# Conscious Transformation

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**Abstract**

Defining consciousness has long posed a challenge in both philosophy and science. Rather than attempting to define consciousness in abstract terms, this paper seeks to illuminate it through observation—by examining what I call a conscious transformation. A conscious transformation is a shift in the brain that occurs as a direct result of trauma. This transformation reveals consciousness in motion, in flux, and in adaptation. Rather than treating trauma as a pathological disruption, this paper presents it as a catalyst for profound change—an inflection point where consciousness becomes visible. Using mathematical structures and logic, I explore how conscious transformations can be modeled and understood, offering a new lens through which to study consciousness not as a static concept, but as a dynamic process.

## 1 Introduction

Consciousness is one of the most elusive and debated concepts in philosophy, neuroscience, and artificial intelligence. For centuries, scholars have tried to define it—some approaching it as a set of mental states, others as the experience of qualia, and still others as a pattern of neural activity. Yet, despite these efforts, consciousness resists a clear and universal definition. It slips through the gaps of language, logic, and measurement. In this paper, I propose a different approach: rather than attempting to define consciousness in the abstract, I aim to show it in the working—to capture it as it moves, shifts, and reshapes itself in real human experience.

To do this, I introduce the concept of a conscious transformation. A conscious transformation is the observable shift in a person's internal state—cognitive, emotional, and perceptual—that occurs as a result of a traumatic experience. Trauma, while often framed in terms of damage or disorder, can also be viewed as a point of rupture in one's consciousness: a disruption that forces the mind to reconfigure itself in order to survive. In these moments, we can witness consciousness undergoing a radical change, sometimes even birthing an entirely new version of the self. It is in these moments of transition—raw, complex, and deeply human—that we find consciousness not as a fixed entity, but as a process unfolding in real time.

This paper seeks to model that process. By using mathematical structures and logic, I will explore how trauma can induce transformations that mirror certain mathematical principles. These models are not meant to reduce the lived experience of trauma to numbers, but rather to offer a new framework—one that helps us trace the movement of consciousness as it adapts to extreme internal disruption. In doing so, I hope to bring us closer to understanding consciousness not as something that can be pinned down, but as something that can be witnessed—especially in the moments when it changes.

**Formal Definition of Consciousness:** *Consciousness is the capacity for internal self-reflection and autonomous cognitive restructuring in response to emotional salience.*

## 2 Trauma

What is trauma? It is anything that has overwhelmed an individual's ability to cope. Trauma changes the brain as seen in disorders such as post traumatic stress disorder (PTSD), complex post traumatic stress disorder (CPTSD), and dissociative subtype of post traumatic stress disorder (D-PTSD). Conscious transformation can be seen the best through D-PTSD.

# 3 Schemas

Schemas are cognitive frameworks or mental structures that orga- nize and interpret information, facilitating the assimilation of new knowledge by connecting it to existing knowledge. These frameworks enable the rapid consolidation of memories when new infor- mation aligns with an already established schema. [Tse07].

Recent advances in cognitive neuroscience suggest that schemas are not only useful psychological constructs but also have a distinct neural basis, with the medial prefrontal cortex (mPFC) playing a central role in their maintenance and activation. The mPFC supports schema-based processing by performing dimensionality reduction, a process that filters out goal-irrelevant or unique episodic details and preserves the generalized structure that repeats across experiences. This allows schemas to guide attention, prediction, and behavior efficiently. Research has shown that the mPFC contains modality-independent representations of schemas—for instance, similar neural patterns are activated when participants view different events that fall under the same schema, such as dining at various restaurants. Furthermore, damage to the ventromedial portion of the prefrontal cortex impairs schema-consistent memory and disrupts the ability to match new experiences with appropriate schemas, providing causal evidence for the mPFC's role. The mPFC also appears to organize schema representations along anatomical gradients: posterior and ventral regions are associated with more specific, context-rich memories, while anterior and dorsal regions support more abstract and generalized schema knowledge. These findings suggest that schemas are actively maintained and dynamically shaped within the prefrontal cortex, allowing them to guide memory and behavior in a flexible, context-sensitive manner. [BN25]. In the dissociative subtype of PTSD (PTSD-D) you can also see activation in the medial prefrontal cortex. I argue that the over activation of the prefrontal cortex seen in PTSD-D versus the reduced activation of the prefrontal cortex in PTSD is because of the schema that has been created and is running in the individual.

# 4 The Dissociative Subtype of PTSD

It is evident that conscious transformation takes place in this subtype of PTSD. The prefrontal cortex becomes more active– specifically the medial prefrontal cortex [LMW+nd] . This activity happens because of the schema– the conscious schema box being active from conscious transformation.

The dissociative subtype of PTSD (PTSD-D) is a specific variation of post-traumatic stress disorder characterized by marked symptoms of derealization and/or depersonalization, in addition to meet- ing the full diagnostic criteria for PTSD. Introduced in the DSM-5, this subtype reflects a distinct minority of individuals with PTSD who experience dissociative symptoms relatively unrelated to the severity of their core PTSD symptoms. [Wol13].

## 4.1 Definition

In this subtype, the prefrontal cortex over-inhibits the limbic system, leading to emotional numbness or detachment from reality (dissociation). This manifests as a sense of being disconnected from one's emotions, body, or surroundings.

- **Derealization:** Perceiving one's environment or world as unreal or distorted.
- **Depersonalization:** Feeling disconnected from oneself, as if observing oneself from the outside or feeling unreal or fragmented.

## 4.2 Result

The person experiences excessive emotional suppression, leading to symptoms such as:

- Feeling "zoned out."
- Dissociative amnesia
- Feeling as if the world isn't "real"

This subtype is not merely a subset of PTSD symptoms but represents a form of PTSD with joined dissociative symptoms. Around 15 - 30% of individuals with PTSD present the dissociative symptoms that result in a diagnosis of PTSD-D.

### 4.3 Proposed Mechanism

I argue that PTSD-D is formed via the activation of **Extrasynaptic GABA Receptors**. This over activation results in the inhibition of the limbic system by the prefrontal cortex, producing the dissociative symptoms observed in this subtype.

## 5 Conscious Schema Box

What happens when a Conscious Transformation takes place is that a conscious schema box forms. This is then kept running in the prefrontal cortex through tonic inhibition. Evidence of tonic inhibition in the dorsolateral prefrontal cortex (DLPFC) is strongly supported by O'Donnell *et al.* (2009) [MACH+09], who found that the $\delta$ subunit of the $GABA_A$ receptor—a critical mediator of tonic inhibition—is significantly downregulated in the DLPFC of individuals with schizophrenia. These findings not only affirm that tonic inhibition occurs in this region but also suggest its crucial role in regulating the function of prefrontal pyramidal neurons, which are essential for working memory and executive control. I believe that conscious schema boxes take place in the medial prefrontal cortex because as you have seen schemas and the dissociative subtype of PTSD both show increased activity in the medial prefrontal– meaning this is where the conscious schema box works from.

This schema is called a box because it affects four different parts of a person.

1. Perception
2. Memory
3. Sense of Self
4. Emotion

## 6 Conscious Transformation

Conscious transformation refers to a significant shift in brain functioning, often observed in individuals who develop the dissociative subtype of PTSD. In these cases, the brain constructs a schema—a cognitive framework—that allows the individual to cope with overwhelming or traumatic circumstances. This transformation is deeply tied to the neurochemical balance between GABA (gamma-aminobutyric acid) and glutamate. When GABA levels drop to critically low levels, extrasynaptic GABA receptors become activated. This activation is believed to be a key neurological requirement for a conscious transformation to occur.

This transformation reveals consciousness not as passive awareness, but as an active, adaptive process—one that reorganizes perception, memory, and identity in order to survive trauma. It occurs without conscious intent, yet it is deeply conscious in effect.

### 6.1 The Yin and Yang of the Brain: GABA and Glutamate

During a traumatic events or events the levels become disturbed. GABA levels plummet and extra synaptic GABA senses this and becomes active via tonic inhibition. [BM12]. Extra Synaptic GABA then causes the conscious transformation to take place.

Event → Extrasynaptic GABA activates
→ Conscious transformation
→ Conscious schema box is created in medial prefrontal cortex

# 7 Conscious Transformation Example

A person is in an abusive relationship and one day the abuse intensifies to the point where it becomes physical. The victim's brain begins to panic as glutamate levels increase and GABA levels drop. Extra synaptic GABA detects the low levels of GABA and activate which then leads to a conscious transformation to take place which leaves the victim feeling safe even though they are not. The conscious schema box is active in the medial prefrontal and in a way tricks the person to feel at ease when their environment is not.

# 8 Proof: Logical Structure of Conscious Transformation

The conscious transformation process can be formally modeled using logic:

$$v \rightarrow (abu \land \neg au \land el) \rightarrow ct$$

Where:

- $v$ = Victim
- $abu$ = Abuse occurs
- $\neg au$ = Absence of safety
- $el$ = Emotional overload
- $ct$ = Conscious transformation

Interpretation: If a victim experiences abuse, lacks safety, and suffers emotional overload, a conscious transformation (ct) will occur as an adaptive, survival-oriented restructuring of consciousness.

# 9 Conclusion

Conscious transformation reveals consciousness not as a static attribute but as a dynamic, adaptive process—a profound restructuring of identity, memory, perception, and emotion in response to overwhelming experience. By observing and modeling these transformations, we gain a powerful new framework for understanding consciousness itself.

# References


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