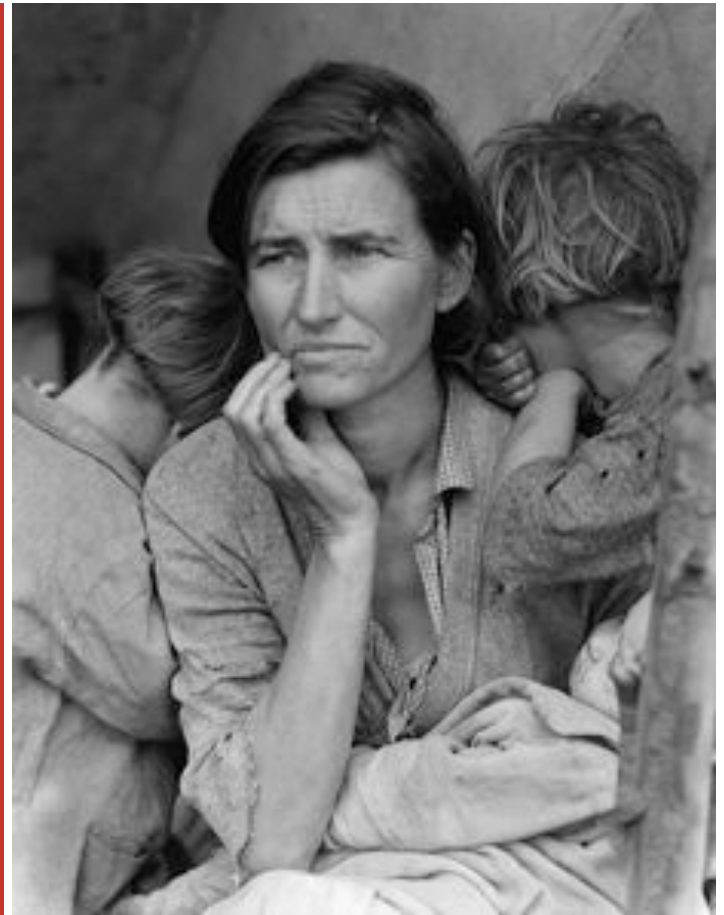


Somewhere Something Went Terribly Wrong

In search of the origins of trauma in the human species

By Anthony “Twig” Wheeler



Intention and Rational: When most people think of trauma they have an immediate association with “overwhelming” and horrific events whose effects are thought to be inherently traumatizing to human beings. This makes sense, for certainly there are events that seem to be traumatic due to their intensity and unusual nature. The DSM-IV has formalized this by stating that trauma is the result of events which are out of the range of normal human experience and that would be traumatizing to just about anyone.

Meanwhile, Somatic Experiencing® and the “emergent therapeutic paradigm” has broadened this definition of trauma and identify a more essential cause of the traumatic reaction: the *disruption* of an evolutionarily designed response sequence, with essential activation and deactivation phases, that animals naturally mobilize to immediately reestablish relative safety when challenged. This biological response of self-protection has been highly tuned within the long course of mammalian

evolution, and indeed integrates responses that are intrinsic to the earliest vertebrates and nervous systems. The effect of disrupting this process is now seen in some circles as the central theme in the phenomena of trauma, nervous system dysregulation and subsequent psychological and somatic complaint. Such a view counters the classic psychiatric notion and common sense understanding that trauma is somehow “in the event,” an essential consequence of significant stressors. Instead what is offered is a more holistic appreciation that trauma is the result of a vital biological process which has, in a significant way, been disrupted, thwarted, curtailed or otherwise gone wrong: quite possibly regardless of the type or scope of the stressor.

Where and how this process goes wrong has become a central theme of trauma research and trauma therapy—for implicit in the new understanding is the belief that if clinicians can identify, engage and facilitate completion of this thwarted process a traumatized nervous system can return to self-regulation and well-being. Fortunately

there have been substantial gains in this regard and there are now sound and replicable techniques available to clinicians for making appropriate engagement with this process. And yet, I believe, there remain significant questions of ultimate causation for the phenomena of traumatization within the human species. When answered, these should further clinicians' capacity to facilitate completion of thwarted responses and also inform society at large of how to better alleviate trauma from the social body.

On our way to answering those questions we should remember that evolution does not reward gene expressions that degrade the fitness of a species. Genetically speaking we can say it this way: what works gets passed on, what doesn't gets eaten. Bessel Van der Kolk has summed up the effects of trauma as "the inability to be in the here and now." But the ability to be in the here and now is a vital capacity in the successful negotiation of stressors within the context of natural selection. Hence it is extremely unlikely that trauma finds its roots in the phylogenic development of our or any species. On the contrary, we should expect natural selection to work to counteract the potential for traumatization and buffer all animals from trauma. This recognition should put to rest any suggestion that a species "designed" by evolution could be inherently inclined toward traumatization. If such a proposal remains, it is burdened with a substantial demand to explain its contravention to accepted evolutionary theory. Hence, at least on a theoretical level we can say that trauma is "not supposed to happen."

And so now the questions of origin remain—if trauma is not an inherent quality of an event or a species: Why do humans seem to be so readily traumatized? What are the necessary and sufficient conditions that can account for the emergence of trauma in humans? In an essential way, where and what went wrong?

I believe we are now in the best position ever to tackle those questions by bringing to bear insight derived from traumatology in combination with the developments over the last thirty years in anthropology, archeology, evolutionary psychology and human ecology. In short I see it as possible to make *at least* an outline of a consilience report

between the biological and social sciences in regards to the emergence of trauma within the human species.

Remarkably such a report suggests that trauma is a consequence of a convergence of numerous principles of biological and social evolution: a convergence that due to many of its consequences might be best considered as a collision. Fundamental aspects of human evolution, evolutionary psychology, psychophysiology, social organization, ecological relationships, and biogeography, amongst others have come together to raise the specter of trauma within our species and in turn each has been affected by trauma. The story is an incredible tale of coincidence, woe, triumph and intrigue. The subsequent analysis is fraught with significance and drama. For it brings to light the very basic attributes of human nature: our needs, our conflicts, our relationships, and how we organize our lives. The story of trauma and humans is the story of what we are as a species, where we come from, where we have gone and what we have become. In it also lies the prospect for a reconciliation of these elements and a reunion with our most essential nature.

Seeing even the shadowy outlines of the origins of trauma within human societies will afford great insight into which direction clinicians and society must turn in their attempts to address traumatic stress within their clientele and the social body. I believe by understanding the reality of what we are up against we can best inform our efforts for change. It is in the hopes that just such changes are possible that I am attempting a coherent narrative of where and when something went terribly wrong.

Article: When first exposed to the theory that *incomplete* autonomic stress response (ASR), or the “arousal cycle,” is the underlying cause of trauma, Somatic Experiencing (SE) students often exclaim in wonderment, “What’s that about! What makes that happen?” This becomes all the more confounding when it’s learned that wild animals regularly and reliably make this completion. This is similar to the surprise people report after witnessing an SE session facilitated by a seasoned therapist, whereby a traumatized nervous system returns to flow and flexibility with minimal intervention or direction, even if the fixation has held for many years. A common expression is, “It’s as if you weren’t doing anything. As if it were happening by magic.” The sentiment is honest enough, though eventually SE students come to understand that this is not magic. It is active participation in an expected biological process: processes that have been disrupted and remain desirous of completion, waiting only for the necessary and sufficient conditions required to prevail. The true “magic” of SE is the ability of its theoretical, paradigmatic and technical elements to identify and meet those conditions.* Doing so supports the natural return to functionality and coherency a dysregulated nervous system anticipates. The fact that these elements are firmly rooted in physical and biological reality takes nothing away from their mystery and adds everything to their viability.¹

As practitioners grow to recognize and appreciate this inherent “Organic Intelligence,” with its desire for health and integration, the original question of causation often recedes into the background. As if by having received the necessary tools to address the problem, we no longer feel the need to ask why the apparent tendency toward traumatization exists for humans in the first place. The question, however, does remain. For if SE’s premise is correct, that humans are as capable and desirous of ASR completion as are other animals, then the human penchant for accumulating stress

requires some explanation. One prevailing explanation is that the neo-cortex, with its capacity to override instinctual processes, manages human behavior due to an intrinsic dislike of survival energies, thus inhibiting completion. While it is true that the human neo-cortex has the ability to over-control instinctive impulses, something other animals cannot do, this does not explain why SE clients, when properly supported and with their neo-cortex fully engaged, readily move through and complete traumatic material, including the disquieting sensations and feelings tied to survival energies. Clearly the issue is more than “we don’t like it.”⁺ Furthermore, the neo-cortex, a development of our evolutionary heritage, is bound by the same rules that govern all phylogenetic change. Namely, that genetic change *must improve the “fitness” of an organism without degrading its capacity for survival*. If the neo-cortex were somehow predisposed toward traumatization the effects of this would have challenged our ancestors fitness and quickly ended the evolutionary trajectory of an expanded neo-cortex. Hence, if we are to look for the reasons so many of us are so readily traumatized we shall have to look beyond a simple biological imperative.

In considering this question of origins, we do well to make a quick review of what SE practitioners already know about trauma and how we address it. We understand trauma to be a function of fixity in autonomic nervous system (ANS) processing: the result of incomplete orienting, fight, flight, freeze and discharge phases of the ASR. This disrupts a natural process of activation-deactivation, retaining unnecessary energy and instruction within the ANS and thereby compelling the accumulation of stress. Accumulated Stress (AS) in turn becomes the driving force behind ANS dysregulation, while subsequent symptoms of physical and psychological complaint are seen as consequences. Further effects are the degradation of appropriate response to future challenge, an effect within the paradigm of natural

☆ I would like to acknowledge Peter Levine, PhD. for his diligence in unearthing and explicating these elements.

✚ There are other challenges to the hypothesis of neo-cortex causation, one of which is from animals in captivity whose neo-cortex is insufficient to voluntarily inhibit their behavior but who still becomes traumatized. This strongly suggests that the human neo-cortex may not be a necessary condition for the traumatic reaction.

selection that equals death.² I maintain that this disruption is about more than biology; it is biology's relationship to context. And context is assessed by a magnificent capacity of the nervous system called *neuroception*.

Psychophysiological Stephen Porges coined the term neuroception to describe the subconscious, nervous system derived, assessment of relative safety or threat.³ Porges hypothesizes that neuroception is the key attribute for initiating (or suppressing) the ASR and determines its subsequent level of activation: the *perceived* degree of threat is believed to correspond to the animal's response: novel stimulus instigates orientation responses and engagement; danger demands fight or flight behaviors; and life threat immobilizes an animal for death feigning and preparation for death. An assessment of safety on the other hand stimulates the capacity for social engagement and pro-social behaviors.⁴ Extended within SE theory the neural circuits that register safety after a stressor would also support orientation, curiosity, discharge and integration. Hence, with our intention to complete the ASR to restore nervous system self-regulation, establishing a neuroception of safety (NC-Safety) is our preeminent procedural process in the clinical endeavor. By so doing, clients receive the requisite experience of safety with which to renew participation in the arousal cycle and find completion.

To facilitate and maintain this NC-Safety practitioners of SE have been encouraged to follow a stepwise process identified by Steven Hoskinson as SE's "Initial Conditions": 1) establish adequate orientation to the present environment; 2) develop sufficient access to the Inner Vortex*; and 3) allow titrated/pendulated contact with the Outer Vortex† or source of threat as generated by internal cues 4) Returning to orientation via the Inner Vortex. These practical steps help avoid overwhelm, while

increasing a client's internal sense of capacity, supporting a perception of relative safety and agency.

The therapist must also attend to their therapeutic stance, including suitable joining, empathy, and an attitude of unconditional positive regard. *These are expressed to both the personality and the organism of the client* through behavioral expressions, with careful attention to demonstrate (non-consciously) the presence and quality of this stance. To accomplish this, we utilize: appropriate tone, prosody, and rhythm of vocal patterns; empathic responses to the concerns of the client; appropriate gesture, posture, and somatic mirroring; and the conscious yet fluid use of language in a direction that will assist the client towards completion of ASR phases and phase transitions. Furthermore, we explicitly trust in the wisdom of the client's Organic Intelligence and assume that symptoms have a sound reason for their expression. By so doing, we provide a safe space in which the client can explore, without judgment, their incomplete impulses of self-protection.

This is only a sampling of the various skills necessary for successful therapeutic work. However it suggests SE's awareness of the importance of context and a NC-Safety and the efforts we must make to attend to it. SE's remarkable finding is that once sufficient safety is established the phases of the ASR move consistently toward completion. This clearly places neuroception at the center of the traumatic reaction. The broad implication is that therapeutic interventions, regardless of their brilliance, will be successful only to the degree that this experience of safety is present.

Given neuroception's importance to the arousal cycle, what impact does it have on origins of trauma in the human species? *Homo sapiens*, the species to which all of us belong, is the most successful social animal the biological world has ever seen in terms of

* The "Inner Vortex" is also known as the "Healing Vortex", an understandable yet regrettable term in my view. This has the potential of implying a "right" and "wrong", or "beneficial" and "bad", attribute to elements of experience. The vortexes process might be better thought of as two elements of experience that have lost relationship due to nervous system fixity. Hence both are necessary for the process of pendulation and neither should be seen as healthier or more "healing" than the other. An example of this dynamic is the two different polarities in Alternating Current electricity where one wire is labeled "positive" while the other is "neutral"—for electricity to flow both must be present in relative degrees.

† Also known as the "Trauma Vortex" to which I have the same objection.

ability to make, manage, and maintain relationships of affiliation.⁵ It should not be surprising then that our sociality functions as a major contributing factor to our neuroception of safety. While other more solitary oriented animals may arrive at a NC-Safety due to environmental markers such as distance from other animals, human well-being is fundamentally influenced by the proximity and expressive cues offered by other humans.⁶ All other contextual markers being equal, the presence of non-threatening, supportive human beings is, I believe, the primary cue of a NC-Safety for the human animal.

Unfortunately for human neuroception, the context of safety has not always been consistent. This is especially true since the rise of the human population from 1 billion in the early 1800's to the present estimated 7.2 billion. The subsequent (and related) combinations of conflict, social dislocation, and the creation (and consequences) of industrial technology, have culminated in a challenging setting for human beings where conditions of "ambient anxiety" and un-diagnosable stress disorders, such as "syndrome X", are commonplace conditions throughout much of the modern world.

This misfortune can only be fully appreciated with the recognition that human existence, which extends into the past for over 100,000 years,* does not show significant signs of AS until the dawn of the agricultural revolution some 10,000 years ago. Hence our investigation of origins hinges on contextual changes brought about by agriculture's influence on neuroception. Space limitations preclude a full investigation of these changes and are in preparation elsewhere (Wheeler, *Trauma, Civilization and the Human Species*; Hoskinson & Wheeler, *Organic Intelligence: A Species Approach to Healing*), still a cursory view is possible and helpful in addressing our question of origins of human disruption of ASR completion.

* *Sapiens* have extremely strong ties to the species *Homo erectus* extending back 2 million years

⚡ The Paleolithic or Pleistocene was the geologic and ecological period ending with the last ice ages, roughly 10,000 BCE. This is consistent with a rise in the earth's temperature and the dawn of agriculture or the Neolithic revolution. While ecological conditions did change at this time, the majority of changes are human caused and relate most directly to the development of agriculture: the end of the Pleistocene is not fundamentally geological. See Shepard, 1997.

The human genome, our blueprint for well-being, evolved and stabilized in the environmental and cultural context of the Upper Paleolithic.[⚡] These are the conditions our organism continues to anticipate, from birth until death. Fundamental to a "Pleistocene Paradigm" was small group living based on family ties and reciprocity. Daily living was characterized by effort, play, gossip, and participatory activities which include amongst a long and varied list: hunting, gathering, physical activity, food sharing, story-telling, hand making of tools and craft, limited contact with domestic plants and animals, healing ceremonies, and inclusive politics.⁷ Known as Hunting-Gathering, or Foraging, this lifeway is correlated with low population density, low material culture, egalitarian social structures and social "pressures toward assertion" (achievement, autonomy, self-reliance and independence).⁸ This way of life, far from Hobbs's fear of being "nasty, brutish and short" is indeed demanding. It is also ecologically and culturally structured to support the physical and psychological well-being of our species. We are, essentially, made for it.⁹

This is seen in consistent reports of foragers detailing their alacrity in accommodating stressful events, their expressions of maturity, psychological integration and affective regulation.¹⁰ Though what accounts for this is a system-wide structure or "lifeway" supporting self-regulation, we can briefly look at four contributing factors: group size, attachment relationships, type of stressors, and socialization practices.

The prevailing group size of foraging peoples ranges between 20 to 150 persons. This number lies within the optimum range for the limits of cognitive awareness of social relationships as prepared by human evolutionary psychology.¹¹ In this size, each member of the social group has an informed perception about the capacities, demeanor, attitude and formal and informal relationship of all other members and is personally invested in conflict

resolution. The integrity of this group, which remains largely consistent from birth until death,¹² supports the familiarity needed for human NC-Safety.

Due to ecological constraints, birth spacing for mothers averages one child every four years. This affords ample time for attachment relationships to form, limits stress on mothers, and provides structure for the “in arms phase” of infancy. This consistent bodily contact with caregivers from birth until the *child directed* movement toward autonomy, with its experience of thousands of activation-deactivation cycles, provides the neurological grounding of well-being necessary for self-regulation.¹³

In undisrupted hunter-gatherer life, people actively engage with local environmental conditions. Stressors tend to be “human scaled” and addressable by active coping strategies of individuals and communities. For instance, though effort is needed to address cold and hunger these demands are readily met by the highly capable human species in a healthy ecosystem. Natural remedies and highly sophisticated psychosocial approaches to healing address disease and illnesses. Even conflict is human scaled where the rare battle between neighbors is carried out with hand and short distance throwing weapons, making self-protective responses of fight and flight viable in the majority of cases. While overwhelming encounters surely exist, they are few and far between, and the distance in the middle is filled with successful negotiation of challenges that build resiliency and agency.¹⁴ As one !Kung man from South Africa said of himself without hubris—before leaving with three other men on what would become a successful five day giraffe hunt, with no food and limited water, covering upwards of 20 miles a day barefoot—“I am the sharpest edge of the arrow.”¹⁵

Supporting all of this is the socialization practice of assertion. Documented cross culturally in foraging communities around the world, assertion is the most advantageous character attribute for hunting and gathering. Where tasks are generally individual or small group oriented, and conditions or circumstances are never the same twice, the reliance on individual capacity is an ecological imperative.¹⁶

Key to this is an allowance and permissive social environment for individuals’ spontaneous and independent behavioral expressions.¹⁷ This does not lead to the lack of impulse control feared by parents of ADHD children but quite the contrary: with timely completion of ANS impulses, stress does not accumulate to challenge self-regulation. This lifeway clearly supports a NC-Safety for human beings. Insightful readers will also notice the correlation between our earlier guidelines for establishing a NC-Safety to resolve traumatic stress and the contextual structures of a Pleistocene Paradigm.

The above is in sharp contrast with the social organization and environmental context that arose after humans began their turn toward agriculture, food accumulation, and sedentism. The subsequent complex societies are correlated with high population density, high material culture, stratified social networks, and socialization practices of “pressures toward compliance” (responsibility and obedience).¹⁸ These changes have fundamentally altered the context of human life and, I maintain, challenged our NC-Safety.

When human populations rise above 150 persons the capacity of the human mind to maintain familial relationships of reciprocity is exceeded, causing excessive friction in the social body. This “magic number 150” is well known to social psychology, and is clearly a function of evolved constraints of human anatomy and psychology.¹⁹ In response to larger numbers, communities develop compensatory mechanisms such as hierarchy and training for obedience. These are understandable attempts to maintain the social peace in expanding populations. And they come with consequences, like the potential for abuse of power in social relationships²⁰ and, I maintain, the stifling of involuntary bodily processes necessary for ASR completion. This is the social origin of the admonition “you can’t feel that way” with its clearly repressive impact.

Unforeseen costs of agriculture (and eventually industrial-technological civilization) altered the type and severity of stressors impacting humans and their societies. As farming and domestic animals depleted the soil, famines or the yearly fear of them became a

consistent reality for humanity. The reaction, reasonably enough, was to increase the population size, work more land, and effort more.²¹ These compensatory responses come with repercussions.

Population growth, achieved by decreasing the birth spacing and controlling women's reproductive freedom has clear implications for attachment and social relationships, as does the forced induction of other societies and conscription of slaves. The clearing of wild lands for farming and the conquest of new territory to feed a growing population afford only temporary relief as agriculture inherently depletes the soil.²² The increasing frequency, intensity and overwhelming nature of challenges like siege and cataclysmic warfare, famine, forced immigration and epidemic diseases (brought about by the domestication of animals)²³ made it unlikely for people to find appropriate support and distance from threat to alleviate stress responses. What is described here is an autocatalytic relationship between population, agricultural and stress that fundamentally altered human access to safety.

Acculturated modern peoples cannot help but love our international cuisine, high art, literacy and democratic forms of government which arose despite the above conditions. Still, we would be remiss if we did not weigh these "Inner Vortex" elements against the costs of extreme and repetitive stressors, deformation of attachment relationships, and legacies of coercion and obedience to the health and well-being of the human species.

Though much has changed with the shift from subsistence agriculture to industrial development many of these dynamics remain firmly in place. Hence, it can be no wonder that symptoms of AS are on the rise (i.e., ADD, ADHD, aggression, depression, ambient anxiety, etc...). Given the breadth of challenges to our sense of safety it is a testament to human resiliency that we continue to strive for, and find, joy and meaning in our daily lives. And yet, when the price of rice in China affects the livelihood of entire populations half way around the world, or military forces put entire nations into flight, we can only anticipate further distress. Of course this is punctuated by the two critical technological developments to attack human neuroception in the last 100 years: the specter of

weapons of mass destruction and the influence of the mass media that penetrates daily life with consistent messages *and images* of danger.²⁴ Adding to this is the dawning reality of potential global ecological collapse, a direct consequence of agricultural and industrial production's impact on nature.

Threatening more than local communities, the threat is now to the biosphere itself. If ever there was a challenge to NC-Safety, Global Warming is it.²⁵ Meanwhile, social pressures to curtail individual organismic impulses continue to compel the accumulation of stress in individuals for the most mundane events, which certainly cannot be helping our collective condition.

While the threats to human well-being continue to mount, understandably, social life continues to disintegrate. People are less and less able to make connection in a world fundamentally fragmented, troubled and irresponsive of organic human needs. Needs like clean, quiet, open terrain devoid of immediate danger while in the care of loved ones to hold your anguish and see you through to the other side of troubled times.

This is the current that somatic therapists, our clients and indeed the Organic Intelligence of the human species swim up against. A current that Easley called: the Whirlpool²⁶ and which Steven Hoskinson and I have only half jokingly renamed the Sympathetic Death Spiral, a cumulative expression of humanity's Outer Vortex. In light of a Pleistocene Paradigm characterized by capacity, engagement, and well-being, the accumulated expressions of fight, flight and freeze behaviors associated with the last 10,000 years of human history reads as reenactment phenomena writ large. The development and deployment of "total war", mass immigrations, social dislocations, stories of disease and famine, common place child abuse, rape, theft, poverty, drug addiction, along with countless other combinations of conflict and strife, are the sympathetic death spiral indeed.

Many individuals within complex societies display a nervous system dysregulation that is dramatically troubled and suggestive of an overwhelmingly challenging environment with limited access to safety. Freud postulated that universal civilization would mean universal

neurosis.²⁷ In the hopes that such universality never comes to pass and that humans can once again experience their full potential free from fear, I advocate an active investigation of the necessary conditions of a sufficient neuroception of safety for the human species and a participatory effort, from clinicians and society alike, to reestablish those conditions in all haste.

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