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***Psychedelics and Individuation: Essays by Jungian Analysts, (Chiron, November 2023)***

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**“The Combination Method: Use of Ketamine as an Adjunct to Analytic Treatment”**

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**“The Combination Method: Use of Ketamine as an Adjunct to Analytic Treatment”**

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**This presentation can be shared with participants of the seminar on June 22, 2024. It is excerpted from the book chapter noted above in Chiron publication. Should you choose to use any material offered here or from the PP slides, I simply request fair citation.**

#### **SLIDE #2: INTRO WITH FANZHI**

For three years prior to the publication of our book chapter “Ketamine and Analytic Process: The Combination Method” to be found in *Psychedelics and Individuation: Essays by Jungian Analysts*, produced by Chiron in 2023, my friend and colleague Joe McFadden, who is a Jungian analyst, anesthesiologist, and psychiatrist and I met weekly as peer supervisors with shared interests in analytical psychology, psychoanalysis, neuroscience, trauma research and psychopharmacology. I will offer an overview of our impressions of ketamine’s efficacy and some concerns that have emerged for me since completing this writing project. Joe and I found common ground and avid curiosity about the use of ketamine as an adjunct to long-term analytic treatment. We kept notes on four of our patients who simultaneously received ketamine infusions administered by medical doctors. I will briefly describe the clinical case that I offered in the book chapter but not Joe McFadden’s. I encourage you to read further, if you are interested.

#### **SLIDE #2: INTRO WITH FANZHI**

Ketamine, well-known as a surgical dissociative anesthetic, shares some similar properties with, for example, LSD such as psychedelic and hallucinogenic effects. While both lead to antidepressant actions, they operate on different neurotransmitter systems: LSD interacts with the serotonin system and

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ketamine influences the GABA system. Until very recently, ketamine was the only legal psychedelic agent with FDA approval as a rapid acting antidepressant.

We have used ketamine specifically as an adjunct to and within the context of ongoing depth-oriented analytic work that is to be differentiated from ketamine assisted therapy (KAT) provided by short-term counselors. Our patients were suffering with PTSD, severe depression and/or bipolar disorder. With the addition of ketamine, we witnessed dramatic rapid relief of depressive and dissociative symptoms, along with diminishment in suicidal ideation that had been unrelieved by psychotherapy and/or antidepressant trials. Previously unreachable parts became accessible and transference/countertransference dynamics could be productively and meaningfully engaged. Even after the first infusion, some described a sense of “belonging” to the universe as a whole, reminiscent of Jung’s collective unconscious, to be differentiated from “attachment,” which is more related to personal interactions.

### **SLIDE #3: COMBINATION METHOD**

Ketamine appeared to open portals into unconscious healthy aspects that had been foreclosed upon by what we call the “trauma complex” amongst those suffering under the enormous duress of protracted, unremitting symptoms. The synthesizing effects of the ketamine/analysis combination (hereafter referred to as the *combination method*) has extended the durability with our patients, very much in keeping with Jungian notions of integration moving toward an emergent sense of Self, hard won.

### **SLIDE #4: DURABILITY**

A well-documented problem has to do with ketamine’s limited durability, meaning that the positive post-infusion effects usually last only between 2-4 weeks before resurgence of symptoms. With the combination method, we have observed a significant extension of symptom diminishment over time within our small sample. Ketamine created opportunities for work with other healthy “self-state” parts previously dominated by the “trauma complex” that constricted healthy ego functioning.

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Ketamine has seemed to ease the tension of overbearing anxiety and depression thus helping to expand what Siegel calls the “window of tolerance,” a banded state of regulation between hyper- and hypo-arousal (2020).

#### **SLIDE # 5: WINDOW OF TOLERANCE**

Entering a regulated state within the window of tolerance can be difficult for those plagued by unrelenting emotional surges characterized by fluctuating amplitudes of fight/flight and/or freezing. As a result, psychoanalytic process is compromised in major ways. To work through past overwhelming, embodied memories, the analyst and patient must become aware of what Pat Ogden (2006) describes as an “optimal arousal zone,” attending to the need for sensitive titration of small amounts of past distress in order to avoid re-traumatization. Ketamine’s regulating influence allows space for cognition and affect to come into better balance thus smoothing pathways for connections within as well as with outer others.

#### **SLIDE #6: Central Hypothesis**

In trying to understand why ketamine, a dissociative agent, assists those struggling with dissociation, we hypothesized that it may “anesthetize” what we designate as the *trauma complex*, by calming the nervous system so work can be done to expand alternative self-state experiences, shore up ego capacities, strengthen reflective function, and importantly, restore a sense of meaning and vitality.

#### **SLIDE #7: ACTIVE IMAGINATION**

From our view, active imagination is not possible during an infusion but can be employed within the analytic container afterward as a valuable method that allows for integration of the ketamine experience as well as integration of parts not available prior to the introduction of ketamine.

#### **SLIDE #8: Neuroplasticity, Synaptogenesis and Rapid Antidepressant Action**

Although the exact mechanisms of ketamine’s impact on depressive symptom relief remain elusive (Kohalta, 2021), animal models have shown that this agent produces robust markers of neuroplasticity in

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depression-relevant brain regions. It increases the number, function and plasticity of synapses that have been diminished due to stress and depression. In other words, such influences may facilitate adaptive rewiring of damaged and pathological neurocircuitry (Collo, 2018). This is highly relevant as the increase in number of synapses and their greater flexibility, along with complex rewiring induced by ketamine, may also relate to greater emotional and cognitive flexibility and connectivity in psychotherapy.

#### **SLIDE #9: Glutamate Systems**

Of further note from the scientific literature, major depressive disorders have been associated with glutamate, the principal excitatory neurotransmitter in the brain and glutamatergic mechanisms play a significant role in nearly all key functions affected by depressed states (Khoodoruth et al., 2022). Biologically, ketamine's ability to affect glutamate results in a cascade of interactions leading to increased neurogenesis and neuroplasticity that ultimately resets the brain to a healthier state (Ko, 2019). The relationship between glutamate and ketamine is of consequence in appreciating the rapid alleviation of depression for responders within 24 hours after administration (Dutta et al., 2015). Ketamine's actions on glutamate systems are different from currently prescribed antidepressants intended specifically to target the serotonin and norepinephrine systems, which take much longer for symptom relief and are ineffective for many people (Khoodoruth et al., 2022; Singh & Gottlib, 2014). Please recall that LSD affects the serotonin system rather than the GABA system as noted. In addition to ketamine's influence on glutamatergic systems, ketamine also influences the default mode network (DMN), another brain system that requires some consideration.

#### **SLIDE #10: Default Mode Network (DMN)**

In brief, the DMN is a large-scale, associational cortical network linked with internal mentation, known for increased activity when externally oriented task performance is not required (Shofty et al., 2022). The DMN is most active in healthy ways when a person is doing nothing, wasting time, or resting. This interwoven network has many functions and the following offer some of the various descriptions in

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lay terms: “autopilot,” “mind-wandering,” “self-reflection,” and even as the “seat of literary creativity” (Nasrallah, 2023).

### **SLIDE #11: Task Positive Network**

The DMN is inversely related to another brain network, the “attention network” also known as the “task positive network” (TPN); The TPN is aroused during activities such as text messaging, playing video games or continuously interacting with social media, while the DMN activity declines (Nasrallah, 2023). An over-active TPN decreases the healthy creative functioning of the DMN.

It has been found that those who are struggling with depression and PTSD have high levels of DMN activity that have been associated with maladaptive rumination (Hamilton, et al., 2011; 2015) and negative internal preoccupations. Ketamine calms down an overactive DMN that is stuck in traumatic obsessive, nonproductive thoughts and emotions. Once internal overactivity within the DMN is settled, between-network connectivity increases. As a result, there seems to be a decrease in the segregation of brain regions; it follows then, that a less segregated, modular brain shifts to a more interconnected global network, potentially leading to sensations of interconnection and wholeness not previously possible due to depression, possibly inflammation, etc. This decrease in inter-network segregation is not present with selective serotonin reuptake inhibitors, stimulants, sedatives or MDMA (ecstasy) (Gatusso, 2023). The influence of ketamine on the DMN related to sensations of oneness and mystical connections to the universe are relevant for understanding the numinous experiences described by those receiving ketamine treatment.

In addition, we might wonder if the confluence of ketamine’s ability to quiet an affectively dysregulated nervous system and reduce depressive rumination may allow space for creative daydreaming and imagination that enhance play within one’s own mind.

**SLIDE #12: BTW:** When not locked in traumatized hyper-arousal and when “doing nothing,” the DMN functions at its best and creativity can be well accessed. Ketamine is not needed. The DMN at rest is similar to brain states during REM sleep and during free-play. This opens interesting areas for discussion

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beyond the time frame permitted here. But we might wonder about the extraordinary increased interest in psychedelics post-Covid with the return to high-speed lifestyles that disallow time for “doing nothing.” Is this a collective trauma response with longings for a “quick fix?”

### **SLIDE #13: Second Hypothesis: Bringing Together Neuroscience and Clinical Applications within the Combination Method**

We hypothesize that both the biological and functional brain changes stimulated by ketamine infusions resonate with an increase in connections within the analytic relationship. The research findings noted above resonate with our observations within the combination method context. We have witnessed post-infusion manifestations including increased flexibility, movement and interaction with internal figures and images (via active imagination), as well as expansion of interpersonal relatedness and capacity for reflection. Ketamine has significantly helped relativize constricting trauma complexes so that opportunities for alternative self-state aspects can emerge. It seems to offer neurobiological glue for people who struggle with fragmentation and lays the ground for relational interactions.

### **SLIDE #14: Dan Siegel**

In resonance, Siegel offers a valuable thought: cohesion in the moment, if repeated, promotes coherency of self over time (2020, p. 84), very helpful for patients and fortifying for those of us working with them.

- In resonance, Siegel offers a valuable thought: cohesion in the moment, if repeated, promotes coherency of self over time (2020, p. 84), very helpful for patients and fortifying for those of us working with them.
- Each moment of cohesion is added one by one like a pearl to create the strand of a lifetime.

New neural pathways are created and instantiated over time, if repeated

Many who have received ketamine infusions tell of pleasant shape-shifting visual images and perceptions without words, cognitive thoughts or a specific narrative coherence during the immersion; in fact,

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attempts to employ ego consciousness or cognitive processing, disrupt unfolding explorations. On follow-up, the specifics of trance-like states seem difficult to articulate.

We found that subsequent to ketamine induced submersion, the analytic field was opened for visitors, both as helpers as well as those who are troubled but who are now available for dialogue with the analyst. Such new elements, perhaps not fully formulated as complexes, can be felt as body sensations exerting energies that further expand the field of influence.

From an alchemical angle, through the operation of *solutio*, what has been fixed is dissolved allowing for loosening of tensions and awareness of an enlarged domain. Options can be considered leading ultimately to reconfiguration. With the trauma complex relativized, disenfranchised parts are invited to the table for conversation. When support and relational attention come forward, scaffolding can be constructed around the black hole of trauma that is never completely irradiated but that is better contained, thereby allowing creative space for a more cohesive life narrative to be written.

Now, I will present a clinical case where ketamine was quite helpful and then I will offer some concerns that have emerged since the book chapter was written.

## **Reflections on the Numinous in Ketamine Journeys**

A long-term analytic patient named Arthur benefitted by ketamine infusions evident over time in subsequent changes in capacity for connectedness and free play.

Arthur is a successful, professional man in late middle age who has been involved in multiple-times a week analysis over many years for treatment of depression, historical family trauma and for ongoing severe crises with an ill family member. Due to a confluence of multiple life changes, he fell into a black depression with the re-emergence of dominant trauma complexes. His new psychiatrist recommended ketamine.

Weighed down by psychomotor retardation, Arthur was barely able to walk in the door for the first treatment but hopeful about this intervention within the relational context of his doctor's care and ongoing analysis with me. He

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consistently told of meaningful altered states of consciousness and only one that was anxiety provoking and frightening. On this occasion, his doctor was not able to attend the infusion and was unexpectedly replaced by an unknown practitioner in a different room. His psychiatrist's presence had provided a necessary secure base, important when in states of partial paralysis and dissolution of mental structures.

### **SLIDE #15: CHAGALL**

The usual setting was a home-like room, not a sterile hospital environment. Lights were dimmed, scented candles lit and Chagall prints were within the visual field of the soft leather couch where the patient laid supine under a weighted blanket.

Similar to careful attention to the milieu provided by Arthur's physician, Muscat and colleagues (2023) who offer an integrative approach, emphasize the importance of a physical surrounding that invites focus of attention on inner states. The visual, auditory, and sensate distortions that emerge at doses lower than those causing anesthesia, allowing for therapeutic benefits, can be felt as disturbing to some but can be mitigated and managed, by creating a neutral or positive atmosphere. For example, music can be an important component in maintaining a positive emotional tone.

### **SLIDE #16 CHOPIN NOCTURNES**

Arthur described the containing presence of his doctor and the cocoon-like surround as inviting, enhanced by Chopin's Nocturne Op. 9. No. 2 that offered auditory continuity. Other pieces were felt to be too disruptive. The rhythmic and tonal familiarity as well as the beauty of this music without lyrics, deepened and supported the process that was primarily sensory/perceptual/imagistic rather than language based.

Within minutes of the intramuscular injection, the anesthetic effects took hold, dampening body movement that limited the possibility of speech. Embedded within an unknown but fascinating world that seemed archetypal in nature rather

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than personal, Arthur felt as if he were an observer on a guided tour, not of his own determining. He watched as morphing shapes, colors, seemingly biological forms, sculptures, and faces moved through. Often, aerial views as if from a plane, gave perspective on large expanses of earth and water below. From conscious memory, he had never before witnessed what was revealed to him during these rides through uncharted lands.

### **SLIDE #17 DAN SIEGEL**

The specifics of what actually was witnessed during the trips was not necessary; of utmost value was the overall sense of “belonging” where he felt his very being was woven into the fabric of something much larger, universal. These descriptions seem to be similar to neuroscientist Daniel Siegel’s view of the mind as “non-local” and not simply “enskulled” (2020, p. 8). Siegel’s idea that the system of mind is both embodied and relational, within and between, and that we all are embedded within ‘mind’ feels quite resonant with Jung’s prescient notions about the collective unconscious and rhizomatic interconnections through the *unus mundus*. The psyche is both individual/internal and all-encompassing as it surrounds us; the Jungian self is, simultaneously, the center and the circumference.

### **SLIDE # 18: SYSTEMA MUNDITOTIUS AND SEVEN SERMONS TO THE DEAD**

Reflecting on his ketamine excursions, Arthur felt a resonance with Jung’s stories of confrontation with ghostly ancestors in 1916 that opened to both the fascinating and terrifying presence of the Infinite. Arthur could appreciate Jung’s attempts to cope with anxieties of dissipation into an all-encompassing cosmos through the grounding and containing physical actions of creating organizing structures that included drawing his first mandala, *Systema Munditotius* and the writing of *Seven Sermons to the Dead*, a brief text that Jung saw as fundamental to all of his future explorations. It is as if Jung entered “trance” states allowing for

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engagement with deep layers of the unconscious without the infusion of a chemical agent. Similarly, Arthur was fascinated by the expanse opened to him outside conscious volition and felt gratitude for biological healing effects of symptoms, as well as gratitude for renewal of his spiritual essence. He connected to a depth of *knowing*: not just personal knowing but a knowing awareness and a sense of “being” and belonging within a mystical universal context, not easy to articulate in words.

Although active imagination or seeking symbolic significance during his internal immersions could not take place, interactions with emergent dream figures and with the analyst were freed up in the aftermath along with significant memories never before shared analytically. Such was the case when he recalled the following: During nursery school nap time as a four-year old, he looked up to see a picture of Jesus with the little children. Arthur asked his elderly teacher, “If God, Joseph and Mary were Jesus’s parents, who were God’s parents?” The dumbfounded lady deferred to their pastor who was soon to come through. On arrival, the kindly man knelt and responded in an amazingly sophisticated way: “God is infinity, like all the stars in the sky. There are stars and behind the stars are more stars and more stars....” Awestruck, Arthur spent the rest of naptime and, indeed, the rest of his life pondering the picture of stars beyond stars, beyond stars.

A dream, also never before discussed prior to ketamine emerged: As a slightly older child about seven or eight, he dreamt of a wicked witch who cast a spell whereby he could only walk forward. A terrifying realization was awakened: he would not ever return to his home and his mother’s care. This memory correlated with dawning consciousness at that time of his mother’s inability/unwillingness to protect him from his father’s abusive behavior. He amplified emotions felt as a child in the present analytic moment with the image of

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a single astronaut tethered to a spaceship with the earth far away in the background. What if the tether breaks?

### **SLIDE #19: ASTRONAUT**

Despite the intensity of emotion, the field had become vibrant and alive, quite different from the sense of “stuckness” that had previously prevailed. The process of unpacking the image of an untethered astronaut could commence with caution and in small increments over time. Both partners experienced the effects on psychological, emotional and bodily levels; he at first, expressed overwhelming fears of utter abandonment that seemed at the core of his lifelong struggles with depression and PTSD. Eventually, cognitive understanding and reflection could be paired with emotion as it dissipated within a regulating safe-enough context of collaboration so that he was not alone with powerful, archetypal forces.

Arthur, like Jung in some ways, encountered both the fascination and terror of the awesome and numinous qualities of the Infinite, brought forward with ketamine. Memories ignited archetypal forces in the present moment, taking shape and form such as the untethered astronaut so that metabolization at the human level could become a shared analytic process. Ketamine opened a portal for the emergence of a reverberating, multi-layered field of influence that was tolerable because their shared, co-created, ego-supportive companionship could hold this overwhelming memory. Collaborative insights evolved from synaptic connections leading to relational connections and ultimately to an expansion of the self and remembrance of soul as it exists within and between.

One final anecdote from Arthur, regarding the numinous qualities of ketamine, has to do with two separate occasions when he experienced himself not as dying but as “dead.” As reported, this was not at all frightening but reassuring as he simply “crossed over” into another reality, not better or worse, not clearly defined but an easy shift into a state of being within the Infinite. The word “dead” and the letters therein made absolutely no sense and were not needed as they held

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no significance when transitioning to a world beyond. Arthur felt a persistent sense of deep peace subsequent to his “knowing” encounters with the ineffable.

## **SLIDE #20: KETAMINE, SCIENCE AND NUMINOSITY**

### **Ketamine, Numinosity and Science**

Experiences of the numinous may actually have neurobiological correlates as described by scientists, such as Gatusso (2023) and others who acknowledge that psychedelics and ketamine induce meaningful, mystical experiences and ego dissolution, as well as a relaxation of subject-object distinctions, central for unitive, mystical states and oneness with nature. Brain researchers note that therapeutic effects ensue because thoughts and feelings can be viewed with greater distance and objectivity. (Think of Arthur’s overview perspective of large areas of land as if from a plane.) Changes in default mode network functioning and with glutaminergic synaptic connections, allow the brain/mind greater access to an expanded repertoire of meta-stable sub-states allowing for increased flexibility (Gatusso, et al, 2023).

## **SLIDE #21: SEGREGATED BRAIN TO GLOBAL NETWORK**

In particular, ketamine affects the DMN so that previously segregated brain systems shift to a more global network, thereby opening to “oceanic feelings”<sup>1</sup> and a sense of oneness described as a significant element of psychedelic treatment. This is of interest to us as analysts who have witnessed the emergence of healthy self-state complexes, following ketamine infusions.

In keeping with Complex Adaptive Systems (CAS) and theories of emergence, I am suggesting that we all are always and forever embedded within concentric

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<sup>1</sup> See Carter 2022 on Freud’s admission that he was unable to experience the “oceanic feeling” described by his friend, the pacifist scholar of Indian mysticism and Nobel Prize winning poet Romaine Rolland. It seems that Ferenczi and Jung had access to these sources beyond the personal. *The Red Book* gives evidence of this capacity in Jung.

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circles of influence or ever expanding or contracting fields of influence from neuronal interactions to the “low-pitch hum of gravitational waves reverberating across the universe” that astronomers see as “the collective echo of pairs of supermassive black holes” that are metaphorically described as a “choir or an orchestra” (Miller, 2023). We are influenced by the stars above as well as by synaptic connections, or lack thereof. The humming of galaxies is outside conscious awareness as are early memories stored as body sensations. (I wonder: Is it possible that during the ketamine journey, patients enter not only their personal vibrations but the vibrations of the universe, as well?) In addition, implicit non-verbal communication is also usually outside conscious awareness but according to Daniel Stern, et al (1998) this domain shapes explicit verbal interactions. *These are field phenomena that impact all of life, not only human life, and that are sometimes made manifest and visible but more often are invisible, powerfully holding sway over interactions from the microcosm to the macrocosm and back again. The point here is that ketamine not only helps make internal and external connections more possible, it also disrupts and shifts the field itself.*

## **SLIDE #22 COSMIC FIREFLIES**

For those struggling with severe depression, unremitting trauma and other psychiatric maladies, ketamine combined with ongoing depth-oriented psychotherapy seems to calm the overall nervous system, thus opening portals of experience for recontextualizing suffering within an expanded sense of self from synapses to the stars above. The field itself shifts from one constricted with little movement to one that has increased flexibility for engagement as an open space for play and paradox, and that invites the taking-in of new information and revision of perspective leading to expansion of creativity and complexity over time.

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### SLIDE #23

#### Side Effects and Potential Problems

Ketamine has physiological actions on the sympathetic nervous system and can produce palpitations, tachycardia, and hypertension when used for the treatment of depression. Most of the side effects of ketamine are dose dependent, transient, and are usually self-resolving (Zanos et al., 2018). However, urinary and bladder problems (now known as ketamine-induced cystitis) have been reported, especially by those who dose at home or buy ketamine on the streets for recreational purposes (Anderson et al., 2022; Srirangam & Mercer, 2012). Chronic users may undergo frequent cognitive disturbances, as well as frontal white matter abnormalities (Mion & Villeveille, 2013).

In 1999, pharmaceutical ketamine became a Schedule III controlled substance under the Controlled Substances Act, however “according to recent national survey, non-medical misuse is still relatively low, as 0.7% of the US population uses ketamine illegally” (Geoffrion & Thomas, 2022).

### SLIDE #24: NEMEROV

IN CONTRAST, Nemerov (2018) citing Schak et al. (2016) states that “ketamine remains a significant drug of abuse in the US and elsewhere.” Nemeroff (2018) goes on to articulate concerns about the use of ketamine: limited randomized control studies; lack of regulation and oversight of ketamine clinics that may not comply with minimum recommendations from the APA task force

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consensus report; limited durability; and limitations of the current ketamine data base.

#### SLIDE #25: Sanacora

The long-term effects of ongoing use of ketamine have yet to be determined. Gerard Sanacora, from the Yale School of Medicine emphasizes his biggest concern about ketamine treatment: “It is critical for it to be a part of a comprehensive mental health plan, not in isolation” (as cited in Backman 2023). A clinical anecdote of concern: with ongoing infusions, one of our patients developed numbness in finger tips, toes, tongue, and lips that has not abated, although it had done so after several previous infusions. He was evaluated by a neurologist who could not give a clear diagnosis. No other reports of this problem in relation to ketamine have surfaced in the literature *to date*.

#### **SLIDE #26: CLINICAL ANECDOTE**

- A clinical anecdote of concern from LC and JM: with ongoing infusions, one of our patients developed numbness in finger tips, toes, tongue, and lips that has not abated, although it had done so after several previous infusions. He was evaluated by a neurologist who could not give a clear diagnosis. No other reports of this problem in relation to ketamine have surfaced in the literature *to date*.

#### **JUNG AND PSYCHEDELICS (New material not in book chapter)**

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In discussions about mescaline and LSD, Jung expressed concerns about quick fixes and lack of integration between the conscious and unconscious that take time and commitment to bring together. I think here of ketamine infusions with brief post-journey counseling not within an analytic container and ongoing relationship to help synthesize and find meaning in these complex plunges into the unconscious.

In letter to Fr. Victor White, dated April 10, 1954, Jung says that he does not know the difference between mescaline and LSD. On one hand, perhaps he feels that his methods of dream analysis and active imagination are being threatened and dismisses potential value of these agents without sufficient consideration. On the other hand, perhaps he offered wise counsel relevant for us now.

### **SLIDE #27: Letter to Fr. White**

In the letter to Fr. White, Jung amplifies his concerns about mescaline and/or LSD use by describing “the role of *Zauberlehrling* [*Sorcerer’s Apprentice*]:’ who learned from his master how to call the ghosts but did not know how to get rid of them again.

### **SLIDE #28: Sorcerer’s Apprentice**

Here Jung is referring to Goethe’s famous 1797 poem by the same name with the following well-known lines:

*Die ich rief, die Geister,  
Werd ich nun nicht los!*

Loosely translated as

“I cannot get rid of the spirits I bid”

**"The Sorcerer's Apprentice"** (German: "Der Zauberlehrling"), a poem by Goethe written in 1797.

In brief, the story goes as follows:

When the apprentice is left behind by the master to clean up the workshop, he conjures spells to aid in his mundane duties---but he is not sufficiently trained and things quickly get out of hand. The broom multiplies as pails of water autonomously come forward eventually flooding the space. At last, the old sorcerer returns and breaks the spell.

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## **SLIDE #29 EARLIEST VERSION**

The earliest known version of the Sorcerer's Apprentice: "The Lover of Lies," also known as "The Doubter or Philopseudes" (Greek: Φιλοψευδής ἢ Ἀπιστῶν) written by the Syrian satirist Lucian of Samosata, written in the Attic dialect of ancient Greek.

## **SLIDE #30, 31, 32: FANTASIA**

The version most well-known to us is Disney's 1940 *Fantasia* and its 2000 sequel.

Jung goes on with the following remarks:

*It is quite awful that the alienists have caught hold of a new poison to play with, without the faintest knowledge or feeling of responsibility. It is just as if a surgeon had never learned further than to cut open his patient's belly and to leave things there. When one gets to know unconscious contents one should know how to deal with them. I can only hope that the doctors will feed themselves thoroughly with mescaline, the alkaloid of divine grace, so that they learn for themselves its marvellous effect.*

I feel great concern that ketamine clinics are popping up like mushrooms, so to speak, with limited regulation and lack of clarity as to training of practitioners. Many such clinics do not collect data on who is receiving ketamine and why and do not track effects and side-effects of ketamine infusions after one month, three months, six months, a year and so forth. At the going rate of about \$400 per infusion, this treatment is likely out of range for many people, especially given that durability, at this time, is limited so that multiple infusions are needed. Ketamine then becomes a treatment for those of a certain socio-economic level. When *Listening to Prozac* first came out in 1993, the author Peter Kramer described a certain group of people who sought this antidepressant not for medical intervention for a diagnosed disorder, but to be "weller than well." This may also be true of ketamine. It will take time and careful study to fully appreciate the pros and cons of ketamine that I believe should be used medicinally as a psychotherapeutic treatment. Jung's warning conveyed via amplification with "The Sorcerer's Apprentice" may well be a significant cautionary tale for us at this turning point moment.

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I have added references from book chapter that may be of use to learners.

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