British government, which was determined to further reduce the number of shell shock designations because of their accompanying disability payments, engineered the elimination of “shell shock” from all official paperwork, and declassified the injury as a battle casualty. German veterans suffering identical psychological injuries were treated even worse: their traumatic stress was considered a sign of a character defect, for which electroshock therapy was often prescribed. In the U.S., the situation was hardly better: Congress voted to award each soldier a modest bonus for their service overseas, but it was never paid. In reaction, over twelve thousand veterans pitched tents and camped out on the Washington, DC mall to petition for payment of these bonuses. In lieu of a cash payment, however, President Hoover had the “Bonus Army” removed at fixed bayonet point by federal troops supported by tanks. These soldiers were commanded by junior officers whose names would become legend one war later: Douglas MacArthur, Dwight D. Eisenhower, and George Patton. Not surprisingly, research on trauma, and trauma-informed treatment once again ground to a halt.

With the outbreak of World War II, it seemed like this impasse might be removed when several enlightening medical texts were published, including books with titles such as *Shell Shock*

in France 1914-1918 and *The Traumatic Neuroses of War*. (13) In addition to this renewed professional interest in exploring traumatic shock-- and aware of the economic depression that had ensued upon the return of America's WWI troops-- Congress passed the G.I. Bill. This legislation provided millions of these returned warriors with educational funds and home-purchase mortgages. Moreover, the bill was complemented by the Veterans Administration's decision to construct scores of hospitals throughout the country to treat America's physically and psychologically broken troops. It certainly seemed like a hopeful moment for increased research in the sphere of traumatic stress, but that was not to be the case: the era's last medical treatise on combat trauma was published in 1947—and then there was almost complete silence before the Vietnam War once again changed the playing field. (14)

Fast forward to 1978. Bessel takes up his first professional position at the Boston Veterans Administration Clinic—and immediately found himself with a patient base of psychologically wounded Vietnam War veterans. Off he went to the hospital library to learn what he had not been taught-- either in his medical school or in his psychiatry residency: how to treat these compromised trauma victims. And what did he find? Nothing. Not a single book on war trauma. But as Bob Dylan had phrased it a decade earlier, the times they were a-changing.

The war in Vietnam was exceptionally psychologically challenging for its American warriors. On top of all the memories and sensations they carried home from the trauma they had experienced and inflicted, they returned home to a country that was increasingly opposed to the entire war effort. But once again there was a positive consequence of all this suffering: the massive number of psychological injuries and disabilities from the new round of wartime injuries inspired a new round of interest and studies, which culminated in 1980 with the death knell of the diagnosis of “shell shock” in favor of the newly approved diagnosis of “posttraumatic distress disorder.” During this same period, the nascent women's rights movement inspired thousands of survivors of childhood sexual abuse to come forward, soon to be joined by the shocking revelation that hundreds of Catholic priests had sexually abused thousands of their own flock's children. Once again, scholarly works on trauma and its sequelae began to appear, with particular reference to Judith Herman's groundbreaking text, *Trauma and Recovery*. (15)

It was at that point in history, Bessel told me in an interview for this essay, that he began to wonder whether another backlash would once again develop against acknowledging the peculiar nature of traumatic memories-- like those of 1895, 1917, and 1947. And sure enough, it did. This new regressive undertaking can first be seen in the early 1990's: articles began to appear in the press about a newly minted theory entitled “False Memory Syndrome” (FMS). The concept was that when trauma-informed mental health professionals worked with patients who were struggling to understand and articulate why they were so continually disturbed by past events in their lives, the clinicians suggested to their patients that perhaps they had been sexually abused as children. Because of the vulnerability of the patients, FSM advocates argued, the recovered memories that the patients “came upon” were in fact not derived from previously repressed traumatic memories. What was really happening was that suggestions of abuse that had never happened were being implanted—even if unintentionally-- by the patients' clinicians. These articles were extremely aggressive and took the position that there was no scientifically sound evidence whatsoever that people remember traumatic events any differently than they do ordinary events. But then, in a flash, everything about this debate changed overnight with the blockbuster publication by the

Boston Globe's Spotlight Team about the extraordinary extent of priestly sexual predation of choir boys and girls. Worse still, the *Globe* revealed, this sexual abuse had been taking place for decades, and the hierarchy of the Church—right up to and including Boston's Cardinal Bernard Law-- had a long history of taking affirmative steps to systematically cover up this sexual exploitation of the Church's own children. (16)

BESSEL'S SACRED WAR

Boston, accordingly, was ground zero for the litigation that broke out after the *Globe's* Spotlight team's revelations. Hundreds of adults—mostly men-- came to terms with what they had always hidden from themselves and retained counsel to file actions against the Church. But there was a legal problem their attorneys had to confront for each one of them: the statute of limitations for tort actions—three years in Massachusetts-- had long since passed. The law, however, allowed one slim hope of surmounting this barrier: if a plaintiff could convince his trial judge that he had had no way to access memories of the abuse because it had been hidden from him by the very nature of how traumatic memories are stored, then the judge had the discretion to rule that the statute had been “tolled” (frozen) until the time when the plaintiff first recovered the memories.

Cinderella's foot fit so perfectly into that famous slipper, and Bessel's theory of traumatic memory fit so perfectly into the litigation needs of scores of plaintiffs' attorneys in Boston-- each of whom was suing the Church for massive punitive damages. Bessel examined over fifty of these sexual abuse survivors and had the professional responsibility of determining—and later testifying-- about whether they had truly lost touch with their traumatic memories. In those cases where his examination did indeed lead him to determine that a litigant's memory of abuse was only recently recovered, he agreed to testify to that fact in the plaintiff's lawsuit. This meant that Bessel testified over and over again in open court against the Church-- and this provoked formidable animus as one might expect. All of this was entirely public and reported in the press on nearly a daily basis-- especially because Cardinal Bernard Francis Law—who resided in Boston-- was very much in the crosshairs of the *Globe's* reporters. Indeed, Law was eventually fully dishonored and disgraced for his role in the grand scale coverup, removed from his position, and absorbed into the Vatican.

Bessel's role in taking the side of the abused and often collapsed persons who dared stand up and take on the Church in very catholic Boston was played in the press as a sort of Little John to Boston's Robin Hood, Attorney Eric MacLeish. Attorney MacLeish brought the initial few suits and was immediately on the front page of the *Globe*. Given that my law practice was at the crossroads of law and psychology, over the next few years I was called by and met with over half-a-dozen prospective clients who were seeking representation against the Church—all of whom I immediately referred to Attorney MacLeish. Suing the Church had become his specialty, and it took very considerable resources to enter the fray. The Church litigated each case with a merciless vengeance, and to the best of my knowledge never showed any concern whatsoever for the children who had been abused-- notwithstanding the fact that every single one of them was a child of its own parishioners. The lawyering on the defense side was equally extreme: it was as aggressive and hard-hitting as any I have ever seen. I suppose it is fair to say that the Church knew better than anyone else at the time that it had been covering up *tens of thousands of cases* across the Western world, and presumably it well understood that if early juries went ballistic in awarding

punitive damages in the early cases, that could influence the amounts of future jury awards, which in turn could encourage still more plaintiffs to come forward,.

This was all-out war, and Bessel's model of traumatic memory put him right in the center of the battlefield. Over and over again, Bessel testified to trial judges about why they should believe a given plaintiff's claim that he had lost and then only recently recovered his memory of long-ago abuse-- while at the same time False Memory Syndrome militants picketed on the sidewalk outside the courthouse. Their picket signs were suspiciously uniform from courthouse to courthouse, and it wasn't at all rare to see a black limousine slowly pass by the sidewalk with an open window—through which its back seat passenger spoke with the picket captain. As we all now know, the Church lost—hugely. There is a readily accessible website that tracks all details of these legal actions, jury awards, and settlement amounts, and it puts the total settlements to date at well over \$4 billion, and of course there is still ongoing litigation to this very day. (17) Furthermore, given that these settlements were only negotiated on the eve of trial after a full discovery process-- and being familiar with the steep fee structures of the law firms that were dutifully doing the Church's biddings—I would estimate that the Church's law fees would be in the same magnitude. Needless to say, when billions are on the line, tensions run high.

In each trial in which Bessel was involved, he could only testify if he could get past what is known as a "*Daubert*" or "*Lanigan*" Hearing. These pre-trial Hearings are held in front of the trial judge who then must rule on whether to allow in evidence proffered opinion testimony from an expert witness. To get past a *Daubert* / *Lanigan* Hearing, a proposed expert witness must convince the court that his or her education, training, and experience are relevant and appropriate for the matter in dispute—and that the science behind his or her field of expertise is generally accepted. So, you cannot qualify to testify as an expert about Astrology, no matter how much you know about it, because it is not a science, while you can indeed be qualified to testify about Astronomy-- because it is a science. In almost all of the many *Daubert* / *Lanigan* Hearings in which Bessel appeared, he prevailed in convincing the court that the science of trauma psychiatry was adequately advanced so that a qualified, skilled practitioner could "to a reasonable degree of medical certainty" discern the difference between a credible plaintiff who reported a recently recovered repressed memory, and a plaintiff who was simply trying to get around his statute of limitations problem.

As you might imagine, almost every one of these *Daubert* / *Lanigan* Hearings was dispositive of its case because once he was past this hurdle, Bessel was cleared to testify at trial, and this was not something an experienced defense attorney could allow. Accordingly, these cases quickly became "ripe for settlement," and, typically, were soon resolved for rather massive sums.

While the plaintiffs were after financial compensation and emotional vindication for their injuries, Bessel took on this work for an entirely different reason. For him, what was key in these Hearings was that when the arguments by the Church's expert witnesses were stood up face to face against his arguments, nearly every trial court judge—and there were many-- ruled in favor of Bessel's position. What was important to Bessel was that these courtrooms constituted a podium from which he could publicly extoll the superior explanatory power of the model of mind and memory that he had lobbied for since his first experiences with Vietnam War veterans at the Boston

Veterans' Hospital. Accordingly, perhaps Bessel's sweetest victory—and most publicly visible affirmation—came when the convicted child molester priest, Paul Shanley, filed a motion to overturn his conviction with the Massachusetts Supreme Judicial Court. Shanley's pleading for a new trial was based precisely on the argument that the repressed memory testimony of plaintiff's expert witness, Dr. James A. Chu, should not have been admitted at trial. The Court's subsequent ruling was crystal clear: not a single justice was impressed with Shanley's argument, and the Court unanimously held that dissociative amnesia is indeed a documented medical reality, and a sexually abused individual may indeed experience dissociative amnesia for many years and then, with the aid of clinical counseling, subsequently recover their memory of the abuse. (18) The legal dispute between the attorneys at the state Supreme Court was fierce, but no more so than the battle of the experts in the filed *amicus curiae* briefs. Nearly one hundred mainstream psychiatrists filed a brief arguing that repressed memory had never been shown to exist-- while Bessel's position was well reinforced by briefs supporting the concept of repressed traumatic memories.

Why would Bessel interrupt his busy research and clinical practice to expend hundreds of hours serving as an expert witness in abuse case after abuse case brought against the Church? Because that is what paradigm innovators sign on for. Over and again throughout the history of science, we see this take place: innovators lobbying—sometimes over decades and against fierce opposition-- for the new perspective they are advocating. History tells us that the scientific superiority of their proposed new model will not on its own topple the outdated model.

BESSEL'S SECULAR WAR

While with one hand Bessel was cudgeling the Catholic Church off the log bridge and into the stream, with the other hand he was crossing swords with the American Psychiatric Association. Both struggles were but skirmishes in Bessel's career-long campaign to promote the model of how he understood traumatic memories to operate. Each of these struggles consumed untold hundreds of hours of work over years and years, but both served to attract a vast amount of professional and public attention— and that was important: scientific advances, just like any other innovation, require marketing. Let's turn to focus in on Bessel's "secular" battle with the American Psychiatric Association ("APA").

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In about 2005, I was asked to represent an adoption agency that was being sued for malpractice. About eighteen months earlier, the agency had placed two siblings-- eight and ten years of age-- with an adoptive family. The siblings, who had been removed from their birth home by the Department of Social Services (DSS), were the children of incest: their father was also their step-grandfather. There were no sexual boundaries whatsoever in the household: the father/step-grandfather had sex with his wife and with all three of her adult children, one of whom was a male. By one of his wife's daughters, he sired the two children in the case, and while they were still very young, he began to sexually exploit them. But the sexual abuse was not limited to the predation of the step-grandfather: the grandmother joined in, as did the mother and her two siblings.

After the children's homelife was accidentally discovered, they were immediately removed and placed in separate foster care settings. Then, just under two years later, they were reunited in the adoptive placement made by my adoption agency client, which had been retained by DSS to find a home for the sibling group. During this same period, the children's biological parents pled guilty to numerous felonies, but (incredibly) were allowed suspended sentences on the condition that they permanently surrender custody of the children, move out of state, and agree in writing to never again contact the children or to return to Massachusetts.

The adoptive couple located by my client had seemed ideal: both prospective parents were highly educated, sophisticated individuals capable of reading and absorbing the massive written record that documented in detail the abuse in the children's biological home. These prospective adoptive parents were fully warned that they would have to deal with the fact that they were assuming the care and nurturing of children who might well prove difficult to raise, given the sexuality in their backgrounds. Not a shred of the record was withheld from the adoptive couple, and they sagely retained their own clinical psychologist to guide them through the complexities of considering whether to go through with what promised to be a complex adoption.

Their decision was to proceed, and the children were placed with them in their stunning suburban home. For the first eighteen months everything went perfectly well: the sister's adoption was legally finalized, while her older brother politely asked to delay his legal formalities while he came to grips with the finality of his separation from his birth family. But then, late one night, one of the adoptive parents entered the bedroom of their adopted daughter and found her brother in bed with her. Within an hour, and without any attempt to contact their own advising psychologist—or any of the other mental health professionals counseling the children—they labeled what they had seen as “rape,” called the police, and defined their daughter as a “rape victim.” An hour later the police carted off the older brother, who was never again to see his sister—the last remaining relative in his life. Within weeks the boy was adjudicated a delinquent sex offender and was sent into the bowels of the Massachusetts juvenile detention system, never to return.

Within months, a massive lawsuit was filed by the adoptive parents, and my litigation services were retained by the defendant adoption agency's insurance company. I immediately set out on two critically important tasks. The first was to coordinate my defense with that of another defendant in the lawsuit: the Department of Social Services. In my first meeting with the Department's Chief Counsel, he described the case as “the most serious case of child sexual abuse in Massachusetts' history.”

The second task was to retain the services of best expert witness I could identify, and in Boston, that was-- without question-- Bessel van der Kolk, M.D. But Bessel was crystal clear on the phone: he was far too busy to take on any new litigation matter, with the sole exception being if a case were presented to him that clearly contained truly unique research interest from his point of view. The very next day I sent along a copy of the three-foot-thick written record of the children and their two families—and then waited anxiously over four weeks for a reply. When Bessel did call, he was positively enthusiastic about the case—and about what we might learn. The written record, we both agreed, seemed to indicate that while the children had indeed experienced the intergenerational sexual abuse described above, they experienced it in a household that was unlike

any other abusive household either of us had ever heard about. In every sphere of the children's lives apart from the boundaryless sexuality, the parents/grandparents were loving, supporting, and nurturing. The record was clear that the children had always presented to the world as well-groomed, well dressed, well-behaved, and properly cared for medically and dentally. Moreover, they both performed very well at school: their schoolwork and classroom behavior was consistently rewarded with high grades.

This was an unheard-of constellation of facts: in the hundreds of cases with which the two of us were familiar, sexual abuse had *always* been accompanied by physical and/or psychological abuse—and often by both. In addition, sexually abused children in all our many other cases had been continually threatened by their abusive parents with the consequences of exposure, but this important element was absent in our case. Not surprisingly, children continually threatened with the loss of the adults upon whom they depend, are fearful, anxious, and traumatized. But in this one-off case, we had a chance to see what the psychological effects of childhood sexual abuse were when that was the sole independent variable of moment in an otherwise nurturing household. We both agreed that if my depositions and Bessel's examinations of the children ended up confirming that the most operative stressor in the children's lives was the abruptness and finality of their separation from their family—and from each other-- and not the birth home sexual abuse itself-- he would indeed have a novel case to report. So, Bessel became fully involved in the case for the next three years as we worked closely together trying our level best to understand what exactly had happened to the children, and why their reaction to their sexual exploitation was so different from what we would have predicted.

During the case, the trial judge—over the objection of counsel for the adoptive parents-- allowed Bessel to have three, two-hour examinations of each child. Moreover, prior to these examinations, Bessel was able to read the transcripts from my three-day deposition of each of the two children, as well as the deposition transcripts from each of the treating mental health professionals who had been working with the children and the family for years. The detail and breath of the information that was available to Bessel—capped off by his own examinations of the two children-- enabled him to formulate important new insights on how caretaker sexual abuse of children effects their psyches and sculpts their future. Without doubt the most puzzling and interesting question we faced was to arrive at an understanding of what it was that had allowed the two siblings to come through their abusive childhood—and the disruption of both their biological and adoptive homelives— so unscathed, and with such bright and charming personalities. In other words, what was both amazing and fascinating about the case was that the children clearly did *not* exhibit any of the classical symptoms of posttraumatic stress disorder. But why not? What was it about their experience that served to protect them? (For those who might be interested in the development of our slowly emerging understanding of how the children's lives were affected-- and what kept them so intact-- a detailed write up of the case is available elsewhere. (19)

What concerns us here about this case is just one take-away-- something that Bessel expressed over and over again throughout the final year of the lawsuit. His examinations of the children had absolutely convinced him that the officially recognized list of mental health diagnoses had a missing diagnosis— one that years later he and his colleagues would label “Developmental Trauma Disorder.” He was clear at the time that he intended to lobby for the inclusion of this missing diagnosis in the next revision of “DSM,” shorthand for the *Diagnostic and Statistical*

Manual which is published by the American Psychiatric Association. (20) At the time, DSM was in its fourth revision and hence was known as “DSM-IV.” In its nearly 900 pages, the tome organized all recognized mental disorders in categories, supplying a numbering system and a diagnostic logic that mental health treating professionals were required to cite and use if they sought insurance payments for their services. Importantly, Bessel’s take-away from our one-off case was consistent with the then recently published findings of the National Child Traumatic Stress Network (the Network) which reported that 82% of the children seen by mental health professionals in the Network did not meet the diagnostic criteria for PTSD. (21) This absence of an appropriate diagnosis meant that clinicians were labeling children with what Bessel called “... pseudoscientific diagnoses such as “oppositional defiant disorder,” (meaning “this kid hates my guts and won’t do anything I tell him to do”), or “disruptive mood dysregulation disorder,” (meaning “this kid has temper tantrums”). (22)

The 1980 inclusion of PTSD in DSM-III was enormously important for the new diagnostic category. It not only signaled the “official” acceptance of modern traumatic stress theory and practice, but it also led to a vast increase in research funding for this sub-category of psychiatric study. Many important studies on PTSD were launched, including nearly \$3 billion that was spent by the U.S. Department of Defense for treatment and research. These well-funded, large-scale studies significantly advanced psychiatric knowledge on how trauma operates and what specialized treatments might be developed to treat it. (23) Could the same medical advances be achieved for traumatized children with official recognition of Childhood Trauma Disorder?

And so, Bessel-- once again heading off to battle-- began his soldierly preparations. He and his colleagues at the Network began formalizing a data base that soon contained the case records of just under 20,000 children. This data was added to that available from more than a hundred published studies by other researchers in peer-reviewed journals that collectively reported studies on over 100,000 children and adolescents. This data was analyzed by Bessel and a dozen other clinicians and researchers—a task that took over four years. The product of this very considerable amount of work was the drafting of a formal proposal for a new DSM diagnosis, “Developmental Child Disorder.” (24) The group also published numerous articles from this data in peer-reviewed journals, including one detailed study based on data collected on about 350 children and their parents / caretakers to ascertain whether the proposed new diagnosis captured the full range of psychological issues that troubled these many children. Once all of this was accomplished, a formal proposal for inclusion of the new diagnosis in the upcoming DSM-V was submitted to the American Psychiatric Association, along with a cover letter worth quoting at some length (25):

“Children who develop in the context of ongoing danger, maltreatment and disrupted caregiving systems are being ill served by the current diagnostic systems that lead to an emphasis on behavioral control with no recognition of interpersonal trauma. Studies on the sequelae of childhood trauma in the context of caregiver abuse or neglect consistently demonstrate chronic and severe problems with emotion regulation, impulse control, attention and cognition, dissociation, interpersonal relationships, and self and relational schemas. In the absence of a sensitive trauma-specific diagnosis, such children are currently diagnosed with an average of 3-8 co-morbid disorders. The continued practice of applying multiple distinct co-morbid diagnoses to traumatized children has grave

consequences: it defies parsimony, obscures etiological clarity, and runs the danger of relegating treatment and intervention to a small aspect of the child's psychopathology rather than promoting a comprehensive treatment approach."

Bessel knew fully well that these were confrontational words, and so, like any competent military strategist, he set out to identify reinforcements and alliances. At a presentation Bessel gave soon after submitting the proposal, he openly described the submission to a national meeting of state mental health commissioners, asking for their support—which was enthusiastically granted. That very week, the National Association of State Mental Health Program Directors, whose combined programs served over six million children annually with combined budgets of \$30 billion, submitted a letter in full support of the creation of a diagnosis of Developmental Trauma Disorder, the final sentence of which read: "We urge the APA to add developmental trauma to its list of priority areas to clarify and better characterize its course and clinical sequelae and to emphasize the strong need to address developmental trauma in the assessment of patients." (26)

Two months later the proposal was soundly rejected. The letter from the Chairman of the relevant DSM subcommittee pointed out that the committee's consensus was that there was no need for a new diagnosis because there was no "missing diagnostic niche." (27) The letter went on to state that "The notion that early childhood adverse experiences lead to substantial developmental disruptions is more clinical intuition than a research-based fact." (28)

Innovators—those who are sensitive to the limitations of the paradigm within which they have been working but who take these shortcomings as a challenge inviting reconceptualization—are, presumably, persistent people by nature. We know from history that these creators and promoters of new perspectives consistently operate per the terms of their vision, not per the terms of the world around them. Galileo, for example, was called before the Church's Inquisition in 1615 and convicted of heresy for his support of Copernicus' then recent introduction of a heliocentric paradigm of the solar system. Galileo had little choice but to submit to and comply with the Church's demand that he henceforth remain silent on the issue (the alternative was his execution). Fifteen years later when the Pope died, and a new, more liberal-minded pontiff came into office, Galileo immediately published his *Dialogue on the Two Chief World Systems, Ptolemaic and Copernican*—openly supporting the new paradigm. Alas, Galileo had miscalculated: the change in popes did *not* in fact come with a change in the Church's determination to quash any effort to challenge the geocentric model which the Church found more consistent with its image of God's universe. Accordingly, Galileo was again summoned before the Inquisition, tried on a new charge of heresy, and once again convicted of a capital crime. Besides being forced to publicly recant his views, Galileo was sentenced to house arrest, where he remained until his death.

Darwin's ideas also took years to achieve the recognition they deserved, just as he predicted at the end of his *Origin of the Species*:

Although I am truly convinced of the truth of the views given in this volume..., I by no means expect to convince experienced naturalists whose minds are stocked

with a multitude of facts all viewed, during a long course of years, from a point of view directly opposite to mine. (29)

In Bessel's circumstances, "persistence" led to his next tactic: expanding the field of action by searching for international allies. In June 2011, he received the support of the British Psychological Society in the form of a highly critical letter to the American Psychiatric Association, arguing that throughout DSM-V, it was consistently assumed that the sources of psychological illness were always to be found "located within individuals." This ignored the fact that there is "undeniable social causation of many such problems." (30) Another strong letter was sent to the American Psychiatric Association by a divisional chairman of the American Psychological Association complaining about DSM's "conceptualization of mental disorders as primarily medical phenomena." Over five thousand clinicians signed on to the letter. (31) In similar fashion, the president of the American Counseling Association sent a letter purporting to speak for its 115,000 DSM- buying clinicians. The letter "...urge[d] the APA to make public the work of the scientific review committee it had appointed to review the proposed changes, as well as to allow an evaluation of all evidence and data submitted by external, independent groups of experts." (32)

But perhaps the most solid body blow landed by those who dared challenge the American Psychiatric Association was struck by the National Institute of Mental Health ("NIMH") —by far the largest funder of psychiatric research in the United States. Just before DSM-V was published in 2013, the NIMH Director publicly announced that the Institute would no longer support DSM's "symptom-based diagnosis." (33) On top of this, in an article in the widely circulated magazine *Psychology Today*, Allen Frances, M.D.—who had served as Chairman of the DSM-IV version of the book-- wrote that "DSM boycotts are sprouting up all over the place," and that "The gross incompetence of DSM-V will likely return us to a Babel of many languages—different people using different methods of diagnosis." (34)

Above and beyond attacking the APA by threatening its extremely lucrative sales of DSM — (over a million copies are sold at a price tag of \$199 (!), once (roughly) every decade)— Bessel and his colleagues were openly critical of the underlying logic of a psychiatric approach that conceives of mental illnesses as consisting entirely of brain disorders. Here are Bessel's brutally critical words from *The Body Keeps the Score* (35):

"Before the late nineteenth century doctors classified illnesses according to their surface manifestations, like fevers and pustules... This changed when scientists like Louis Pasteur and Robert Koch discovered that many diseases were caused by bacteria that were invisible to the naked eye.... Medicine then was transformed by its attempts to discover ways to get rid of those organisms rather than just treating the boils and the fevers which they caused. With DSM-5 psychiatry firmly regressed to early-nineteenth-century medical practice. Despite the fact that we know the origin of many of the problems it identifies, its "diagnoses" describe surface phenomena that completely ignore the underlying causes."

PROTRACTED WARFARE: PROMOTING THE NEW BODY-MIND PARADIGM

From Bessel's perspective, the refusal of the APA to include Developmental Trauma Disorder as a new diagnosis in DSM-V was but a lost battle. That happens in protracted warfare. What mattered to Bessel was only one thing: improving patient outcomes by reforming trauma psychiatry. To this end, Bessel and his colleagues made good use of the APA refusal letter's gratuitous insults to widely publicize and disseminate the full story of their struggle to the ever-growing community of trauma-informed mental health professionals whose clinical practice is based on the new paradigm. In doing so, Bessel launched a movement. The effectiveness of the strategy was somewhat breathtaking: within months, Bessel's Trauma Center received *thousands* of contributions from individual mental health clinicians.

These gifts of solidarity were immediately recycled to fund a large scale, national field trial to further research developmental trauma disorder. The study was administered at five different Network sites around the country, and it produced important results documenting that significantly better patient outcomes for children were achieved by "trauma-aware" mental health professionals than by traditional talk-therapy clinicians. (36)

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There are several sound arguments why the body-mind paradigm for understanding and treating traumatic stress will eventually be recognized as the most effective approach to an exceedingly difficult clinical undertaking. It has better patient outcomes; it better explains the complex relationship between the brain, the body, and the mind; it is supported by data produced by today's new brain scan technologies; and it is proving itself to be extremely productive in research carried out by other social and psychological scientists, including by me in my studies of chronic loneliness. (37) Let's look more closely at the first three of these arguments.

Clinical success In the Treatment of Patients with Traumatic Stress.

The United States Department of Veterans Affairs and the Department of Defense spent over \$2.7 billion between 2007 and 2010 for treatment and research on PTSD. So, it is not particularly surprising that these two entities took steps to organize a large-scale comparative study (the Study) to learn which treatment modalities were demonstrably helping PTSD ridden ex-soldiers—and which were not. The undertaking gathered patient outcome statistics for clinical treatment initiated immediately after traumatic shock, as well as data on treatment initiated after full blown PTSD symptoms had been diagnosed. The 2010 study, entitled "VA/DoD Clinical Practice Guideline for Management of Post-Traumatic Stress," represents a massive effort to summarize the data that was available in many completed patient outcome studies. (38)

Here are the Study's conclusions:

The first data reviewed was to ascertain if there was any evidence that early pharmaceutical intervention within days after a traumatic shock could prevent the onset of full-blown PTSD symptoms. After reporting the findings of numerous randomized, double-blind,

controlled studies, the data was clear-- and disappointing: the use of psychopharmaceutical medications was not recommended. The Study documented that patient outcomes were the same for those research subjects given placebos as for those given Propranolol, Cortisol, or Morpheme. So, unfortunately, there is no quick fix to trauma to be found in a “morning-after” pill.

The lion’s share of the Study was devoted to a review of patient outcome studies which themselves had assessed a wide range of treatment modalities offered by different trauma clinicians. I use the phrase “wide range of treatment modalities” advisably, because the array of different clinical, trauma-informed approaches is breathtaking. This, in turn, means that a patient’s selection of a mental health professional for treatment of their traumatic stress is not at all like finding an orthopedic surgeon to set a broken bone, where, presumably, treatment techniques vary only modestly from surgeon to surgeon. Not so in the world of mental health treatment protocols, because, as pointed out earlier, in psychiatry and its sister professions, there is no displacement of prior approaches when a seemingly more apt platform is introduced. It’s more like the way my wife buys shoes—they just add up in the closet.

The Study was undeterred by the plethora of clinical approaches to treating PTSD. On the contrary, it unapologetically *graded* the differential patient outcomes for many of the current approaches to trauma therapy. It did this by reviewing the results of dozens of previously published studies, each one of which had reported patient outcome data from randomized, double blind, controlled studies of each mode of therapy. The findings merit a quick overview because they subsequently had an enormous impact in determining the flow of research and treatment dollars—billions of them.

The Study reported that “trauma focused psychotherapeutic interventions for PTSD,” are the most strongly supported by the data found in the trials its authors reviewed. This was welcome news: trauma-informed therapy consistently showed better patient outcomes than did straight talk-therapy. However, the precise treatment tactics employed by different trauma-informed therapists varied significantly—even somewhat wildly-- even if they all shared a sensitivity to the peculiar nature of traumatic memory. Treatments included those based on “learning theory,” or “cognitive theory,” or “emotional processing theory,” or “fear-conditioning” models, and others as well. These differing conceptual models produced equally varied modes of treatment tactics, including “Prolonged Exposure,” “Cognitive Processing Theory,” “Eye Movement Desensitization and Reprocessing” (“EMDR”), “Prolonged Exposure Therapy,” “Brief Eclectic Psychotherapy,” “Narrative Therapy,” “Written Exposure Therapies,” and “Cognitive Processing Therapy”-- not to mention numerous other cognitive therapy approaches, including relaxation techniques, techniques based on the repetitive narration of the traumatic event, and techniques based on “stress inoculation training.”

The variability of these many trauma-specific treatment approaches, the Study reports, is widened even further by their combination in clinical treatment with a wide range of anxiety and stress reduction exercises. These body-centered, somatic techniques are focused on helping the patient manage their corporal symptoms while the underlying work on their traumatic memories takes place. The study concludes that “...interventions that are not trauma-focused are less effective.” (39)

Although these diverse treatment modalities which the Study touted to work better than pure talk-therapy vary wildly in the specifics of their clinical tactics, they all incorporate the revolution in perspective and approach that Bessel and his colleagues have brought to trauma psychiatry over the past forty years. At the heart of this revolutionary treatment paradigm is the insight that any trauma-specific clinical approach must account for the impact of trauma on the complex relationship between the body, the brain, and the mind. And that is what we shall turn to next.

Trauma and the Body-Brain-Mind Complex

To my mind, this is the principal sphere of Bessel's (and his colleagues') greatest influence on trauma psychiatry. Today, it is nearly impossible to imagine a classical Freudian therapy setting for a deeply traumatized person: the psychiatrist sitting perfectly silent, week after week, taking notes with an expensive fountain pen, while the patient lies on a couch like the famous one preserved in London's Freud Museum—or the even more famous one in Woody Allen's *Anne Hall*. With respect to trauma, psychiatric science has simply advanced too far for a mental health professional to ignore what we now know about the important linkages between the body, the brain, and the mind.

That being said, the new body-brain-mind technologies available to today's trauma psychiatrists have pulled research in two very different directions.

Psychopharmacology and the Medicalization of Psychiatry

The first of these directions involves therapists who are drawn to the revolutionary psychopharmacological developments of the past four decades. This medicalization of psychiatry has proven to be extremely useful for certain psychological conditions—that's not in debate. It is undeniable, for example, that lithium has calmed the extremes of manic-depressives, and that the antipsychotic Clozaril was a major contributor to ending the era of insane asylums: it permitted the deinstitutionalization of psychotic patients who previously lived out their lives behind locked doors.

But as advantageous as the new psychopharmacological medicines have proven to be in alleviating symptoms of certain imbalances and disorders, it is equally clear that not all mental illness is caused by chemical imbalances—and that is most assuredly the case with traumatic stress. If over-relied upon and prescribed for traumatic stress, psychoactive medications have the consequence of substituting the masking of symptoms for the healing of what lies deep in the patient and produces these symptoms. Moreover, suppressing a trauma patient's symptoms without treating their underlying issues can lead to disruptive, explosive outbursts when medications are skipped, lost, unaffordable, mis-dosed, or mis-diagnosed. On top of this, certain classes of psychoactive medications become progressively less effective over time, requiring ever-increasing dosages. (40)

On top of the importance of ascertaining when in psychiatric clinical treatment the prescription of psychopharmacological medications makes sense—and when it does not—there is a very large elephant in the room that needs to be mentioned. As newspaper front pages have made crystal clear in recent years, when it comes to medication prescription and administration, big pharma is a stone-cold player, out to maximize its profits-- all else be damned. In psychiatry, just as in other spheres of medicine, the financial incentives to over-prescribe psychoactive medications are of an appreciable magnitude. In fact, the new antipsychotics such as Abilify, Risperdal, Zyprexa and Seroquel are among the top-selling drugs for big pharma: in just one recent year, patients—and their insurers-- spent over \$1.5 billion on Abilify, and over a billion on another antidepressant, Cymbalta. (41) Medicaid, which pays for a significant proportion of the drugs and medications needed by poorer Americans, spends more each year on antipsychotic medications than on any other class of drugs. (42) In some instances, big pharma's incessant pressure on physicians to prescribe ever more medications, has caused great harm, and consequently exposed these giant corporations to significant legal liability. Just as we are currently experiencing the Sackler family's / Purdue Pharma's willingness to contribute \$4.5 billion towards a settlement for their multi-faceted efforts to urge physicians to (madly) over-prescribe opioid medications, so in 2013 Johnson & Johnson agreed to pay over \$2.2 billion in fines for its improper promotion of its antipsychotic medication, Risperdal. (43)

And while we are talking about elephants in the room, there is a second one that merits brief mention. I am referring to when psychoactive medications are intentionally used for social control purposes. Without question the best-known warning about this grim possibility was the fictional treatment by Aldous Huxley in his 1932 novel, *Brave New World*. There is a famous passage in the book where a psychiatrist asks a subordinate if her "levels are steady." This is a reference to the dosage level of the fictional psychoactive drug, *soma*, which Huxley's narrator tells us was expressly intended to suppress certain emotions in order to manage the dystopian future society. There are times when contemporary society comes far too close to Huxley's fiction, as in the case of the abused and neglected children who populate our country's residential childcare programs. These children are prescribed psychoactive medications on a massive scale, mostly to quiet them down into a more readily manageable state of mind. In one recent year, almost 20,000 children aged five and under were prescribed antipsychotics through Medicaid, and another recent study of Medicaid data showed that whereas over 12% of children in foster care received antipsychotics, only 1.4% of Medicaid-eligible children who lived with their birth parents did so. (44)

Even in its good faith usage, the medicalization of trauma treatment championed by mainstream psychiatry has a problem, because, to quote Bessel, "...drugs cannot "cure" trauma; they can only dampen the expression of a disturbed physiology." (45) Medications can, of course, help to quiet a patient both internally (calmer feelings) and externally (better social behavior), but they exact a cruel cost for this: they decrease engagement, motivation, and socialization. (46) Nevertheless, Bessel and his colleagues take the position that prescribed wisely and with restraint, these medications can prove to be useful tools in the hands of trauma-informed clinicians. Medications such as Paxil, Zoloft, Effexor, and Prozac can bring a sense of calm that can help a patient initiate engagement in psychotherapy. But producing a calmer state of mind is a very different thing than measurably reducing traumatic stress, and

when Prozac was put up in a double-blind study against one of today's principal trauma therapy techniques, the latter proved to be more effective than the former. (47)

Medications cannot by themselves replace psychotherapy for trauma victims because traumatic stress is not a product of a chemical imbalance: it is a product of trauma. In the end, and to the extent trauma victims can be "cured," the research literature indicates that neither a pill --nor a psychiatrist, for that matter-- can effectuate a "cure." Only the victim— with clinical guidance to be sure-- can reorganize the traumatizing memories that are stored as sensations in the limbic system of their brain. Only the victim can learn to unhook today's triggers from yesterday's trauma, so that instead of finding themselves instantaneously hijacked by these triggers and transported back through time into the cacophony of disturbing sensations from their traumatic event(s), they are finally able to reduce the event to a story—the story of an experience that is fully embraced as having taken place in the past.

Brain Scan Technology: A Doorway into The Limbic System

In the early 1990's, modern electronic technology and contemporary neuroscience joined forces to develop extraordinary advances in brain imaging, and these have had a sizable effect on psychiatry-- arguably cutting in the opposite direction from medication therapy. Through positron emission tomography (PET) and then functional magnetic resonance imaging (fMRI), scientists—very much including trauma psychiatrists—now found themselves able to "see" how different parts of the brain are activated when their patients undertook a requested task—or, for our purposes, when their patients or research subjects were prompted to remember traumatic stressors from their past. Neurologists and research psychiatrists are now able to indirectly "watch" the brain as it processes memories, sensations, and emotions, and that means they are now able to begin mapping the bioelectric pathways of human consciousness.

The power of this new technology to enhance research on PTSD was immediately obvious. As Bessel phrases it (48):

"The earlier technology of measuring brain chemicals like serotonin or norepinephrine had enabled scientists to look at what fueled neural activity, which is a bit like trying to understand a car's engine by studying gasoline. Neuroimaging made it possible to see inside the engine. By doing so it has also transformed our understanding of trauma."

Trauma-informed researchers quickly learned that the newly developed technology could record an image of brain activity during a subject's prompted flashback. The resulting images clearly showed which areas of the brain were active during the flashback, and which shut down. Reassuringly, the researchers also found physiological corroboration that what was occurring for the subject was indeed a vividly experienced flashback: the subjects would typically emerge from the imaging equipment soaking wet with sweat, out of breath, breathing heavily, and with a racing heartbeat.

The patients' scans showed unambiguously that both the right and left dorsolateral prefrontal cortex—the part of our brain that distinguishes us from other social mammals--*deactivated* when the subject was prompted to re-experience their traumatic experience. When this new finding was added to previous neurological studies (which had shown that when this area of the brain was injured and inoperable, victims lost their sense of time), one classical symptom of trauma-- a victim's inability to stop themselves from being "hijacked" from the present back in time to their trauma), suddenly became entirely understandable. (49) In other words, the brain scan of the prompted trauma victim during their "time travel" back to the moment of their traumatic injury exposed the underlying neurobiology of what was taking place. Suddenly, research neurologists and psychiatrists came to understand the organic cause of why trauma victims re-experience the sensations and feelings of their traumatic event(s) *as if they were currently taking place*. While these research subjects knew perfectly well that they were living safely in the present, as soon as they were in the grasp of a prompted flashback, their off-line prefrontal cortex meant that they could no longer maintain their awareness that the traumatizing event was long since over. They had, in other words, no ability to say to themselves, "that happened back then, but I'm safe-- because this is now."

Trauma psychiatry's renewed interest in the brain's electrical activity does not rely solely on the great promise for research purposes of brain imaging. Indeed, one of the most promising of new treatment tools, "neurofeedback," uses electronic technology as the basis of a completely different strategy—all centered on the recently developed capacity to directly link electronic technology with the brain's bioelectrical activities.

For the past twenty years, numerous research studies have shown how bioelectric information transmission differs in the brains of trauma victims from that of control group research subjects. In the control group, when subjects were given the task of distinguishing an odd-ball item in a group of related items, their brain scans showed coordinated neural activity during their search for the odd-ball item. In contrast, the brain waves of previously traumatized subjects failed to unify into a coherent pattern. (50) The real-world implication of this difference is that a traumatized brain does a relatively poor job of distinguishing between important and irrelevant sensory input, making trauma victims that much more vulnerable to triggering stimuli.

The goal of using neurofeedback in treatment settings is to take advantage of the electronic interventions a clinician can make directly into the bioelectric circuitry of the brain. With today's neurofeedback equipment, a therapist can directly intervene with small electric impulses that are picked up by the brain's bioelectric circuitry, allowing the therapist to positively reinforce or negatively discourage patterns of thought that are visible to the clinician on a monitor screen.

The use of this brain imaging technology has allowed neurologists and research psychiatrists to make significant advances in understanding the bioelectric circuitry that is involved when we learn something new—in either the rational brain (the prefrontal cortex) or the emotional brain (the limbic system/brainstem). On the level of brain neurology, learned behavior and established associations are accomplished by the repetitive flow of bioelectric charges along pathways (axons) which link up what a subject understands to be cause and effect, or stimulus and reward, or battlefield explosions and death. The bioelectrical process of

establishing these patterns of axon linkages between neurons is not unlike what we are familiar with when we walk through the woods— if we travel the same route over and over again, we will eventually establish a path. In other words, the neurological equivalent of wearing a path in the woods is how we “learn”—in either part of our brain. The brains of traumatized veterans, for example, did just that: their brain “learned” the connection between explosion and grave danger, enabling these soldiers to instantaneously spring into responsive action at the sound of an explosion. The problem is, when these veterans return home and hear a car backfire, the well-worn bioelectric pathway in the limbic system of their brain throws them into the same responsive reaction—increased heart rate, deepened breathing, blood flow away from internal organs to extremities, and so on. This established reaction to explosion kept them safe in a war zone, to be sure, but it renders them unable to function in an urban society. The goal and promise of neurofeedback is in its ability to break up the patterns of old bioelectric pathways that need “rewiring” for a trauma victim to move fully out of the past and into the present.

Humans Brains Are Only Partly Human

Another major element of the paradigm Bessel and his colleagues work from can be seen in the importance given to the anatomical fact that human brains are only about thirty percent human. (51) This is the percentage of our brain that is made up of our rational, cognitive forebrain— that part of our neofrontal cortex that is much thicker than that of any other mammal. The other seventy percent of our brain is basically a typical social mammalian brain. The implications of this multi-part human brain are of extraordinary importance in Bessel’s paradigm, because formulating psychiatric strategies without taking this into account is a recipe for almost certain failure in the treatment of trauma. Here’s why that’s the case.

Bessel refers to “the brain from bottom to top,” (52) by which he is referencing the fact that evolution has added on layers of brain anatomy and increased function. At the “bottom,” to use his terminology, we find the brainstem, which is our animal brain, sometimes referred to as our “reptilian” brain. Fully formed newborns have this part of their brain up and working, no less than do their parents. This part of their brain controls their eating, sleeping, waking, crying, breathing, temperature sensitivity, hunger, pain reaction, urination, and defecation. Their brain stem and their hypothalamus, which is just above it, also control their energy levels, their heart, their lungs, and their endocrine and immune systems—just like the adults around them.

Located directly above the reptilian brain is our limbic system, which is sometimes referred to as the “mammalian” brain, because its anatomy and function is essentially identical for nearly all social mammals. Again, the anatomy of this part of a baby’s brain is fully formed at birth, but unlike the brainstem, it is *tabula rasa* with respect to content. The limbic system is where the baby’s emotions will be formed, and it is from here that the baby’s sensations of danger and safety will form. Children build out their limbic systems in concert with their parents, siblings, grandparents, through their early experiences—a process that has particular importance for transcribing into young children the single most important survival element for both human individuals and for our species: the desire to connect with others. (53) The limbic system will also be the seat of some of the baby’s memory functions—but only sensory based memory systems— as contrasted with word-based memories, like the list of Presidents the child will need to memorize a few years hence.

Bessel adds together the reptilian brain and the limbic system into what he calls the “emotional brain.” The emotional brain—which we share with mammals—assesses incoming information in a more global way than does the “rational brain” of the prefrontal cortex. The emotional brain literally “jumps to conclusions,” as opposed to “thinking things through,” as when you are taking a walk along a path in the woods and you suddenly come upon a snake. Your likely first reaction is not a product of your forebrain: you don’t tell yourself “Oh, a snake; I’d better jump back.” No: you *just* jump back, because the neuronal pathway between snake and fear is not a worded idea in your forebrain, but a stored linkage in your limbic system. This is why people shudder after such events—they evoke a somatic reaction well before they provoke a profane expression.

The third and final “layer” of the brain is the neocortex—the seat of our rational brain. Other mammals have a neocortex as well, but ours is anatomically thicker which has rendered it bioelectronically in a league of its own. Children after the age of two experience a rapid growth in their frontal lobes, which make up most of the neocortex. It is these two lobes of our neocortex—and little else, save for our hands and our upright posture-- that make us human—unique among mammals. From our frontal lobes, we gain our capacity to speak and to think abstractly, our ability to absorb vast amounts of information, and our capacity to process this data in rational, creative, and original ways. It is this “rational brain” that allows us to create and sustain the complex communal and cultural realities that create our capacity to pass on to our heirs all that we have learned, sculpted, painted, built and imagined.

Bessel’s central idea is elegantly simple: traumatic stress is sensed and remembered by both the emotional brain and the rational brain. The emotional brain records the sensations — not in words, but in sights, sounds, smells, tactile details, and feelings. At the same time, the rational brain works (not always successfully) to record the traumatic event(s) as the story of what took place. This distinction has critically important implications for clinical therapy because it explains why pure talk-therapy can only reach the (often partial, dissociated) story of what happened. It cannot reach the feelings, and hence cannot work to reconfigure the neurological linkages between today’s triggers and yesterday’s traumatic event(s). Phrased differently, because of the underlying anatomy of our brains, words (including dialogue between a patient and his therapist) can’t “get down” to the emotional brain where the sensations that accompanied the traumatizing injury were recorded and are remembered “in kind”—*because there is no language function in the emotional brain.*

Let’s focus for a moment on the appreciable power of the emotional brain’s sensory-based memory capacity. Think about your olfactory memory for a moment: perhaps at some time you have perceived an odor from your past—and zap, you found yourself thrown back to the time and the setting where you first encountered that smell. (This phenomenon was used with powerful effect in the popular film, *Ratatouille* (54) when the food critic tasted the restaurant’s, *ratatouille*, and was instantaneously transported back in his thought bubble to when he was a seven-year-old opening the door to his grandmother’s kitchen which was redolent with her version of the dish.) And think of how powerful your auditory memory is: many among us have heard an “oldie but goodie” on the radio and found ourselves immediately transported back to the time when (and where, and with whom) we first heard the song. It’s common to use the

terms “being thrown back” or “being transported back”: but let’s recognize that these are powerful verbs, meant to describe the instantaneous nature of mental time travel. Bessel likes to call this effect “hijacking,” which seems an apt analogy. The difference is that a PTSD ridden veteran is not thrown back to his grandmother’s heavenly ratatouille—he is transported back to his battlefield’s hellish sights, sounds, and smells.

So, if words won’t work with respect to treating a trauma victim’s sensation-based memories, how might a trauma therapist possibly provide therapy that will have any effect on the limbic system ? In contemplating this, it’s helpful to think about the process of rescuing an abused and tortured dog from the pound. When you first take that dog home, every time you raise your hand or take a step, the dog will be startled and will flinch and cower, given the neuronal connections in its limbic system that were established by the cruelty of its former owner. Words won’t work to teach the dog that it is now safe in an entirely different set of circumstances-- how could they possibly work: dogs don’t have language. While the gentle tone of your voice will help, what will really be needed are thousands of soothing pettings and loving hugs to override the kicks and punches of the dog’s previous owner. How does this happen? Slowly, with disuse, the neuronal pathways by which the dog’s brain had previously linked a raised arm with the pummeling that followed will fade in bioelectrical conductivity. At the same time, bit by bit, new neuronal pathways will be formed in the dog’s limbic system associating your raised arm with your subsequent reassuring, soothing petting. And thus, without words-- and without a sense of time—you can eventually “rewire” the dog’s brain, and quite literally so.

I have spent time with horribly beaten and battered children who were taken from abusive homes and placed by the Department of Social Services (55) into the residential childcare agencies that I represented throughout my law career. Because I was serving as the agencies’ general counsel, I was often asked to file a Care and Protection proceeding in court to initiate the process by which a child would be removed from their abusive or neglectful home, with temporary custody to be placed in the Department of Social Services. Massachusetts regulations required that the child be with me so that he or she could be “identified to the Court,” so I came to briefly know scores of these children whose emotional brain was not at all unlike that of the hypothetical dog discussed above. I can assure you that the real-world cowering of these collapsed (or, occasionally, defiant) children was entirely equivalent to that of my fictional dog example. And that makes perfect sense because the neurophysiology of the dog’s emotional brain and the child’s emotional brain are substantially identical.

Consistent with the anatomical reality that each of the two dual memory systems of the human brain works in its own way, Bessel’s approach to trauma therapy calls for clinicians to work with both language-based talk-therapy to reach the frontal cortex and body-based somatic-therapy to reach a trauma victim’s emotional brain. His argument flows inexorably from these anatomical givens: it is only with the development and inclusion of techniques capable of reaching the language-free regions of a victim’s emotional brain that the victim can be aided in their struggle to reprogram their brain in order to unlink current triggers from past trauma. Just like that dog. The second half of *The Body Keeps the Score* presents an extensive discussion and analysis of a dozen different techniques by which trauma-sensitive therapists can approach their patients to accomplish this rewiring. I mentioned neurofeedback earlier, but there are also trauma-informed yoga techniques, trauma-informed rhythm and dancing techniques, trauma-

informed role playing in structured dramatic scenes that reproduce elements of the victim's trauma, eye movement desensitization and reprocessing (EMDR) techniques— and numerous others. There are many ways to make a somatic intervention on the emotional brain; all that matters is that the trauma victim's body—in the sense of their emotional brain—*must be involved in the process*. Talk-therapy used alone will necessarily fall short of its goal with trauma victims, because even if it helps a patient understand *why* he feels a certain way, it doesn't change *how* he feels. The promise of the model of trauma therapy that Bessel has championed throughout his career, is that it is designed to help patients simultaneously heal two very different wounds they have suffered in two very different parts of their brain.

CONCLUSION

What great good luck to find oneself present and active in a place and at a time when a reigning paradigm's shortcomings are becoming ever more apparent, foreshadowing the model's impending loss of the power it once wielded to organize thought and mandate adherence. Imagine the wonder and puzzlement in Basel that must have accompanied those animal trials half-a-millennium ago. What in the world do you think went through the pet owners' minds when, in compliance with the Court's Order, they dutifully chased down and locked their cats inside on the day of the criminal defendant rats' trial? Some were no doubt concerned-- but others must have been exhilarated by the intellectual freedom inherent in the presence of two, clearly contradictory paradigms that competed to explain precisely what had led to the shortage of grain. Was it indeed the devil who had caused the rats to attack the city's grain storage? That's what the prosecution claimed. Or was the origin of the problem to be found in that summer's persistently rainy skies which had limited the grain crop and stressed the usual food sources for the city's rats? Was the Judge's conviction and the priest's excommunication of the rats all that could or should be done? Or were there perhaps more down-to-earth steps that ought to be taken to better protect the city's grain storage depots in the future?

This straddling of two contradictory paradigms is exactly what happened to Bessel, who-- just like those 16th c. citizens of Basel— happened to be at the right place at the right time. He had taken up his first psychiatry position in 1978 at the Boston Veterans' Hospital just when America's wounded warriors came limping home from Vietnam, desperately in need of treatment for their horrifying nightmares and terrifying flashbacks. While Bessel couldn't locate a single book on battlefield induced stress in the hospital's library, he didn't have long to wait: in 1980, DSM III appeared—with its first ever inclusion of the new diagnosis “posttraumatic stress disorder.”

However, while the new PTSD entry did a superb job of listing the symptoms that a mental health professional should look to in determining if a patient merited the diagnosis, nothing was published by the American Psychiatric Association to guide clinicians as to how to go about *treating* all these newly diagnosed PTSD afflicted patients. Moreover, it soon became clear to Bessel that no such clinical guidance would be forthcoming—precisely because the well-settled treatment paradigm that controlled mainstream psychiatry precluded any approach other than pure talk-therapy.

Paradigm shifts are big deals—most especially when the reference is to a society’s overall worldview, as with the substitution of heliocentrism for geocentrism, or the substitution of human evolution for the old testament’s stories about the origin of mankind. But even paradigm shifts in individual fields of scientific inquiry can still directly impact many lives—especially in the field of medicine. Historically, we know that there has always been a lag—sometimes quite protracted—between the introduction of a paradigm shift, and its generalized acceptance. This essay has examined one example of why and how these lags occur—and it has emphasized the struggles required by those who would effectuate change. Trauma psychiatry is arguably a particularly interesting example to focus on because we see how the contending social forces have generated today’s rather bizarre circumstances: the official conceptualization of PTSD diagnosis is derived from the updated paradigm, while the mainstream conceptualization of PTSD treatment continues to be controlled by the outdated paradigm. Should we be either surprised or shocked at this? Not according to James Watson, who along with his colleague Francis Crick discovered the structure of DNA and thereby changed so much in the life sciences, to whom we shall leave the final words:

“Science seldom proceeds in the straightforward logical manner imagined by outsiders. Instead, its steps forward (and sometimes backward) are often very human events in which personalities and cultural traditions play major roles.” (56)

1 J.W. Freiberg. *Four Seasons of Loneliness: A Lawyer’s Case Stories*. Boston: Philia Books, Ltd. (2016).

2 Bessel A. van der Kolk, M.D. *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma*. New York: Viking/Penguin Group (2014).

3 Amy Watson. “U.S. Book Industry- Statistics and Facts. *Statistica*. September 10, 2021.

4 E. Victor Walter. “Nature on Trial: The Case of the Rooster That Laid an Egg.” R. Cohen and M. Wartofsky (eds) *Methodology, Metaphysics and the History of Science*, 295-321 (1984). Note: It is out of deep fondness for my former Boston University colleague that I purloin the title of his article for the name of this section of my essay. His title references the fact that some of these trials involved the indictment, trial, conviction, and subsequent excommunication of (apparent) roosters who had laid eggs at a time when “cock’s eggs” were considered a principal ingredient of witch’s brew.

5 For an enlightened discussion of paradigms and the dynamics of their typical inertia and occasional revolution, see Thomas S. Kuhn. *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press. (1962); for a vigorous, if occasionally opaque, discussion of Kuhn’s contribution on this issue to the history and philosophy of science with respect to

paradigms and their occasional replacement, and much more, see Paul Feyerabend. *Against Method*. London, New York: Verso (1975; Rev. 1988).

6 Max Planck. *Scientific Autobiography and Other Papers*, pp. 33-34. trans. F. Gaynor New York (1949)

7 Alain Touraine. *The May Movement: Revolt and Reform*. New York: Random House (1971).

8 Alasdair MacIntyre. "Social Science Methodology as the Ideology of Authority" presented on February 2, 1976 at the *Boston Colloquium for the Philosophy of Science*, and published by Kelvin Knight, ed. *The MacIntyre Reader*, Cambridge: U.K. Polity Press (1998).

9 Thomas Kuhn. *Ibid*. See his discussions of "Paradigms and Community Structure (p. 176) and Paradigms as the Constellation of Group Commitments (p. 181)

10 See Michael Baigent and Richard Leigh. *The Dead Sea Scrolls Deception*. New York: Simon & Schuster (1991) for an accounting of the panicky, all-out effort by the Catholic Church to manage the investigation and control the dissemination of information about the Dead Sea Scrolls.

11 J. Breuer and S. Freud. "The Physical Mechanisms of Hysterical Phenomena." *Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol 3, ed. J. Strachy. London: Hogarth Press (1962)

12 British Army: General Routine Order Number: 2384; June 1917

13 C.S. Myers. *Shell Shock in France 1914-1918*. Cambridge: Cambridge University Press. (1940); See also, A. Kardiner, *The Traumatic Neuroses of War*. New York: Hoeber (1941).

14 A. Kardiner and H. Spiegel. *War Stress and Neurotic Illness*. Oxford: Hoeber. (1947)

15 Judith Herman. *Trauma and Recovery*. New York: Basic Books (1992); See also Ellen Bass and Laura Davis. *The Courage to Heal*. New York: Harper Collins (1988)

16 See the quite accurate film depicting the *Boston Globe's* investigative journalism in the sexual abuse of children by Boston based priests and the ensuing coverup operated by the hierarchy of the Catholic Church. Tom McCarthy and Josh Singer. *Spotlight*. (2015)

17 See: <https://bishop-accountability.org>.

18 *Commonwealth v. Shanley*. Supreme Judicial Court of Massachusetts. SJC-10382. (January 15, 2010)

19 J.W. Freiberg. "The Loneliest Boy." This case study can be found in J.W. Freiberg. *Four Seasons of Loneliness: A Lawyer's Case Stories*. *Ibid*. (In the story, Bessel is styled as "Dr. Richard Putnam.")

20 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition. Washington, D.C. (1994)

21 Joseph Spinazzola, et al., "Survey Evaluates Complex Trauma Exposure, Outcome, and Intervention Among Children and Adolescents," *Psychiatric Annals* (2005).

22 Bessel A. van der Kolk. Ibid. (157)

23 Institute of Medicine of the National Academies, *Treatment of Posttraumatic Stress Disorder* (Washington: *National Academies Press*, 2008); See also C.S. North, et al., "Toward Validation of the Diagnosis of Posttraumatic Stress Disorder," *American Journal of Psychiatry*. 166, no./ 1 (2009). Pp. 34-40.

24 Bessel A. van der Kolk. Ibid. (359)

25 Bessel A. van der Kolk. Ibid. (159)

26 Bessel A. van der Kolk. Ibid. (159)

27 Bessel A. van der Kolk. Ibid. (159)

28 Bessel A. van der Kolk. Ibid. (159)

29 Charles Darwin. *On the Origin of the Species*. (Authorized edition from 6th English ed.; New York, 1889, II, 295-296.

30 Gary Greenberg, *The Book of Woe: The DSM and the Unmaking of Psychiatry*. New York: Penguin (2013). p. 239.

31 Bessel A. van der Kolk. Ibid. (fn. 31, p. 393)

32 Bessel A. van der Kolk. Ibid. (fn. 31, p. 393)

33 Bessel A. van der Kolk. Ibid. (165)

34 *Psychology Today*, January 23, 2013

35 Bessel A. van der Kolk. Ibid. (164)

36 Bessel A. van der Kolk, "Developmental Trauma Disorder: Toward a Rational Diagnosis for Children with Complex Trauma Histories," *Psychiatric Annals* 35, no. 5 (2005): 401-8; See also: W. D'Andrea, et al., "Understanding Interpersonal Trauma in Children: Why We Need a Developmentally Appropriate Trauma Diagnosis," *American Journal of Orthopsychiatry* 82 (2012): 187-200; and also see J.D. Ford, et al., "Clinical Significance of a Proposed

Developmental Trauma Disorder Diagnosis: Results of an International Survey of Clinicians,” *Journal of Clinical Psychiatry* 74, no. 8 (2013). Pp. 841-9.

37 It was long after I came to know Bessel and his work that I set out to study chronic loneliness and its implications, and I have no doubt but that the paradigm I had often heard him describe played a role in how I approached my topic. During my research for my 2016 book on the topic, *Four Seasons of Loneliness*, I came to realize that the loneliness that we humans suffer from excess isolation, is a sensation, not an emotion. Given that the sensations are based in the limbic system, I came to envision loneliness not as an idea that we have in our forebrain but instead as a sensation generated by our animal brain—directly equivalent to how it generates our sensations of hunger, thirst, and fear. In Western languages, we “feel” or “have” hunger, thirst, fear, and loneliness—we don’t “think” them. My sensitivity to Bessel’s paradigm proved even more useful in writing my 2020 book, *Surrounded By Others and Yet So Alone*, which studies how some people develop chronic loneliness not because they are socially isolated, but because their bonds and linkages to the significant others in their lives are so un-soothing and un-nurturing that they feel the sensation of loneliness despite being enmeshed in what appears from the outside to be a normal set of relationships. In other words, loneliness, like traumatic stress, is more a limbic system issue than it is a prefrontal cortex issue, and any clinical treatment regime that does not take this into account is highly likely to fail.

38 The Management of Post-Traumatic Stress Working Group, with support from The Office of Quality and Safety, VA, Washington, DC and Quality Management Division, United States Army MEDCOM; https://www.healthquality.va.gov/guidelines/MHptsd/cpg_PTSD-full-201011612.PDF

39 Bessel A. van der Kolk. *Ibid.* (115)

40 Early in his career, the great neurologist, Oliver Sacks, prescribed the drug L-Dopa for catatonic patients who had been entirely frozen in movement, aspect, and speech for years by the 1920’s encephalitis lethargica epidemic. Amazingly, his patients were almost entirely reanimated by administration of L-Dopa-- but over time only higher and higher dosages provided this chemical intervention. All of this came to a brutal end when the dosages reached toxicity safety limits, and the entire project had to be cancelled. Dr. Sacks describes this remarkable medical adventure in his book *Awakenings* (New York: Duckworth & Co.: 1973), and Robin Williams and Robert De Niro star in an unforgettable film version, also called *Awakenings* (Penny Marshall, Director: 1990).

41 http://en.wikipedia.org/wiki/List_of_largest_selling_pharmacological_products.

42 Lucette Lagnado, “U.S. Probes Use of Antipsychotic Drugs on Children,” *Wall Street Journal*, August 11, 2013.

43 [Kate Thomas, “J. & J. to Pay \$2.2 Billion in Risperdal Settlement.” *New York Times*, November 4, 2013.]

44 [M. Olfson, et al., “Trends in “Antipsychotic Drug Use by Very Young, Privately Insured Children,” *Journal of the American Academy of Child & Adolescent Psychology* 49, no.1 (2010):13-23; and M. Olfson, et al., “National Trends in the Outpatient Treatment of Children and Adolescents with Antipsychotic Drugs,” *Archives of General Psychiatry* 63, no. 6 (2006): 679]

45 Bessel A. van der Kolk. *Ibid.* (224)

46 Bessel A. van der Kolk. *Ibid.* (224)

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