

Neurochemistry or Sacred Transformation? A Critical Review of Anna Lembke's Dopamine Nation Through the Lens of Integrative Healing and Spiritual Recovery

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Abstract

Anna Lembke's Dopamine Nation: Finding Balance in the Age of Indulgence (2021) has become a landmark text in contemporary addiction discourse, offering a neurobiological framework centered on dopamine regulation, the pleasure-pain balance, and behavioral strategies for restoration of homeostasis. While Lembke's work provides valuable insights into the neuroscience of compulsive consumption, this critical review argues that her fundamentally reductionist approach—locating addiction primarily in neurochemical imbalance—overlooks essential dimensions of human suffering and healing. Drawing upon my published work on the integration of 12-Step recovery models with classical medicine, the theological dimensions of addiction treatment, and the concept of the transformable 'animal soul' (nefesh habehamit), this essay offers a comparative analysis that illuminates both the strengths and limitations of Dopamine Nation. I propose that authentic healing from addiction requires not merely neurochemical rebalancing but profound ontological transformation—a movement from fragmentation to wholeness that engages spiritual, relational, and meaning-making dimensions of human existence. The analysis demonstrates how Lembke's pleasure-pain seesaw metaphor, while pedagogically useful, ultimately fails to capture the deeper existential and theological dimensions of addictive suffering and recovery. By integrating Kabbalistic concepts of tzimtzum, Hasidic psychology of the dual souls, and contemporary embodied cognition research, this review proposes a more comprehensive framework that honors both neurobiological realities and the irreducible mystery of human transformation.

Keywords: Dopamine Nation, Anna Lembke, addiction, neurochemistry, 12-Step recovery, animal soul, nefesh habehamit, tzimtzum, holistic healing, pleasure-pain balance, spiritual transformation, embodied cognition, shame, teshuvah.

Part One: Critical Review

Introduction: The Dopamine Paradigm and Its Discontents

In 2021, Stanford psychiatrist Anna Lembke published *Dopamine Nation: Finding Balance in the Age of Indulgence*, a book that quickly became a bestseller and established itself as a defining text for under-

standing addiction in the contemporary era [1]. work on 12-Step recovery, the transformability of the animal soul, and the therapeutic applications of Jewish mystical thought.

Lembke's central thesis is elegantly simple: the same brain regions that process pleasure also process pain, operating like a seesaw or balance that must be kept in equilibrium. When we pursue excessive pleasure—through drugs, social media, pornography, gambling, or any of the myriad high-dopamine stimuli available in modern life—the brain compensates by tipping toward pain, creating the conditions for tolerance, dependence, and addiction [2].

Summary of Dopamine Nation: Core Arguments and Framework

The Pleasure-Pain Balance

The book's appeal lies in its accessibility. Lembke condenses complex neuroscience into memorable metaphors, weaves in compelling patient narratives, and offers practical strategies—most notably, the 'dopamine fast' of 30 days abstinence—for restoring neurochemical balance [3]. For a culture struggling with unprecedented access to addictive stimuli, *Dopamine Nation* provides both explanation and prescription. The smartphone, Lembke memorably observes, is 'the modern-day hypodermic needle, delivering digital dopamine 24/7 for a wired generation' [4].

The conceptual core of *Dopamine Nation* is what Lembke calls the 'pleasure-pain balance'—a neurobiological seesaw governed by the principle of homeostasis [7]. Drawing on the opponent-process theory developed by psychologist Richard Solomon, Lembke argues that every experience of pleasure is followed by an equal and opposite experience of pain as the brain seeks to return to equilibrium [8]. When someone eats chocolate, experiences sexual pleasure, or receives a 'like' on social media, dopamine is released in the brain's reward pathway, tipping the balance toward pleasure. Immediately, however, compensatory mechanisms begin pushing the balance back—and beyond—toward the side of pain.

This model explains several phenomena central to addiction. Tolerance emerges because repeated stimulation causes the brain to strengthen its compensatory response, requiring more of the substance or behavior to achieve the same effect [9]. Withdrawal reflects the brain's continued tilt toward pain even after the pleasurable stimulus is removed. Craving represents the psychological experience of a pleasure-pain balance stuck on the pain side, driving the individual to seek relief through further consumption [10]. The addictive cycle, on this account, is fundamentally a neurochemical problem requiring neurochemical solutions.

The Dopamine Economy of Modern Life

Yet for all its virtues, *Dopamine Nation* embodies a particular way of understanding addiction—one rooted in what I have elsewhere termed the 'military model of medicine' that has dominated Western healthcare since the late nineteenth century [5]. This model privileges mechanistic explanation over phenomenological understanding, neurochemical intervention over relational transformation, and individual brain chemistry over the social, spiritual, and meaning-making contexts in which human suffering and healing actually occur [6]. In this critical review, I examine Lembke's framework in detail, identify its contributions and limitations, and propose an integrative alternative that draws upon my

Lembke situates her neurobiological framework

within a broader cultural critique. We live, she argues, in an era of 'dopamine overload'—a world transformed from scarcity to overwhelming abundance [11]. Our ancestors evolved brains designed to motivate food-seeking, mate-seeking, and safety-seeking behaviors in environments where these goods were hard to obtain. The dopamine system evolved as a motivational engine, driving pursuit of scarce rewards. But in the modern world, those same rewards—sugar, fat, sexual stimulation, social validation—are available in unprecedented quantity and potency [12].

The result is what Lembke calls a 'pleasure-pain imbalance' at the civilizational level [13]. Despite—or because of—our unprecedented access to pleasure, rates of depression, anxiety, and addiction continue to rise. Lembke cites data showing that relative levels of dopamine in response to various stimuli differ dramatically: chocolate increases dopamine about 50% above baseline, sex about 100%, nicotine about 150%, cocaine about 225%, and amphetamines about 1000% [14]. Modern life has created an environment in which these extreme stimuli are readily available, overwhelming our evolved regulatory mechanisms.

Strategies for Restoration

Having diagnosed the problem as neurochemical imbalance, Lembke proposes correspondingly neurochemical solutions. Her primary intervention is the 'dopamine fast'—a period of 30 days complete abstinence from the addictive substance or behavior [15]. During this time, the brain's homeostatic mechanisms can recalibrate, removing the accumulated 'pain weight' that has built up through chronic overstimulation. The DOPAMINE acronym structures her approach: Data gathering, Objectives setting, Problem identification, Abstinence, Mindful-

ness, Insight development, Next steps planning, and Experimental verification [16].

Lembke also advocates 'self-binding' strategies—deliberate constraints that prevent access to addictive stimuli during moments of weakness [17]. These include physical barriers (deleting apps, avoiding triggering locations), chronological barriers (designated times for potentially addictive activities), and social barriers (accountability partners who monitor behavior). Finally, she proposes the paradoxical use of 'hormetic' or beneficial pain—cold showers, vigorous exercise, fasting—to push the pleasure-pain balance toward pleasure through the compensatory mechanism [18].

Strengths of Lembke's Approach

Democratizing Addiction Understanding

Dopamine Nation makes a genuine contribution by expanding our understanding of addiction beyond the narrow category of substance use disorders. Lembke's framework applies equally to behavioral addictions—gambling, pornography, social media, shopping, video gaming—that increasingly dominate clinical presentations in addiction medicine [19]. By grounding all compulsive consumption in a common neurochemical mechanism, she destigmatizes addiction and helps individuals recognize problematic patterns that might otherwise escape notice.

This democratization of addiction understanding has practical value. The person who cannot stop checking social media, the professional who works compulsively, the consumer who shops despite financial strain—all can see themselves in Lembke's framework [20]. The pleasure-pain balance offers a non-judgmental explanation that locates the problem in neurochemistry rather than moral failure,

potentially reducing the shame that often prevents people from seeking help.

Accessible Neuroscience

Lembke excels at translating complex neuroscience into accessible language. The seesaw metaphor is pedagogically effective, conveying the essential insight of opponent-process theory without requiring technical knowledge [21]. Her writing style is warm and engaging, and her willingness to share her own struggles with addiction (she describes a period of compulsive reading of romance novels) models the vulnerability she asks of her patients [22].

The patient narratives that punctuate *Dopamine Nation* serve multiple functions. They illustrate abstract principles concretely, demonstrate the diversity of addictive presentations, and—crucially—show recovery as possible [23]. Lembke's patients struggle with opioids, pornography, gambling, and video games; they come from various backgrounds and achieve varying degrees of recovery. These stories humanize addiction and provide hope for readers who may see themselves reflected in the clinical vignettes.

Practical Interventions

Unlike many popular neuroscience books that offer explanation without prescription, *Dopamine Nation* provides concrete interventions that readers can implement immediately [24]. The 30-day dopamine fast, while challenging, is a clear directive. The self-binding strategies are practical and adaptable to different addictions and life circumstances. The DOPAMINE acronym provides a memorable framework for self-assessment and behavior change [25]. For readers seeking actionable guidance, Lembke delivers.

Critical Limitations: The Reductionist Trap Neurochemical Reductionism

Despite its strengths, *Dopamine Nation* suffers from a fundamental reductionism that locates addiction primarily—almost exclusively—in neurochemistry. The pleasure-pain balance, while illuminating, becomes a Procrustean bed into which all addictive phenomena must fit [26]. Human beings become, in essence, dopamine-management systems, their suffering reducible to neurotransmitter imbalances, their healing accomplishable through proper neurochemical regulation.

This reductionism has several problematic consequences. First, it obscures the meaning of addictive behavior. In my work on the integration of 12-Step and classical medical models, I have argued that addiction often represents a response to existential suffering—to loneliness, meaninglessness, trauma, and spiritual emptiness—that neurochemical frameworks cannot fully capture [27]. The person who drinks to numb grief, the adolescent who games compulsively to escape family dysfunction, the survivor of trauma who uses opioids to manage overwhelming affect—all are engaging in behaviors that have meaning beyond their neurochemical effects [28].

Second, neurochemical reductionism implies neurochemical solutions. If addiction is fundamentally a problem of dopamine dysregulation, then the answer must be dopamine management—whether through abstinence-induced recalibration, hormetic stress, or (though Lembke is skeptical here) pharmacological intervention [29]. What this framework cannot accommodate is the possibility that healing might require something altogether different: spiritual awakening, relational repair, meaning reconstruction, or what I have termed 'ontological

transformation' [30].

The Missing Dimension of Spirituality

Remarkably, given addiction medicine's history, Dopamine Nation largely ignores the spiritual dimension of recovery. The 12-Step programs that remain the most widely available and evidence-supported treatment for addiction are grounded in explicitly spiritual principles: acknowledgment of powerlessness, surrender to a Higher Power, moral inventory, amends-making, and service to others [31]. Yet in Lembke's account, spirituality appears primarily as a curiosity—an interesting phenomenon that some patients report, but not a core component of treatment.

In my article 'The Dialectical Divine: Navigating the Tension between Transcendence and Immanence and Relevance for 12 Step Recovery,' I examined how the 12-Step understanding of a 'Higher Power' addresses a fundamental human need that neurochemical models cannot satisfy [32]. The addict's relationship to substances or behaviors often functions as a pseudo-spirituality—a misguided attempt to achieve transcendence, escape ordinary consciousness, or fill a void that secular modernity has created. Genuine recovery, on this account, requires not merely dopamine management but spiritual reorientation—the development of authentic relationship with something greater than the self [33].

Lembke's neglect of spirituality is particularly striking given her endorsement of principles—honesty, humility, service—that are central to 12-Step practice [34]. She describes how telling the truth activates the prefrontal cortex and promotes emotional regulation; she advocates for helping others as a way of finding meaning beyond com-

pulsive consumption. Yet she frames these insights in cognitive-behavioral terms, stripping them of the spiritual context that gives them transformative power in recovery settings [35].

The Limitations of Homeostasis as Telos

Lembke's framework is governed by homeostasis—the brain's tendency to maintain a stable internal state [36]. The goal of treatment, on this account, is to restore balance, to return the pleasure-pain seesaw to its resting position. But is homeostasis really the goal of human life? Is balance the highest aspiration of the recovering addict?

In my work on the animal soul (*nefesh habehamit*) and the possibility of transformation, I have argued that authentic recovery involves not merely restoration of a prior equilibrium but transformation into a fundamentally different mode of being [37]. The Hasidic tradition distinguishes between the animal soul—oriented toward physical pleasure and self-preservation—and the divine soul—oriented toward transcendence and connection with the Infinite. Addiction represents the domination of the animal soul; recovery represents not the rebalancing of the animal soul's pleasure-pain economy but the awakening and empowerment of the divine soul [38].

This framework suggests that the goal of recovery is not merely cessation of compulsive behavior but positive transformation—the development of new capacities for love, meaning, creativity, and service that were not present before. Many recovered addicts describe themselves not as having returned to who they were but as having become someone new—someone they could not have become without passing through the crucible of addiction and recovery [39]. Lembke's homeostatic model cannot

account for this transformative dimension.

Individualism and the Social Context of Addiction

Dopamine Nation focuses almost exclusively on individual brains and individual behaviors. The pleasure-pain balance resides in the individual brain; the dopamine fast is an individual practice; the self-binding strategies are individual choices [40]. While Lembke acknowledges the social forces—advertising, technology design, pharmaceutical marketing—that create our dopamine-saturated environment, her interventions remain resolutely individualistic.

This individualism is particularly problematic given what we know about the social determinants of addiction. The rat park experiments demonstrated that rats in enriched social environments are dramatically less likely to become addicted than isolated rats with the same access to drugs [41]. Johann Hari's influential work has emphasized that 'the opposite of addiction is not sobriety but connection' [42]. Bruce Alexander's research on 'dislocation' suggests that addiction emerges from the fragmentation of social bonds and meaning structures that modern capitalism creates [43]. From these perspectives, treating addiction as an individual neurochemical problem is like treating fever as a temperature problem—accurate at one level but missing the deeper causes.

An Alternative Framework: Integrating Neurochemistry with Sacred Transformation

The 12-Step Model as Complement to Medical Approaches

In my article 'Comparing and Integrating the 12-Step Recovery Model and Classical Medical Model: Toward a Holistic Framework for Addiction

Treatment,' I proposed a framework that honors both the neurobiological realities that Lembke describes and the spiritual dimensions that her account neglects [44]. The 12-Step model conceptualizes addiction as a 'dis-ease'—a fundamental disorder of being that manifests in compulsive substance use or behavioral addiction [45]. While medical models focus on brain chemistry and behavioral management, the 12-Step model focuses on spiritual transformation, character development, and relational repair.

These approaches are not mutually exclusive but complementary. The dopamine fast that Lembke prescribes can be understood as creating space for spiritual work—reducing the neurochemical noise that drowns out deeper awareness [46]. The self-binding strategies she advocates resemble the 'one day at a time' philosophy of 12-Step programs, which emphasizes present-moment commitment rather than overwhelming future projections. The hormetic stress that Lembke endorses parallels the 12-Step practice of 'contrary action'—doing the opposite of what the addicted self wants in order to build new patterns of response [47].

What the 12-Step model adds, however, is a framework of meaning and transformation that neurochemical models cannot provide. The acknowledgment of powerlessness (Step 1) is not merely a behavioral strategy but a spiritual truth—a recognition that the ego's attempts at control have failed and something greater is needed [48]. The surrender to a Higher Power (Steps 2-3) establishes a relationship that provides ongoing support and guidance. The moral inventory (Steps 4-10) addresses the underlying character defects that drive addictive behavior. The commitment to service (Step 12) redirects the energy formerly consumed by addiction

toward the flourishing of others [49].

The Transformability of the Animal Soul

Central to my alternative framework is the concept of the animal soul (nefesh habehamit) and its potential for transformation—themes I developed in my article 'The Nature of the Animal Soul and Possibility of Transformation: An Integrated Approach to Addiction-Related Illness' [50]. In Hasidic psychology, the animal soul is not intrinsically evil but operates according to its nature—seeking pleasure, avoiding pain, pursuing self-preservation. This maps surprisingly well onto Lembke's neurochemical framework: dopamine is the currency of the animal soul's economy.

But the Hasidic tradition does not stop with description; it offers transformation. The divine soul (nefesh ha'elokit) has the capacity to elevate the animal soul, redirecting its energies toward holy purposes [51]. The powerful drives that fuel addiction—the intense desire, the focused pursuit, the capacity for total absorption—are not eliminated but transformed. The question is not whether you will want intensely but what you will want intensely; not whether you will pursue with passion but what you will pursue with passion.

This framework addresses a limitation of Lembke's approach: her implicit suggestion that we should dampen desire itself. The dopamine fast, the self-binding strategies, the cultivation of moderate pleasures—all tend toward the reduction of intensity [52]. But many recovered addicts report not less intensity but different intensity—passionate commitment to spiritual growth, fierce love for others, burning desire to serve. The animal soul's fire is not extinguished but redirected [53].

Tzimtzum and the Therapeutic Space

The Kabbalistic concept of tzimtzum—divine contraction—offers another lens for understanding addiction and recovery that enriches Lembke's framework [54]. In the Lurianic myth, God contracted His infinite presence to create space for finite existence. This primordial act of self-limitation made possible a world in which creatures could exercise agency and choice—including the choice to pursue false pleasures that lead to addiction [55].

I have explored the therapeutic applications of tzimtzum in several articles, arguing that the physician's capacity for self-contraction creates space for the patient's healing [56]. The therapist or addiction counselor who contracts their own ego, who resists the temptation to impose solutions or display expertise, creates a 'holding environment' in which the patient can do the difficult work of transformation [57]. This stands in contrast to the more directive approach implicit in Lembke's framework, where the clinician diagnoses dopamine dysregulation and prescribes neurochemical interventions.

Moreover, tzimtzum suggests that the addict's own self-contraction—the 'death of the ego' that 12-Step programs describe—is the precondition for rebirth [58]. The dopamine fast that Lembke prescribes can be understood spiritually as a practice of tzimtzum: contracting the pleasure-seeking self to create space for something new to emerge. But this spiritual dimension, which gives the practice its transformative power, remains invisible in purely neurochemical accounts [59].

Beyond Cartesian Dualism: Embodied Approaches

In my article 'Beyond the Cartesian Split: The Dreambody Approach to Chronic Pain and Heal-

ing,' I proposed an alternative to the mind-body dualism that underlies both conventional medicine and Lembke's neurochemical framework [60]. Drawing on Arnold Mindell's process-oriented psychology, I argued that symptoms—including addictive behaviors—carry meaning that can be accessed through careful attention to bodily experience.

This approach suggests a different relationship to addictive urges than Lembke's. Rather than managing dopamine through abstinence and self-binding, the dreambody approach invites curiosity about what the urge is trying to express or accomplish [61]. The craving for cocaine might carry a message about the need for energy or excitement that is not being met; the pull toward pornography might point toward unacknowledged desires for intimacy or power. By attending to these messages rather than simply suppressing them, individuals can address root causes rather than merely managing symptoms [62].

This embodied approach is consistent with emerging research in embodied cognition that challenges the brain-centered model of mental life [63]. Emotions and drives are not merely brain states but whole-body phenomena involving gut, heart, and peripheral nervous system. Addiction is not merely a brain disease but a disorder of embodied being—which is why body-based interventions like yoga, martial arts, and somatic therapy often prove effective where purely cognitive approaches fail [64].

Comparative Analysis: Convergences and Divergences

Points of Agreement

Despite the critical tenor of this review, there are significant areas of convergence between Lembke's approach and the integrative framework I have pro-

posed. Both recognize that modern environments create conditions that overwhelm our evolved regulatory mechanisms [65]. Both acknowledge the importance of behavioral change—abstinence, constraint, the development of new habits—in the recovery process. Both value honesty, humility, and connection with others as recovery resources. And both reject the simple moralization that frames addiction as mere weakness of will [66].

Lembke's insight that pain can paradoxically produce pleasure—that voluntary exposure to manageable difficulty enhances well-being—resonates with the spiritual traditions that emphasize discipline, asceticism, and the productive role of suffering [67]. The 12-Step practice of 'carrying the message' to others in need exemplifies this principle: what begins as the 'pain' of service transforms into the 'pleasure' of meaning and connection. Similarly, Lembke's advocacy for radical honesty parallels the 12-Step emphasis on confession, inventory, and amends-making [68].

Fundamental Differences

The fundamental difference concerns the nature of addiction and the goal of recovery. For Lembke, addiction is essentially a neurochemical disorder—a dysregulation of the pleasure-pain balance that can be corrected through proper management [69]. For the integrative framework I propose, addiction is a spiritual crisis that manifests neurochemically—a disorder of meaning, relationship, and transcendence that cannot be adequately addressed through neurochemical means alone [70].

This difference has practical implications. Lembke's approach aims at homeostasis—the restoration of neurochemical balance. My approach aims at transformation—the development of new capaci-

ties and the reorganization of the self around new values [71]. Lembke's approach is fundamentally individual, focusing on the brain chemistry of the addicted person. My approach is relational and communal, emphasizing the role of fellowship, spiritual community, and service in sustainable recovery [72].

Perhaps most significantly, Lembke's approach is secular while my approach is explicitly spiritual. This does not mean that the integrative framework is only for religious people—the 12-Step tradition's concept of a 'Higher Power' is deliberately broad, encompassing everything from traditional theism to the group conscience to nature to the recovery process itself [73]. But it does mean that questions of ultimate meaning and purpose, of relationship with transcendence, of spiritual transformation—questions that Lembke brackets—are central to the integrative approach [74].

Implications for Clinical Practice

Integrating Medical and Spiritual Approaches

The comparative analysis suggests that effective addiction treatment requires integration of medical and spiritual approaches—not the abandonment of neuroscience but its contextualization within a broader framework of human transformation [75]. Clinicians treating addiction should understand dopamine dynamics, but they should also understand the spiritual dimensions of recovery. They should be able to prescribe dopamine fasts, but they should also be able to facilitate connection with recovery communities and spiritual resources [76].

This integration is particularly important given the limitations of purely pharmacological approaches to addiction treatment. Medication-assisted treatment (MAT) for opioid use disorder, for example, is ef-

fective at reducing cravings and preventing overdose, but it does not address the underlying spiritual and psychosocial factors that drive addictive behavior [77]. The best outcomes occur when MAT is combined with counseling, peer support, and engagement with recovery communities—a combination that the integrative framework naturally accommodates [78].

The Therapeutic Relationship as Holding Environment

The integrative framework emphasizes the therapeutic relationship as a 'holding environment' in which transformation becomes possible [79]. This parallels Winnicott's concept from psychoanalysis but extends it in spiritual directions. The clinician who practices therapeutic *tzimtzum*—who contracts their own ego and creates space for the patient—offers something that no neurochemical intervention can provide: the experience of being truly seen and accepted [80].

This emphasis on relationship stands in contrast to the more technique-focused approach implied by Dopamine Nation. Lembke offers strategies and interventions that individuals can implement independently; my approach emphasizes that sustainable recovery occurs in relationship—with clinicians, with sponsors, with recovery communities, and ultimately with a Higher Power [81]. The isolated individual struggling alone against neurochemical urges is unlikely to succeed; the individual embedded in supportive relationships has a much better chance.

Addressing Root Causes versus Managing Symptoms

Perhaps the most important clinical implication concerns the difference between managing symp-

toms and addressing root causes. Lembke's interventions—dopamine fasting, self-binding, hormetic stress—are essentially symptom-management strategies [82]. They reduce the intensity of addictive urges but do not address the underlying conditions that give rise to those urges.

The integrative framework, by contrast, asks why this person became addicted in the first place. What void was the substance or behavior filling? What pain was it numbing? What need was it meeting? [83] The 12-Step inventory process is designed precisely to uncover these root causes, and the subsequent steps are designed to address them—making amends for harms done, developing a relationship with a Higher Power, reorienting life around service to others. Symptom management may be necessary in the short term, but sustainable recovery requires this deeper work [84].

The Deeper Critique: Science and the Soul

At its deepest level, this critical review raises questions about the adequacy of scientific naturalism as a framework for understanding human suffering and healing [85]. Lembke operates within a paradigm that assumes the brain is the seat of the self, that neurochemistry is the fundamental level of explanation, and that manipulating neurochemistry is the appropriate mode of intervention. This paradigm has been enormously productive in medicine generally and addiction medicine specifically [86].

But it is not the only paradigm, and it may not be adequate to the full reality of addiction. The spiritual traditions from which the 12-Step movement emerged—themselves drawing on ancient wisdom about the human condition—offer different ontological assumptions [87]. They suggest that human beings are not merely complex biological machines

but participants in a spiritual reality that transcends material causation. They propose that addiction is not merely brain disease but spiritual sickness—a misdirection of the soul's infinite longing toward finite objects that can never satisfy [88].

I am not suggesting that we abandon science for mysticism or replace evidence-based medicine with prayer. The integration I propose takes neuroscience seriously while also taking spiritual reality seriously [89]. It uses the dopamine framework to understand the neurochemical dimension of addiction while using the 12-Step framework to understand the spiritual dimension. It recognizes that these frameworks operate at different levels and that both are necessary for comprehensive understanding and effective treatment [90].

The practical question is whether addicted individuals are better served by an approach that reduces their suffering to neurochemistry or by an approach that recognizes the full complexity of their condition—including its spiritual dimensions [91]. The evidence from 12-Step outcomes, combined with the theoretical resources of the integrative framework, suggests the latter. Dopamine Nation offers a valuable partial perspective; the integrative approach offers a more complete one [92].

Conclusion to Part One

Anna Lembke's Dopamine Nation represents an important contribution to popular understanding of addiction. Its accessible neuroscience, practical interventions, and compassionate clinical vignettes have helped countless readers recognize and address problematic patterns of consumption [93]. The pleasure-pain balance offers a memorable framework for understanding the neurochemical dynamics of compulsive behavior, and the DOPA-

MINE protocol provides concrete guidance for those seeking change.

Yet Dopamine Nation also exemplifies the limitations of reductionist approaches to addiction. By locating the problem primarily in neurochemistry, Lembke obscures the existential, spiritual, and relational dimensions of addictive suffering [94]. By aiming at homeostasis, she offers a less ambitious vision than the spiritual traditions that aim at transformation. By focusing on individual brain chemistry, she neglects the social and cultural conditions that create our dopamine-saturated environment.

The integrative framework I have proposed attempts to honor both the contributions of contemporary neuroscience and the wisdom of spiritual traditions [95]. It recognizes that addiction has neurochemical dimensions that respond to interventions like dopamine fasting, but it also recognizes that addiction has spiritual dimensions that require spiritual solutions. It uses concepts like the animal soul and *tzimtzum* not to replace neurochemical concepts like dopamine and homeostasis but to contextualize them within a richer understanding of human nature and possibility.

Part Two: Addendum

Shame, Transformation, and the Limits of Neurochemical Explanations

Extending the Critique

The preceding critical review identified fundamental tensions between Lembke's neurochemical reductionism and the integrative, spiritually-grounded framework I have developed. This addendum deepens that analysis by examining three additional dimensions that sharpen the contrast between these approaches: the role of shame in addiction, the question of quantification versus qualitative understanding, and the Talmudic wisdom regarding punishment and transformation. These dimensions reveal not merely differences in emphasis but fundamentally incompatible ontologies—divergent understandings of what addiction is and therefore what recovery requires [96].

The Seduction of Quantification

In her interview with NPR's Fresh Air, Lembke offers what has become one of the most cited passages in popular addiction discourse—the dopamine percentage table. 'Chocolate increases dopamine above baseline about 50%,' she explains. 'Sex is about a 100%. Nicotine is about 150%. And amphetamines is about 1,000%' [97]. These figures, derived from rat experiments involving direct brain probes, carry the authority of precise measurement. They transform the subjective experience of pleasure into objective, comparable quantities. They suggest that addiction can be understood—and presumably treated—through proper attention to neurochemical mathematics.

Yet this quantification obscures as much as it reveals. The person who becomes addicted to chocolate and the person who becomes addicted to amphetamines are not merely experiencing different quantities of the same phenomenon. They are engaged in fundamentally different relationships with their substances of choice, embedded in different social contexts, motivated by different meanings, and suffering in qualitatively distinct ways [98]. The dopamine percentage tells us nothing about why this particular person developed this particular addiction at this particular moment in their life.

In my work on hermeneutic approaches to medicine, I have argued that the patient must be under-

stood as a 'sacred text' requiring interpretation rather than a machine requiring diagnosis [99]. The addiction specialist who knows that amphetamines produce 1000% dopamine increase but does not know what the addiction means in the patient's life story has acquired data while missing understanding. The 12-Step approach, by contrast, begins with story: 'My name is... and I am an alcoholic.' The first step toward recovery is narrative, not measurement [100].

The Missing Dimension of Shame

Shame in the Phenomenology of Addiction

Remarkably absent from Lembke's neurochemical account is any sustained engagement with shame—the emotion that lies at the heart of the addictive experience [101]. Gershen Kaufman's work on the psychology of shame illuminates what Lembke's dopamine framework cannot capture: 'Phenomenologically, to feel shame is to feel seen in a painfully diminished sense. Shame reveals the inner self, exposing it to view' [102]. The addict experiences not merely dopamine dysregulation but profound shame—shame about the behavior itself, shame about the inability to stop, shame about the wreckage left in the addiction's wake.

This shame is not merely an effect of addiction; it is often a precipitating cause. Many people begin using substances or engaging in addictive behaviors as an escape from pre-existing shame—the shame of trauma, of perceived inadequacy, of not belonging [103]. The substance provides temporary relief from the unbearable experience of being seen, or seeing oneself, as fundamentally defective. When the substance wears off, the shame returns intensified, driving further use in a spiral that Lembke's pleasure-pain balance cannot fully explain [104].

Kaufman distinguishes between 'shame-affects' that are temporary and recoverable and 'shame-binds' that become internalized and malignant. He writes: 'Not only does the shame response itself become internalized, but internalization spreads shame throughout the self. Shame becomes like a cancer, malignant' [105]. Chronic addiction creates precisely such a shame-bind. The person becomes identified with their addiction; the shame is no longer about what they do but about who they are. Recovery, on this account, requires not merely neurochemical rebalancing but the healing of shame—a process that is fundamentally relational and spiritual rather than pharmacological [106].

Ancient Wisdom on Shame and Punishment

The biblical and Talmudic traditions offer profound insight into the dynamics of shame that can illuminate the addictive experience. P. Eddy Wilson's analysis of Deuteronomy 25:11-12 demonstrates how ancient Israelite law operated within a 'shame-based culture' where public honor and disgrace—not merely legal guilt—shaped social regulation [107]. Wilson draws on David Daube's observation that 'a shame-culture underlies the D laws,' indicating that the Deuteronomist 'was sensitive to the implications of shaming someone and understood how to make use of legislative mechanisms to prescribe enforced shaming' [108].

This framework has direct relevance for understanding addiction. The addict lives in a kind of self-imposed shame-bind, marked by their relationship to the substance or behavior. The stigma of addiction functions like the public marks of ancient shaming punishments—visible to oneself and others, difficult to remove, shaping identity and social standing [109]. Unlike the person who receives external punishment and can maintain internal digni-

ty, the addict experiences shame as totalizing: they have become their disease.

Yet the same traditions that understand shame also understand its transcendence. The Talmudic treatment of punishment emphasizes not merely deterrence or retribution but teshuvah—return, repentance, transformation [110]. The goal of even severe legal consequences is not permanent shame-bind but the creation of conditions for spiritual renewal. The punished person is still a member of the community, capable of return. This stands in contrast to modern addiction stigma, which often treats the addict as permanently marked, beyond redemption [111].

Poverty, Dislocation, and the Social Production of Addiction

To her credit, Lembke acknowledges the social dimensions of addiction, noting in her NPR interview that 'poverty, unemployment, multigenerational trauma' are 'a priori risk factors for addiction' [112]. She observes that 'in the United States, the people who are most vulnerable to addiction are people who are socioeconomically disadvantaged, because not only are they living in poverty, but they also have access to cheap feel-good drugs' [113]. This recognition of social determinants is valuable but remains subordinate to her neurochemical framework.

The problem is that Lembke treats social factors as risk factors—variables that increase the probability of individual neurochemical dysregulation—rather than as constitutive of the addiction itself [114].

This keeps the locus of the problem in the individual brain rather than in social conditions. The poor person with addiction still has a dopamine problem; they just happen to be poor as well. But this fram-

ing obscures how poverty, inequality, dislocation, and social fragmentation produce addiction at the population level in ways that individual neurochemical interventions cannot address [115].

Bruce Alexander's concept of 'dislocation' provides a more adequate framework. Addiction, Alexander argues, is not primarily a brain disease but a response to the fragmentation of social bonds and meaning structures that modern capitalism creates [116]. The rat park experiments demonstrated this dramatically: rats in enriched social environments were far less likely to become addicted than isolated rats with identical access to drugs. The relevant variable was not individual neurochemistry but social environment [117]. My work on the therapeutic space draws on similar insights, emphasizing that healing occurs in relationship—that the physician-patient encounter, the sponsor-sponsee relationship, the fellowship of recovery communities all provide the relational matrix in which transformation becomes possible [118].

Beyond Homeostasis: The Possibility of Transformation

Perhaps the deepest divergence between Lembke's approach and the integrative framework concerns the nature and possibility of human transformation. Lembke's model is fundamentally restorative: the goal is to return the brain to homeostatic equilibrium, to restore the pleasure-pain balance to its resting position [119]. This is a conservative vision—recovery means going back to where one was before addiction disrupted normal functioning.

The 12-Step tradition and my work on the transformability of the animal soul propose something more radical: not restoration but transformation. The recovered addict does not merely return to

baseline but becomes a different person—someone with capacities, insights, and spiritual resources they did not possess before [120]. The Hasidic distinction between the animal soul (nefesh habehamit) and the divine soul (nefesh ha'elokit) provides a framework for understanding this possibility. Addiction represents the domination of the animal soul, which seeks pleasure and avoids pain according to its nature. Recovery involves not the elimination of the animal soul but its elevation—the channeling of its powerful drives toward holy purposes [121].

This framework explains something that homeostatic models cannot: why many recovered addicts describe their addiction retrospectively as a 'gift' or a 'blessing in disguise.' Not because addiction itself is good—the suffering is real and the consequences often devastating—but because the journey through addiction and recovery opened possibilities for growth that would not otherwise have existed [122]. The brokenness became the occasion for healing at a deeper level than mere symptom removal.

My concept of the 'vav ketia'—the broken letter that paradoxically completes the sacred text—captures this dynamic theologically [123]. The addict's brokenness is not merely damage to be repaired but contains within it seeds of sanctity. The Talmudic tradition, as noted earlier, understands that even severe punishment aims not at permanent marking but at creating conditions for teshuvah. The goal is not homeostasis but transformation—a return that is simultaneously an advance to somewhere never before inhabited [124].

The Pandemic as Natural Experiment

Lembke's observations about the COVID-19 pan-

demic inadvertently reveal the limitations of her framework. She notes a 'bimodal distribution' in her patient population: some patients did much worse during quarantine, contributing to the tragic spike in overdose deaths, while others did 'much, much better' [125]. She explains: 'The world is kind of a hyperstimulated, triggering place for them. And quarantine forced them to slow down and also eliminated a lot of the types of interactions and stimuli that would typically trigger relapse or reuse for them' [126].

This observation is significant because it cannot be explained by dopamine dynamics alone. The neurochemistry of addiction did not differ between those who improved and those who deteriorated. What differed was the meaning of the pandemic experience, the quality of relationships available, and the spiritual resources individuals could draw upon [127]. For some, isolation removed triggers and created space for reflection; for others, it intensified loneliness and removed the social supports that kept addiction at bay.

The integrative framework provides a better account of this variance. Those who did well during quarantine likely had internal resources—spiritual practices, meaningful relationships that could be maintained remotely, a sense of purpose beyond consumption—that the externally focused individuals lacked [128]. Recovery is not merely about managing environmental triggers but about developing the interior life that makes one less dependent on external stimulation. This is precisely what spiritual practices cultivate: the capacity to find meaning and connection in solitude, to transform deprivation into contemplation, to discover that 'less is more' at the level of soul rather than merely dopamine [129].

Conclusion: Two Visions of the Human Person

The contrast between Lembke's approach and the integrative framework ultimately reflects two visions of the human person. In Lembke's vision, the person is fundamentally a neurochemical system—sophisticated, to be sure, but ultimately reducible to dopamine levels and homeostatic mechanisms [130]. Addiction is a brain disease; recovery is brain repair. The soul, if it exists at all, is an epiphenomenon of neural activity without causal significance.

In the integrative vision I have proposed, the person is an embodied soul—a being with neurochemical dimensions that are real and important but not exhaustive of human reality [131]. Addiction is a spiritual crisis that manifests neurochemically; recovery is spiritual transformation that produces neurochemical changes. The brain and the soul are not identical, and interventions at one level may or may not produce effects at the other.

These visions have practical implications. If Lembke is right, we should invest primarily in neurochemical research, pharmacological interventions, and behavioral techniques for managing dopamine—and indeed, these approaches have value [132]. But if the integrative vision is correct, we must also attend to the spiritual dimensions of human existence: the need for meaning, the longing for transcendence, the healing power of relationships, the possibility of transformation that exceeds restoration. The addicted person needs not merely a rebalanced brain but a renewed soul [133].

Most importantly, the integrative framework affirms what countless recovering addicts have discovered: that the suffering of addiction can become the gateway to a transformed life [134]. The addict

who finds recovery often emerges not merely restored to their pre-addiction condition but fundamentally changed—more compassionate, more humble, more connected, more able to find meaning in service to others. This transformation is not merely neurochemical recalibration but spiritual rebirth. It is not the restoration of homeostasis but the emergence of something genuinely new.

The 12-Step tradition, for all its limitations, has understood this for nearly a century. Its language of Higher Power, moral inventory, amends, and service points toward dimensions of human reality that neurochemistry cannot capture [135]. The integration of this wisdom with contemporary neuroscience—taking both seriously, allowing each to inform and constrain the other—offers the most promising path for understanding addiction and facilitating recovery. Dopamine Nation provides half of this picture; the other half awaits incorporation [136].

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