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The Transgenerational Cycle: From Memory to Molecule and from Molecule to Memory—The Multilayered Transmission of Trauma

Wioletta Rebecka*

Independent Researcher, New York, NY, USA
Email: wiolar809@gmail.com

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Abstract

Transgenerational trauma refers to the transmission of psychological, biological, and social wounds across generations. Emerging at the intersection of psychoanalysis, neuroscience, and decolonial studies, it reveals that trauma is not merely remembered—it is embodied, inherited, and enacted within families, communities, and nations. While Western psychology has traditionally interpreted transgenerational trauma through unconscious identification, attachment disturbances, and systemic family dynamics, recent advances in epigenetics have expanded this understanding. Research by Rachel Yehuda and colleagues demonstrates that exposure to extreme stress can alter gene expression, particularly within cortisol regulation and glucocorticoid receptor pathways, leaving a biological imprint of fear and survival that may be passed down to subsequent generations. Trauma thus becomes both psychic and molecular—a living bridge between memory and biology. Indigenous and non-Western epistemologies, however, have long understood that ancestral wounds reside not only in the mind but also in the body, spirit, and land. Among the Lakota, Dagara, Māori, and Andean peoples, trauma is a relational balance that has been ruptured, calling for communal mourning, ritual reparation, and the restoration of harmony between humans, ancestors, and the natural world. These frameworks offer essential epistemic correction to the Eurocentric medicalization of suffering, reframing healing as a collective and ecological process rather than an individual recovery. This paper traces the evolution of transgenerational trauma theory from Holocaust studies to contemporary epigenetic science and Indigenous cosmologies, arguing that healing must coincide across biological, psychological, social, historical, and spiritual dimensions. Integrating personal narrative with theoretical synthesis, this proposal presents a de-

*Rape: A History of Shame Project.

colonial and integrative model of transgenerational healing, in which inherited wounds become sites of ethical responsibility, collective remembrance, and restored relational continuity.

Keywords

Transgenerational Trauma, Historical Trauma, Epigenetics, Indigenous Healing, Collective Memory, Decolonial Psychology, Trauma Transmission, Intergenerational Transformation

1. Introduction

The concept of transgenerational (intergenerational) trauma refers to the transmission of trauma-related effects from one generation to the next through psychological, relational, social, and biological pathways. It was first articulated in post-Holocaust clinical psychology by Dr. Henry Krystal (1968, 1978), a Holocaust survivor and psychoanalyst whose pioneering work on massive psychic trauma laid the conceptual and empirical foundation for this field. Krystal observed that when trauma remains unintegrated, it is not forgotten—it is transmitted. Through parental affect, silence, and emotional withdrawal, descendants internalize the unspoken anguish of their forebears. In his theory of massive psychic trauma, Krystal described how survivors' numbing, dissociation, and chronic anxiety became the emotional climate shaping their children's development, establishing trauma as an intergenerational psychological inheritance.

Building on this foundation, Nicolas Abraham and Maria Torok (1972, 1994) introduced the concept of the *transgenerational phantom*, describing how one generation's ungrieved losses and secrets reappear as unconscious presences in the next. Their psychoanalytic framework proposed that trauma, when unacknowledged, becomes "encrypted" within the psyche of descendants, emerging as inexplicable anxiety, guilt, or repetition of suffering. Later, Judith Kestenberg (1972), Helen Epstein (1988, pp. 1-22, 45-68, 89-112, 133-156, 175-198), and Nadine Fresco (1984) expanded these ideas through clinical and sociological studies of Holocaust families, documenting how the children of survivors often manifested hypervigilance, guilt, or identity confusion despite the absence of direct exposure to violence. These psychoanalytic insights converged with systemic approaches, such as Ivan Boszormenyi-Nagy and Barbara R. Krasner's (1986) theory of invisible loyalties and Selma Fraiberg et al.'s (1975) notion of ghosts in the nursery, which together demonstrate that unprocessed trauma travels through families via identification, projection, and relational patterns as much as through spoken memory.

As the field evolved, scholars and clinicians recognized that transgenerational trauma extends beyond the familial to the historical and collective. Frantz Fanon's (1963) anti-colonial psychoanalysis revealed how racialized and colonial violence inscribes itself in the consciousness of the oppressed, creating transgenerational

psychic wounds. Maria Yellow Horse Brave Heart (1998, 2003) formulated the concept of *historical trauma* to describe the cumulative, unresolved grief of Indigenous peoples resulting from genocide. It forced assimilation, while Joy DeGruy (2005) articulated the theory of *Post Traumatic Slave Syndrome*, tracing the enduring psychological legacies of slavery and systemic racism. These frameworks reframed trauma transmission as a social and political process, emphasizing that injury persists through structures of domination and silence, not merely through family bonds. Fanon's notion of the "colonized mind" elucidates how structural domination becomes internalized as self-doubt, dependency, and fragmented identity. This psychic occupation endures across generations, shaping descendants' sense of worth and belonging even after formal decolonization. Within this framework, transgenerational trauma operates as both inherited oppression and internalized hierarchy—a wound reproduced not only through memory but through ideology and social reproduction.

The biological sciences have substantiated and expanded these clinical and sociopolitical insights in recent decades. Advances in neuroscience and epigenetics have shown that trauma alters not only memory and emotion but also gene expression and cellular regulation (Klengel & Binder, 2015; Meaney & Szyf, 2005). The groundbreaking research of Rachel Yehuda and colleagues (Yehuda et al., 2016) demonstrated that survivors of extreme stress, such as the Holocaust, and their descendants exhibit distinctive patterns of cortisol dysregulation and glucocorticoid-receptor sensitivity, suggesting that traumatic experience leaves measurable biochemical signatures. These findings introduced the concept of *epigenetic inheritance*, in which trauma influences the functioning of genes without altering the underlying DNA sequence.

Complementing Yehuda's clinical discoveries, Dr. Karissa Sanbonmatsu and her team at the Los Alamos National Laboratory (Sanbonmatsu et al., 2021) elucidated the molecular mechanisms that enable such inheritance. Their research on long non-coding RNA (lncRNA), chromatin architecture, and epigenetic remodeling demonstrates how environmental stress can restructure cellular transcriptional patterns across generations. Sanbonmatsu's work reveals that trauma may reorganize chromatin accessibility and influence gene networks governing stress response, neural development, and emotional regulation. Importantly, these mechanisms are dynamic and reversible—they suggest that healing environments, attachment security, and social safety can restore biological equilibrium. Her contribution provides a molecular foundation for what Krystal and Abraham & Torok had long observed clinically: trauma is both psychologically transmitted and biologically inscribed.

Contemporary research thus situates transgenerational trauma as a multilevel and systemic phenomenon integrating psychoanalytic, familial, sociopolitical, and biological dimensions (van der Kolk, 2014; Kirmayer et al., 2014; Gone, 2013). The field now bridges psychoanalysis, family-systems theory, neuroscience, and decolonial and Indigenous epistemologies, recognizing trauma as neither a private

disorder nor a fixed genetic destiny but as a relational, historical, and mutable process. Healing from transgenerational trauma requires interventions across these layers—psychological mourning and symbolic repair; familial reconnection and secure attachment; historical truth-telling and justice; and the creation of social and environmental conditions that regulate biology toward safety rather than fear.

In this integrative understanding, transgenerational trauma becomes not only a record of suffering but also a map of survival. It reveals that the past lives in the present—within cells, stories, and institutions—and that the capacity to heal resides in the same intergenerational networks through which pain was once transmitted. The challenge and promise of this field lie in transforming inherited wounds into collective wisdom, bridging the realms of science and spirit, memory and biology, and history and hope.

This article maps the evolution of transgenerational trauma across three domains: 1) Western theoretical and neuroscientific models—psychoanalytic, systemic, neurobiological, and epigenetic; 2) Indigenous and decolonial frameworks that situate trauma within relational ecologies; and 3) an integrative model specifying multidimensional healing—biological, psychological, social, historical, and spiritual. The aim is to articulate a rigorous, cross-disciplinary account of trauma transmission and to outline implications for research, clinical practice, and policy grounded in memory, biology, and justice.

2. Discussion

2.1. The Concept of Historical and Collective Trauma among Indigenous Groups

The term *historical trauma* was introduced formally by Dr. Maria Yellow Horse Brave Heart in the 1990s to describe the cumulative and intergenerational effects of colonization, genocide, and forced assimilation among Native American nations (Brave Heart, 1998; Brave Heart & DeBruyn, 1998). Brave Heart's model defined *historical trauma response* as the manifestation of unresolved grief, depression, shame, and loss of cultural continuity when collective mourning has been suppressed. Importantly, her framework situates trauma within a moral and historical sphere: colonization is not merely a sociopolitical process but a psychic and spiritual rupture whose consequences reverberate across generations (Brave Heart, 2003).

This notion resonates strongly with Joy DeGruy's (2005) concept of *Post Traumatic Slave Syndrome*, which links the enduring effects of slavery and systemic racism to intergenerational behavioral adaptations and cultural trauma among African-descended populations. Both frameworks extend trauma theory beyond the clinical setting, situating it within ongoing histories of oppression, dehumanization, and survival. They emphasize that healing cannot occur without recognition, truth-telling, and collective accountability—acts that are as political and historical as they are psychological (DeGruy, 2005; Brave Heart, 1998).

Across Indigenous epistemologies, trauma is inseparable from cosmology—the

worldview that binds people to land, ancestors, and spirit. In Lakota traditions, suffering disrupts sacred relationships requiring ceremony and community grieving. Brave Heart (2003) emphasizes the centrality of collective mourning rituals that restore harmony through prayer, drumming, and storytelling. In this context, healing is a spiritual process of reconnection rather than an individual pursuit of symptom reduction.

Among the Dagara people of West Africa, unhealed trauma is seen as a form of spiritual contamination that must be transformed through communal ceremonies involving music, fire, and ancestral invocation. As Malidoma Patrice Somé (1993) explains, the Dagara model positions healing as a collective responsibility rather than a personal achievement: the community itself becomes the healer. This vision challenges Western notions of therapeutic individualism by emphasizing social coherence and spiritual reciprocity.

In Māori cosmology, trauma is understood through *whakapapa*, a genealogical continuity that links individuals to their ancestors and the land. The breakdown of this connection, caused by colonization and land dispossession, results in *a state of spiritual and social imbalance among Māori* (Pihama et al., 2014). Healing, therefore, involves restoring language (*te reo Māori*), traditional customs (*tikanga*), and collective rituals of remembrance. Through this process, trauma is not "treated" but rebalanced within the web of relationships that sustain life (Kirmayer et al., 2014; Tuhiwai Smith, 2012).

Similarly, Andean cosmologies interpret trauma as a fracture in *ayni*—the principle of reciprocity between humans and Pachamama (Mother Earth). Restoring balance requires offerings, communal labor, and gratitude rituals that repair ecological and emotional equilibrium (Apffel-Marglin, 2011). The Andean practice of *despacho*—a ceremonial offering to the earth—serves as both spiritual healing and ecological restoration, uniting emotional, social, and environmental repair.

Across these diverse Indigenous systems, a shared epistemological foundation emerges: trauma is relational, not individual, and healing must engage the social, ecological, and spiritual domains simultaneously (Duran & Duran, 1995; Wilson, 2008; Gone, 2013). These frameworks challenge the Eurocentric pathologizing of suffering and restore to trauma theory its moral and communal dimensions. They reveal that memory and matter, grief and land, are inseparable—and that collective healing begins where separation ends.

2.2. The History and Concept of Transgenerational Trauma in the Western World

The conceptualization of transgenerational trauma developed through the convergence of multiple disciplines—psychoanalysis, sociology, anthropology, genetics, and political theory—each contributing to the recognition that the effects of catastrophe extend far beyond the individual survivor (Danieli, 1998; Kellermann, 2001). Although the formal study of inherited trauma emerged after the Holocaust, the notion that suffering echoes through generations has much deeper

roots. In pre-modern and Indigenous societies, ancestral pain was ritually acknowledged through communal mourning and remembrance; trauma was never considered a private pathology but rather a rupture in the moral and spiritual order of the collective, demanding restoration through ceremony, storytelling, and social repair (Wilson, 2008; Duran & Duran, 1995).

The modern psychological understanding of transgenerational trauma arose in the 1950s and 1960s, when psychoanalysts working with Holocaust survivors began to observe distinctive emotional and relational patterns that could not be explained by direct exposure (Krystal, 1968, 1978; Niederland, 1968). Among the pioneers of this research was Dr. Henry Krystal (1925-2015), a Holocaust survivor and psychoanalyst who formulated the concept of *massive psychic trauma*. Krystal recognized that survivors' capacity for affect regulation and symbolization was severely impaired by prolonged terror, leading to a form of emotional numbing and fragmentation that often shaped family dynamics long after the war. He observed that unprocessed grief, when silenced, did not vanish—it was transmitted through emotional withdrawal, overprotection, and unconscious identification. Krystal's clinical writings in the 1960s and 1970s described how trauma could be inherited through what he called the "atmosphere of mourning" in which children of survivors grew up. His goal was not only diagnostic but profoundly ethical: to interrupt the silent transmission of trauma by fostering the possibility of speech, mourning, and remembrance (Krystal, 1978).

Working alongside Krystal, Dr. William G. Niederland (1904-1993) played a crucial role in documenting the psychological aftermath of genocide. As a psychoanalyst and physician, Niederland devoted his career to collecting survivors' testimonies to both understand and prevent the re-enactment of trauma in future generations. His detailed case studies introduced the term *survivor syndrome*, describing the chronic anxiety, guilt, and identity instability common among those who endured concentration camps (Niederland, 1968). Niederland's work moved psychoanalysis into the realm of collective moral witnessing, arguing that trauma transmission could only be mitigated through truth-telling and recognition of the survivor's humanity.

These pioneering efforts laid the groundwork for later psychoanalytic elaborations. Nicolas Abraham and Maria Torok (1972, 1994) developed the concept of the *transgenerational phantom*, describing how unspoken experiences—especially those bound by shame or prohibition—are "encrypted" within the unconscious and reappear as haunting presences in descendants. Their theory of psychic inheritance expanded Freud's model of repression to include intergenerational communication of the unspeakable. The "phantom" represented a form of transgenerational haunting in which silence serves both as a means of preservation and a source of pain (Abraham & Torok, 1994).

In subsequent decades, psychoanalytically informed clinicians such as Judith Kestenberg (1972), Helen Epstein (1988, pp. 1-22, 45-68, 89-112, 133-156, 175-198), and Nadine Fresco (1984) provided empirical depth to these theories. Their studies of second-generation Holocaust survivors revealed patterns of hypervigi-

lance, guilt, identity confusion, and emotional constriction even in those born into safety (Kestenberg, 1972; Epstein, 1988, pp. 1-22, 45-68, 89-112, 133-156, 175-198; Fresco, 1984). These children internalized their parents' dread and unprocessed grief through empathy and emotional resonance, illustrating how trauma operates through relational and affective transmission rather than direct experience. Their work marked a decisive shift from trauma as an event to trauma as an ongoing relational field—an inheritance of silence, vigilance, and duty to remember.

Together, these psychoanalytic contributions reshaped Western understandings of trauma, demonstrating that memory, affect, and silence circulate across generations. Later interdisciplinary expansions—from Danieli's (1998) work on family adaptation to Kellermann's (2001) systemic perspective and contemporary neurobiological and epigenetic research (Yehuda et al., 2016; Sanbonmatsu et al., 2021)—confirm that transgenerational transmission is both psychological and embodied. The history of Western trauma theory thus reveals a gradual movement from the individual psyche to the collective body, from the clinic to history. Across these paradigms, a central recognition persists: trauma, when unacknowledged, is not forgotten—it is repeated. Healing therefore requires witnessing, narrative, and remembrance, transforming silence into meaning (Laub & Auerhahn, 1993; van der Kolk, 2014).

2.3. Western Family and Group Therapeutic Approaches to Transgenerational Trauma

Recent developments in somatic and embodied therapies further deepen this relational understanding. Approaches such as Sensorimotor Psychotherapy (Ogden et al., 2006), Somatic Experiencing (Levine, 2010), and trauma-informed yoga (Emerson & Hopper, 2011) emphasize the body as the primary site of implicit memory and regulation. These methods align with neurobiological research demonstrating that trauma persists in subcortical and autonomic systems, requiring bottom-up integration. Within a transgenerational context, somatic attunement allows descendants to process inherited hyperarousal and embodied fear, translating molecular memory into relational safety.

In Western psychology, the recognition that trauma does not end with the individual survivor but continues to echo through families and communities emerged gradually, often against the resistance of a culture that prized autonomy and rational control (Danieli, 1998; Kellermann, 2001). The Holocaust forced open the first cracks in that paradigm. Psychoanalysts working with survivor families began to notice that children born after the catastrophe carried emotions and fears that did not seem to belong to their own biographies. Their nightmares, anxieties, and silences seemed to repeat an unspoken history. What was once thought to be the pathology of a single psyche began to reveal itself as the haunting of an entire lineage (Kestenberg, 1972; Epstein, 1988, pp. 1-22, 45-68, 89-112, 133-156, 175-198).

From these early clinical observations, the Western understanding of transgenerational transmission evolved. In the 1960s and 1970s, family therapists such as

Murray Bowen (1978), Ivan Boszormenyi-Nagy and Barbara R. Krasner (1986), and Salvador Minuchin (1974) challenged the individualistic focus of psychoanalysis by conceptualizing the family as an emotional system—a living organism in which anxiety, guilt, and grief circulate like electricity through an unseen grid. Trauma, in this view, becomes a field phenomenon: it resides not inside a person but in the relational space between them. When one member holds unbearable pain in silence, another unconsciously carries it through symptoms, alliances, or rebellion. Healing, therefore, must occur not in isolation but through dialogue that re-establishes the family's capacity to think and feel together (Bowen, 1978; Boszormenyi-Nagy & Framo, 1986).

In Bowenian family-systems theory, the unresolved trauma of prior generations is transmitted through *emotional fusion*. When earlier experiences of loss, violence, or exile were never symbolized, descendants absorb them as invisible loyalties—pressures to repair, succeed, or suffer in ways that honor the unspoken past. Bowen (1978) introduced the *concept of differentiation of self*—the ability to feel deeply connected without losing individuality—as the antidote to inherited entanglement. In families marked by war or displacement, such differentiation transforms survival into freedom: breaking the repetition without breaking the bond.

Ivan Boszormenyi-Nagy's contextual therapy deepened this understanding by introducing the concepts of *invisible loyalties* and the *ledger of justice*. He observed that unacknowledged injustice within a family—such as betrayal, favoritism, or moral debt—creates a transgenerational imbalance. Descendants often attempt to settle these unspoken accounts, sometimes through self-sacrifice, illness, or alienation. Therapy thus becomes an ethical encounter rather than merely an emotional one: a process of moral repair in which truth-telling, acknowledgment, and forgiveness restore equity among generations (Boszormenyi-Nagy & Spark, 1973). In post-war families, such work allows the descendants of both victims and perpetrators to step out of inherited guilt or entitlement and rediscover authentic responsibility.

In structural and systemic approaches pioneered by Minuchin (1974) and Jay Haley (1976), trauma is addressed by mapping and reconfiguring family boundaries distorted by fear or secrecy. After war or displacement, families often reorganize around survival: hierarchies collapse, children assume adult roles, and emotional expression becomes perilous. Therapy aims to restore flexibility and hierarchy, creating safe spaces where vulnerability can return without threatening the system's integrity. These interventions recognize that trauma fragments not only individual memory but also the architecture of relationship—who may speak, who is silenced, who protects whom. The therapist's task is to make the implicit explicit, to bring the family's unspoken map into shared awareness (Minuchin, 1974; Haley, 1976).

While family therapy focuses on the microcosm of kinship, group therapy extends this principle to the social field. The pioneering work of W. R. Bion (1961), S. H. Foulkes (1964), and I. D. Yalom (1970) demonstrated that trauma is funda-

mentally relational, occurring in the failure of witnessing, and it heals through collective witnessing. In the group, each member becomes both mirror and mediator for the others. Unbearable affect, when held in a shared space, transforms into meaning. Bion's concept of the *container* and *contained* describes this process elegantly: the group functions as a larger mind capable of metabolizing anxiety that individuals cannot hold on their own. Over time, fragments of memory, shame, and grief become integrated through resonance, empathy, and the gradual building of trust (Bion, 1961; Yalom, 1970).

In the aftermath of war or political violence, group processes such as survivor circles, refugee community groups, and second-generation dialogue workshops have proven essential in transforming isolation into a sense of belonging (Danieli, 1998). The repetition of trauma in silence is replaced by repetition in speech—where what was once unspeakable can be shared, mourned, and reinterpreted. Such groups embody what psychoanalyst Dori Laub (1992) called *the necessity of the other's listening* for trauma to become history rather than an eternal present. Speaking one's pain before others who can bear to hear it marks the beginning of narrative restitution.

Across these modalities—psychoanalytic, systemic, and group-relational—the unifying principle is that trauma lives in relationships and can only be healed within relationships. The family or group becomes a living archive of history, and therapy becomes a ritual of remembrance (Laub & Auerhahn, 1993). The therapist's role is less that of an expert and more that of a facilitator of dialogue between generations, between silence and speech, between past and present. The process is slow, often painful, and rarely linear. It requires the courage to face inherited shame and to mourn what could not be mourned before.

Despite its diversity, the Western therapeutic lineage distinguishes itself by its search for symbolic integration—transforming implicit, embodied memory into explicit narrative meaning. In contrast to Indigenous or communal traditions that work through ritual, embodiment, and land reconnection, Western approaches rely on language, reflection, and insight. Nevertheless, beneath the methods lies the same human aspiration: to restore continuity where history has been broken, to weave the torn threads of belonging back into a fabric strong enough to hold life again (van der Kolk, 2014; Herman, 2015).

In contemporary trauma practice, family and group therapies continue to evolve through integration with neurobiology and attachment theory. Interpersonal *neurobiology* and *collective regulation* echo earlier systemic wisdom: the brain is social and safety is co-created (Siegel, 2012; Cozolino, 2017). The circle—whether of kin, survivors, or strangers—remains the primary site where trauma transforms from secret to story, from inherited burden to shared responsibility. Each generation that dares to speak makes it easier for the next to live.

2.4. Epigenetic Dimensions of Transgenerational Trauma

Recent research has also expanded understanding of paternal transmission of

stress effects, showing that trauma-induced epigenetic modifications in sperm can influence offspring behavior and stress regulation (Rodgers et al., 2013; Dias & Ressler, 2014). Such findings challenge the maternal-centric model of transmission and emphasize that trauma can reprogram molecular pathways across both parental lines. Beyond glucocorticoid signaling, alternative mechanisms—such as microRNA regulation, mitochondrial function, and neuroinflammation—offer additional routes through which environmental adversity shapes intergenerational adaptation (Nestler, 2016; Serpeloni et al., 2019).

By the late twentieth and early twenty-first centuries, neuroscience and molecular biology began to uncover the biological echoes of trauma that psychoanalysis, sociology, and anthropology had already intuited. Trauma was no longer understood as solely psychological or cultural, but as an event that leaves chemical signatures within the body, altering how genes are expressed and how stress is regulated across generations (McGowan et al., 2009; Meaney & Szyf, 2005).

At the center of this work stands Rachel Yehuda, whose studies at Mount Sinai with Holocaust survivors and their descendants provided the first robust evidence that trauma can imprint itself on the molecular architecture of stress regulation. Her team found measurable differences in cortisol levels and in methylation of genes such as NR3C1 (which encodes the glucocorticoid receptor) and FKBP5 (a co-chaperone that modulates receptor sensitivity). Most striking was the pattern of inverse correlation between parents and offspring: hyperactivation in the parental generation was mirrored by blunted reactivity in the children, as though each organism adjusted in opposition to the other to maintain systemic balance. These findings demonstrate that the experience of overwhelming threat can affect both the mind and the regulation of stress hormones and gene expression, creating an embodied memory of survival (Yehuda et al., 2016; Bierer et al., 2020).

Building on these clinical insights, Dr. Karissa Sanbonmatsu and her team at Los Alamos National Laboratory have illuminated the molecular pathways through which such environmental experiences reshape gene expression. Her research on long non-coding RNAs (*lncRNAs*) and chromatin architecture reveals how the genome's three-dimensional structure acts as a dynamic script, responsive to the chemical and environmental context (Sanbonmatsu et al., 2021). Environmental stress, including chronic threat and social deprivation, can reorganize chromatin loops and alter the accessibility of transcriptional sites that regulate neural development, emotional reactivity, and endocrine balance. Crucially, Sanbonmatsu's work underscores that these epigenetic modifications are not immutable. Just as trauma may tighten or loosen chromatin structures to silence or overexpress stress genes, safety, caregiving, and a sense of belonging can reverse these effects. Her research provides the mechanistic foundation for what clinicians and survivors have long observed: healing relationships reach the molecular level.

The global relevance of these findings becomes evident in studies emerging from Rwanda and Kosovo, where populations have endured collective violence on an immense scale. In Rwanda, researchers examining families exposed to the 1994

genocide against the Tutsi found that survivors and their offspring exhibited altered regulation of the hypothalamic-pituitary-adrenal (HPA) axis—specifically, lower baseline cortisol and higher methylation of NR3C1 exon 1F (Perroud et al., 2014). A follow-up study comparing individuals with prenatal exposure to genocide to non-exposed controls revealed differential methylation in SLC6A4, BDNF, and PRDM8—genes involved in serotonin transport, neuronal growth, and chromatin remodeling (Perroud et al., 2018). These studies did not focus solely on sexual-violence survivors; however, they examined the broader biological aftermath of genocidal trauma, suggesting that the impact of mass violence transcends individual experience, leaving measurable imprints within family lines.

Similar patterns have been observed in Kosovo, where research involving 117 survivors of sexual violence in the 1998-1999 war, many of whom experienced severe or prolonged trauma, examined cortisol profiles and DNA-methylation patterns in both survivors and their family members. Preliminary results indicated alterations in methylation at genes associated with stress regulation and immune function (Hjort et al., 2021). While these studies remain exploratory and their sample sizes modest, they collectively suggest that trauma experienced by one generation can manifest biologically in the next—not through genetic mutation but through the modulation of gene expression. This adaptation reflects both vulnerability and potential for recovery.

These lines of inquiry trace an extraordinary continuity across continents and disciplines. From Yehuda's Holocaust studies to post-conflict research in Rwanda and Kosovo and Sanbonmatsu's elucidation of molecular pathways, a shared pattern emerges: extreme stress reorganizes the body's regulatory systems, shaping hormonal, neural, and genetic responses in descendants. Yet these changes are plastic, sensitive to the presence or absence of safety, care, and justice. In this sense, trauma transmission is not a sentence but a conversation between biology and environment—a dialogue that can be rewritten (Yehuda et al., 2016; Sanbonmatsu et al., 2021).

Epigenetics thus redefines the boundary between nature and nurture. It demonstrates that social realities—such as war, displacement, racism, and poverty—can become biological realities, influencing how bodies perceive threats or trust the world (Kirmayer & Gone, 2020; McEwen & Gianaros, 2011). Nevertheless, it also affirms the potential for repair: when survivors live in stable environments, when relationships provide predictability and empathy, and when political systems acknowledge and redress harm, the biological legacy of trauma can soften. The same genome that encodes fear also encodes connection and recovery.

A coherent picture of transgenerational trauma emerges across this multidisciplinary landscape—psychoanalytic, molecular, and social. Trauma is a living memory system that traverses neurons, families, and societies. Healing, therefore, must engage every level of that system: biological, by nurturing safety and regulation; psychological, by processing grief and creating meaning; relational, by rebuilding trust; and political, by enacting justice and recognition. The science of

epigenetics does not diminish the human story of suffering—it expands it, showing that the body remembers history and that, with care, history can begin to heal.

2.5. Diagnostic and Conceptual Shifts from PTSD to PTSR/PTSI, WRSS

The language of trauma, dominated for decades by the clinical construct of *Post-Traumatic Stress Disorder* (PTSD), has provided survivors with recognition but has also constrained how we understand suffering. By framing trauma as a disorder, Western psychiatry transformed a social and political wound into an individual illness (American Psychiatric Association [APA], 2013; Young, 1995). This narrow lens captures only fragments of what trauma truly is—a multilayered disruption that touches body, mind, family, and world. The reduction of trauma to diagnosis risks silencing the historical and structural forces that create it, turning oppression into pathology and resistance into symptom (Summerfield, 2001; Fassin & Rechtman, 2009).

To begin to comprehend transgenerational trauma, we must first differentiate trauma itself. One trauma is not equivalent to another; each carries its own texture, source, and ecology. The trauma of war differs from that of domestic violence, just as the trauma of exile differs from that of betrayal or systemic racism. Their psychobiological mechanisms may overlap, but their meanings and consequences unfold through distinct cultural, relational, and political contexts (Herman, 2015; van der Kolk, 2014). Treating all forms under one category—even a compassionate label such as PTSD—collapses this complexity and erases the adaptive, moral, and collective dimensions of human survival.

This differentiation becomes even more urgent when we consider that "disorder" implies pathology within the person rather than in the world that wounded them. Survivors of war, torture, or sexual violence are not merely carriers of a malfunctioning stress response; they are witnesses to the failure of social and moral order (Kirmayer et al., 2014). The newer terms *Post-Traumatic Stress Injury* (PTSI) and *Post-Traumatic Relationship Syndrome* (PTRS) attempt to correct this by shifting focus from defect to injury—from internal weakness to relational rupture (Cloitre, 2015; Treleaven, 2018). These terms suggest that trauma is not a disease but an injury sustained through betrayal, abandonment, or exposure to overwhelming harm within social systems. Healing, therefore, must occur through restoration of trust and connection, not only through symptom management.

Yet even these newer formulations remain incomplete without acknowledging the social, political, and intergenerational dimensions of trauma. When oppression is ongoing—when survivors continue to live under conditions of structural inequality, stigma, or silence—the very systems that diagnose them may also perpetuate their suffering (Brave Heart, 1998; Fanon, 1963). In such contexts, labeling survivors as disordered can itself be a form of retraumatization, as it pathologizes adaptive responses to injustice. The nervous system's hypervigilance or emotional

numbing, rather than signs of illness, often represent embodied strategies for survival (Ogden et al., 2006). Understanding these responses as adaptive under threat allows us to reframe trauma not as a sign of brokenness but as a testament to endurance.

This broader framework requires us to move beyond the language of individual disorder toward a differentiated trauma model that recognizes layers of experience—biological, psychological, relational, social, and political. On the biological level, research by scholars such as Rachel Yehuda and Karissa Sanbonmatsu reveals that trauma reorganizes stress regulation and even gene expression (Yehuda et al., 2016; Sanbonmatsu et al., 2021). However, these molecular alterations cannot be understood apart from the sociocultural contexts in which they occur. Studies from Rwanda and Kosovo show that the biological marks of trauma are intertwined with histories of genocide, displacement, and social exclusion (Perroud et al., 2014; Hoxha et al., 2021). The body carries what society refuses to name.

The necessity of differentiation becomes even clearer in contexts of collective or war-related sexual violence, where trauma functions simultaneously as psychological injury, political silencing, and moral betrayal. The framework of *War Rape Survivors Syndrome* (WRSS) recognizes this entanglement, situating trauma not merely within the psyche but within disrupted social contracts, cultural shame, and institutional denial (Rebecka, 2021, 2024). WRSS challenges the reduction of war-rape survivors to victims of a mental disorder and instead frames their suffering as a complex moral and political phenomenon—one that calls for acknowledgment, justice, and collective responsibility (Clark, 2021).

War Rape Survivors Syndrome (WRSS), first conceptualized by Rebecka (2021, 2024), describes the complex psychobiological and moral consequences of sexual violence during armed conflict. Unlike PTSD or PTSI, which emphasize individual symptomatology such as hyperarousal or intrusive memories, WRSS situates trauma within disrupted relational, sociopolitical, and moral orders. It integrates neurobiological dysregulation with cultural silencing and institutional betrayal, framing war rape not only as a psychological injury but as a collective moral wound that demands recognition and justice rather than mere clinical treatment.

When trauma is approached through such a differentiated lens, it ceases to be a static entity. It becomes a dynamic process—a dialogue between body and society, between past and present. One continuum includes biological alterations, psychological adaptations, and social silences. The challenge, then, is not only to treat trauma but to understand it in context: to see how culture, religion, and politics shape what can be remembered, mourned, or healed (Kirmayer & Gone, 2020). Without this understanding, transgenerational trauma remains inaccessible, misdiagnosed, and perpetuated through systems that replicate the very power imbalances that caused it.

To heal across generations, we must therefore move beyond diagnostic abstraction and toward contextual differentiation—recognizing that trauma is as much a

political and relational phenomenon as it is a biological one. It is not a disorder to be managed but a history to be witnessed, a relationship to be repaired, and a system to be transformed. Only through this expanded understanding—where PTSD, PTSI, PTRS, and WRSS are seen as distinct yet interconnected expressions of suffering—can trauma work truly encompass the full spectrum of human experience and the ongoing struggle for justice.

2.6. From Pathology to Relational Disruption

Indigenous and decolonial perspectives on trauma compel a radical rethinking of the Western clinical gaze. They challenge the notion that trauma resides within an individual's body or brain, reducible to pathology or biochemical imbalance. Instead, trauma is understood as a rupture in relationship—a breaking of the threads that bind human beings to their own bodies and minds, families and communities, ancestors, land, and nation (Duran & Duran, 1995; Wilson, 2008; Kirmayer et al., 2014). It is a shattering of coherence across the relational field. When violence tears these bonds, the self no longer feels continuous within its own skin; the body becomes a foreign territory, the mind a site of exile, and the community an unsafe or unrecognizing space.

In societies marked by collective trauma—war, colonization, enslavement, and genocide—the rupture expands outward: the social body fractures alongside the individual one. Families inherit unspoken fear; nations carry unresolved guilt and denial; generations live within atmospheres of unarticulated grief (Brave Heart, 1998; Atkinson, 2002; Gone, 2013). In these spaces, silence becomes the language of trauma transmission. What cannot be spoken is transmitted through gesture, mood, posture, and gaze. Children learn to read the weight of memory in their parents' pauses, in the tension of their bodies, in the absences that shape family narratives. Over time, this silence crystallizes into culture—a grammar of avoidance, a collective choreography of restraint that preserves the wound by refusing words (Danieli, 1998; Kellermann, 2001).

This relational disruption is not only interpersonal but ontological. Trauma fractures the sense of belonging to the human and more-than-human world. It disrupts reciprocity between the self and others, the body and the earth, and memory and meaning (Kirmayer & Gone, 2020; Hartmann & Gone, 2016). The survivor's body, once the vessel of life, becomes both witness and evidence of betrayal. The nervous system remains loyal to danger even when safety returns, encoding vigilance as virtue. At the collective level, societies mirror this physiology: nations trapped in cycles of revenge or denial reproduce trauma as ideology. The frozen body becomes the frozen polity (van der Kolk, 2014).

Healing, therefore, cannot be achieved through symptom management or isolated therapy. It requires reweaving relationships—within the self, between people, and across generations. In Indigenous cosmologies, this process involves returning to balance through ritual, storytelling, communal grieving, and reconnection with land (Brave Heart, 2003; Duran, 2006; Pihama et al., 2014). Decolonial

practice involves confronting the political and historical roots of rupture, including naming injustices, restoring dignity, and rebuilding trust where it has been systematically destroyed (Tuhiwai Smith, 2012; Fanon, 1963).

From this perspective, trauma is not a disorder but a disruption of a relationship, and healing is the restoration of relational flow. Memory is not cured; it is integrated into a living network of meaning. The survivor's voice—once silenced—becomes a bridge between the past and the future, between personal and collective histories (Laub, 1992). When silence is broken not by extraction but by witnessing, the wound begins to speak a different language—one of continuity, dignity, and return.

In this paradigm, the goal of trauma work is not normalization but reconnection: the reanimation of empathy between bodies, the restoration of trust between generations, and the reestablishment of ethical reciprocity between humans and the worlds they inhabit. Healing is relational repair. It is the long work of translating silence into voice, separation back into belonging, and pathology back into meaning (Wilson, 2008; Duran, 2006; Hartmann & Gone, 2016).

2.7. Epistemic and Ethical Implications

Indigenous and decolonial approaches provide epistemic and ethical critiques of Western trauma theory. *Epistemically*, they challenge the Eurocentric assumption that knowledge is generated only through clinical or scientific observation. Indigenous methodologies validate oral history, ceremony, storytelling, and embodied knowledge as legitimate and rigorous forms of inquiry (Tuhiwai Smith, 2012; Kovach, 2009; Wilson, 2008). *Ethically*, these approaches insist that research and clinical practice move from extraction to witnessing—from studying survivors to standing with them in solidarity and repair (Hartmann & Gone, 2016; Duran, 2006; Brave Heart, 2003).

Furthermore, these frameworks expand the notion of healing beyond psychological health to include cultural revitalization, land restoration, and political recognition (Kirmayer et al., 2014; Gone, 2013; Pihama et al., 2014). The trauma of colonization cannot be healed solely within the individual; it requires dismantling the systems that perpetuate harm. In this sense, decolonial trauma work becomes simultaneously therapeutic and emancipatory, linking personal well-being to historical justice (Fanon, 1963; Tuhiwai Smith, 2012).

In Indigenous cosmologies, healing unfolds not as a linear journey from wounding to recovery but as a circle—a rhythm of return, remembrance, and renewal (Wilson, 2008; Duran & Duran, 1995). The process never ends; it turns, gathering meaning with each passage. Communities progress through interwoven phases, although never in a fixed order, because healing is a dynamic, responsive, and communal process.

It begins with *recognition*, when silence breaks and truth is spoken aloud. This act of naming is both a revelation and a mourning, a collective exhalation after generations of holding their breath. In circles of testimony, at truth commissions,

or beside sacred fires, people give shape to what was long denied: massacres, broken treaties, and stolen children. Recognition restores moral sight—it reawakens memories that were buried to survive (Brave Heart, 1998; Laub, 1992).

From recognition comes *reconnection*, the turning back toward what colonization sought to erase. Communities recover languages once forbidden, songs whispered in secret, and ceremonies once punished by law. The return to ancestral land and knowledge is not merely a cultural reclamation; it is a psychological grounding, the reestablishment of belonging after centuries of exile. Identity ceases to be defined by loss and becomes rooted again in continuity (Atkinson, 2002; Pihama et al., 2014).

Communal mourning follows naturally, not as pathology but as sacred necessity. Grief is not privatized; it is carried together. The community opens a collective space where the living and the dead meet through drumming, wailing, storytelling, and shared silence. In these rituals, sorrow becomes a form of prayer, and tears are offerings that cleanse spirit and land (Duran, 2006; Gone, 2013).

From this collective grief arises *resistance*, for mourning and survival are inseparable. To grieve truthfully is already to resist the systems that produced the harm. Healing becomes political: the ceremonies of Standing Rock, the songs of Idle No More, and the land reclamations of the Mapuche are not only protests but spiritual awakenings (Grande, 2015; Coulthard, 2014). Each act of resistance reasserts the sanctity of life and the refusal to be defined by subjugation.

Finally, the cycle turns toward *transmission*, when pain transforms into responsibility and knowledge. Elders teach the young not only stories of suffering but also survival practices—language, ritual, and the ethics of care. In this phase, trauma becomes an inheritance not of despair but of moral strength. What was once unspeakable becomes a compass for future generations (Wilson, 2008; Hartmann & Gone, 2016).

In Indigenous frameworks, healing is not a linear process of diagnosis, treatment, and recovery, but a dynamic moral journey—a collective act of remembering the world into balance (Duran & Duran, 1995). The circle never closes; it widens. Each return to truth, ceremony, and kinship reaffirms the living continuity between ancestors and descendants, between the wound and the wisdom it carries.

Indigenous and decolonial models illuminate dimensions of trauma that Western psychology often overlooks—the spiritual, communal, and ecological. They reveal that intergenerational suffering is not merely an inherited disorder but a moral and relational disruption of continuity. By reframing healing as reconnection—to community, ancestry, and earth—these traditions restore meaning where modern psychiatry often isolates pathology (Kirmayer & Gone, 2020).

These frameworks suggest a profound complementarity when considered alongside Western neuroscience and epigenetics: biology confirms what Indigenous knowledge has long intuited—that trauma resides in the body, is transmitted through generations, and can be transformed through relationship and ritual (Yehuda et al., 2016; Sanbonmatsu et al., 2021). Together, they point toward an inte-

grative paradigm of collective healing, uniting molecular evidence with ancestral wisdom and redefining trauma not as a symptom of disorder but as a call for restored balance and justice.

2.8. Integration toward a Multilayered Model of Healing

While the convergence of Western neuroscience and Indigenous epistemologies offers a robust synthesis, it also raises epistemological tensions. Western frameworks often rely on reductionist empiricism and quantifiable evidence, whereas Indigenous cosmologies emphasize relationality, spirituality, and cyclical temporality. Integrating these paradigms requires methodological humility and ethical reflexivity to avoid epistemic colonization, where one knowledge system subsumes or dominates the other. The dialogue must therefore remain pluralistic, recognizing that truth in trauma research may be relational rather than universal.

The convergence of psychoanalytic, systemic, neuroscientific, and Indigenous perspectives reveals that transgenerational trauma is not confined to the boundaries of psychology or medicine. It constitutes a systemic process in which the psychological, biological, cultural, and spiritual dimensions of human life interact dynamically (Kirmayer et al., 2014; Duran, 2006). Each of these domains offers partial insight: psychoanalysis exposes the unconscious repetition of trauma; family-systems theory describes the transference of unresolved conflicts through relational patterns; neuroscience and epigenetics identify the biological embedding of traumatic stress; and Indigenous knowledge restores the understanding that trauma is not only individual but communal and ecological (Wilson, 2008; Brave Heart, 1998). Integration of these perspectives allows for a comprehensive model of trauma that addresses the full continuum of injury and repair.

At the biological level, trauma is now understood as a process that imprints itself upon the body's molecular architecture. Research conducted by Rachel Yehuda and her colleagues demonstrated that survivors of extreme stress exhibit measurable alterations in cortisol regulation and glucocorticoid receptor sensitivity, patterns that also appear among their descendants (Yehuda et al., 2016; Bierer et al., 2020). This clinical evidence has been reinforced by molecular studies led by Karissa Sanbonmatsu at Los Alamos National Laboratory, whose work on long non-coding RNA (*lncRNA*) and chromatin architecture has illuminated the mechanisms by which environmental stress modifies gene expression (Sanbonmatsu et al., 2021). Sanbonmatsu's findings show that traumatic exposure can reorganize cellular transcriptional activity without altering the DNA sequence. Together, these studies provide a biological explanation for what psychoanalysts and Indigenous communities have long observed: trauma is inheritable, embodied, and adaptive. Crucially, these epigenetic changes are reversible, suggesting that healing conditions—such as safety, connection, and social inclusion—can restore biological equilibrium (Meaney & Szyf, 2005).

The psychological and relational dimensions of healing concern the repair of internal and interpersonal worlds fractured by trauma. From a clinical perspec-

tive, therapeutic processes must address individual symptoms and the transmission of affect and meaning within families (Krystal, 1978; Kestenberg, 1972; Fraiberg et al., 1975). Psychoanalytic and attachment-based frameworks demonstrate that descendants often carry the unprocessed emotions of their predecessors, perpetuating cycles of fear, guilt, and avoidance. Therefore, effective intervention requires creating relational contexts in which silenced stories can be shared and integrated. In trauma-informed psychotherapy, narrative work, somatic regulation, and intergenerational dialogue are means through which unconscious material becomes symbolized and metabolized (van der Kolk, 2014; Herman, 2015). When the buried past is named and witnessed, descendants are released from the moral and emotional burden of carrying what was never theirs to hold.

The social and political dimensions of trauma further complicate its transmission. Violence, dispossession, and systemic injustice generate collective wounds that cannot be healed through individual therapy alone. The persistence of structural inequity—racism, colonization, gender-based violence, and denial of historical wrongdoing—continues to reactivate inherited fear and humiliation (Fanon, 1963; DeGruy, 2005; Kirmayer & Gone, 2020). Healing, therefore, demands not only psychological repair but social transformation. Practices such as truth commissions, reparations, and restorative justice processes serve as collective rituals of acknowledgment that validate suffering and restore dignity (Hamber, 2009; Bloomfield et al., 2003). Models like the *Ubuntu* circles in South Africa, the *Gacaca* courts in Rwanda, and *Fambul Tok* in Sierra Leone demonstrate that collective dialogue can transform social structures of silence into systems of recognition and moral repair (Tutu, 1999; Shaw, 2005; Stovel, 2010).

At the cultural and spiritual level, Indigenous and decolonial traditions expand the notion of healing beyond therapeutic intervention. In these worldviews, trauma represents a disruption in the sacred web of relations among people, ancestors, and the natural world (Duran & Duran, 1995; Pihama et al., 2014). Healing emerges through reconnection: ceremonies, storytelling, song, and communal mourning re-establish bonds severed by violence and displacement. In Māori, Dagara, and Andean traditions, these acts of remembrance are not symbolic but constitutive—they reorganize communal energy and reaffirm the cosmological balance between human beings and the earth (Somé, 1993; Apffel-Marglin, 2011). Such practices challenge the fragmentation inherent in Western psychotherapeutic and biomedical models by situating recovery within the continuity of cultural identity and ecological harmony (Gone, 2013; Tuhiwai Smith, 2012).

An integrated model of transgenerational trauma thus conceives trauma as a systemic phenomenon operating through biological, psychological, social, cultural, and spiritual pathways. The biological layer concerns the molecular imprint of trauma and its reversibility through safety and relational care. The psychological layer transforms unconscious repetition into conscious narrative and affective regulation. The social and political layer requires the recognition of injustice and

the reconstruction of collective trust. The cultural and spiritual layer restores relational reciprocity between people, ancestors, and the environment. Healing at one level reinforces healing at others; conversely, neglect at any level perpetuates injury across the system.

This integrated perspective carries profound ethical implications for research and practice. It requires decolonizing trauma studies, replacing extraction and objectification with co-creation and accountability (Tuhiwai Smith, 2012; Hartmann & Gone, 2016). Knowledge production must include survivors and communities as equal partners and acknowledge their epistemologies as legitimate sources of insight. In clinical and policy contexts, trauma-informed approaches must be embedded in social-justice frameworks that address individual suffering and structural conditions that sustain it (Brave Heart, 2003; Kirmayer et al., 2014).

The synthesis of biological science and Indigenous wisdom redefines the meaning of healing. It affirms that trauma is not solely a psychological wound or genetic inheritance, but an ongoing dialogue between history and biology, between human memory and the living environment. To heal transgenerational trauma is to restore continuity where rupture once prevailed—to create social, relational, and ecological conditions in which the past is neither forgotten nor repeated, but transformed into knowledge, connection, and ethical responsibility (Yehuda et al., 2016; Sanbonmatsu et al., 2021).

3. Conclusion

The concept of transgenerational trauma stands at the intersection of psychoanalysis, history, biology, and culture. From its earliest formulations in the mid-twentieth century to its current interdisciplinary synthesis, it charts how the wounds of violence, displacement, and domination are transmitted through both psyche and body, as well as narrative and silence, from generation to generation (Danieli, 1998; Kellermann, 2001; Kirmayer et al., 2014).

Psychoanalytic thought provided the first systematic vocabulary for this inheritance. Nicolas Abraham and Maria Torok (1972, 1994) described the *transgenerational phantom*—the haunting presence of ungrieved loss that returns in the descendants of those who suffered. Helen Epstein (1988, pp. 1-22, 45-68, 89-112, 133-156, 175-198), Nadine Fresco (1984), and Judith Kestenberg (1972), working with the children of Holocaust survivors, demonstrated that trauma could be passed through identification, guilt, and family myth rather than direct experience. Ivan Boszormenyi-Nagy & Spark (1973) and Ivan Boszormenyi-Nagy & Krasner (1986) expanded this logic into the systemic realm with concept of invisible loyalties, demonstrating that families unconsciously organize around unresolved injustices. These insights reframed trauma as an intersubjective process: what is not spoken is enacted, and what is denied in one generation is relived in the next (Fraiberg et al., 1975; Krystal, 1978).

The historical and collective dimensions of trauma were later articulated through the work of Frantz Fanon (1963), Maria Yellow Horse Brave Heart (1998, 2003),

and Joy DeGruy (2005). Fanon exposed the psychic damage wrought by colonization and racism, describing the *colonized mind* as the internalization of structural violence. Brave Heart's model of *historical trauma response* among Native Nations identified the cumulative grief of genocide and forced assimilation. At the same time, DeGruy's *Post Traumatic Slave Syndrome* traced the enduring psychological effects of slavery and racial oppression. These frameworks established that trauma transmission is both familial and political—a consequence of collective histories left unaddressed and injustices unresolved (Duran & Duran, 1995; Gone, 2013).

Fanon's notion of the "colonized mind" elucidates how structural domination becomes internalized as self-doubt, dependency, and fragmented identity. This psychic occupation endures across generations, shaping descendants' sense of worth and belonging even after formal decolonization. Within this framework, transgenerational trauma operates as both inherited oppression and internalized hierarchy—a wound reproduced not only through memory but through ideology and social reproduction.

The biological revolution in trauma studies has added another layer of precision to these earlier insights. Rachel Yehuda's (Yehuda et al., 2016; Bierer et al., 2020) clinical research on Holocaust families revealed alterations in cortisol regulation and glucocorticoid-receptor sensitivity among descendants, providing physiological evidence that trauma reshapes stress-response systems across generations. At the molecular level, Karissa Sanbonmatsu's work at Los Alamos National Laboratory elucidated how environmental stress modifies chromatin structure and activates long non-coding RNAs that regulate gene expression (Sanbonmatsu et al., 2021). Her findings explain how traumatic experience can be biologically embedded and yet remain reversible when safety and attachment are restored. Therefore, the epigenetic model substantiates psychoanalytic intuitions with molecular data: trauma leaves traces not only in memory but also in the genome's expression (Meaney & Szyf, 2005).

Indigenous and decolonial traditions complete this picture by situating trauma within relational and cosmological systems. For the Lakota, Dagara, Māori, and Andean peoples, trauma signifies a rupture in the web of reciprocity among people, ancestors, and the earth; healing is achieved through ceremony, collective mourning, and reconnection to land and language (Brave Heart, 2003; Pihama et al., 2014; Somé, 1993; Apffel-Marglin, 2011). These epistemologies reveal that what modern science describes as epigenetic plasticity has long been practiced as cultural restoration—the re-balancing of body, spirit, and community after historical injury (Duran, 2006; Wilson, 2008).

Across these diverse paradigms, a consistent understanding emerges: trauma is not a disorder but a testimony of survival. It is the body's and culture's way of remembering what must not be repeated (van der Kolk, 2014; Herman, 2015). Healing, in turn, is not the erasure of this memory but its transformation into meaning and responsibility. Psychoanalysis provides the language of mourning

and symbolization; historical trauma theory offers the social and moral framework; epigenetics confirms the embodiment of history; and Indigenous knowledge restores the ethical and spiritual dimension of repair.

To address transgenerational trauma, societies must act on multiple psychological, biological, historical, and ecological levels. Truth-telling, remembrance, and justice are as essential as therapy, safety, and connection. Only when acknowledgment replaces denial can individual nervous systems and collective histories recalibrate toward balance (Fassin & Rechtman, 2009; Kirmayer & Gone, 2020). In uniting the insights of Abraham, Torok, Kestenberg, Boszormenyi-Nagy, Fanon, Brave Heart, DeGruy, Yehuda, and Sanbonmatsu, the study of transgenerational trauma becomes not merely an account of suffering but a framework for global healing—a bridge between science and spirit, history and hope.

Healing does not mean erasing the wound; it means transforming it into wisdom that can be safely inherited. This multilayered understanding of trauma has profound implications for clinical, community, and policy work. For clinicians, it calls for integrative, culturally grounded, and body-aware interventions that address both individual and collective wounds. For researchers, it highlights the need for participatory and decolonial methodologies that value both narrative and biological data equally. For policymakers and truth commissions, it advocates frameworks of restorative justice that combine recognition, reparation, and collective remembrance. Healing, in this sense, becomes not only a therapeutic process but a form of ethical governance—transforming inherited suffering into social responsibility.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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