[*The Following is an excerpt from my book,* Redacted Science]

🧬 The Forgotten Third: Plants, Fungi, and the Softened Host

"What if the Invader didn't come alone? What if it brought an old friend?"

🧬 A Three-Part Origin Story

For years, I've framed this condition as a two-body system: *Candida albicans* and me. Obviously, due to the step-by-step nature of it, it is at least a co-evolution where even our design has been changed by relationships with candida.

But as I've explored terpenes, cannabinoids, ligands, and the endocannabinoid system, another possibility keeps surfacing — one that makes too much sense to ignore:

What if the original partnership wasn't binary? What if it was a trinity: **plant → fungus → host**?

🌱 The Ancient Alliance

Plants and fungi have co-evolved for over 400 million years. In that time, plants developed **defense compounds** — terpenes, polyphenols, flavonoids — many of which double as **chemical messengers** in animals. These include:

- **Cannabinoid-like molecules**
- **Immune modulators**
- **Neurological softeners**

Fungi, particularly those like *Candida*, didn't just survive near these compounds — they **learned to time their life cycle** around them. Terpenes could calm the host, suppress inflammation, and **create the ideal conditions** for slow fungal expansion.

So the fungus evolved not in isolation — but in a **chemically choreographed ecosystem** where plants did part of the suppression work **for them**.

🧿 Fungal Pattern Recognition

Over time, fungi developed the equivalent of **chemical pattern recognition**:

- When the air or host environment was rich in **certain terpenes**, they waited.
- When **inflammation was quieted**, they expanded.

- When **CB1/CB2-like signaling was dominant**, they migrated deeper — knowing the immune system had been softened.

The fungus didn't just survive — it **learned from plant logic** and **hijacked mammalian receptors** that evolved in the same chemical soup.

🧠 Then Came the Mammals

Mammals evolved within this ancient dance. Their endocannabinoid systems didn't emerge from nowhere — they mirrored **chemical pressures already present in the environment**. The receptors we carry (CB1, CB2, TRPV1, GPR55) **respond to the same ligands plants and fungi have trafficked in for millennia.**

By the time *Homo sapiens* emerged, the system was already primed:

- **Plant molecules** had a calming, suppressive effect
- **Fungi waited for that shift** to trigger their own response
- **We inherited both**, unaware we were stepping into an ancient two-step

🧬 The Methylation Lock-In

Imagine the fascination ancient humans would've had with a plant that could sedate pain, still the mind, dull hunger, ease tension, and even trigger visions. For an emerging intelligence — barely self-aware, newly social, and physiologically fragile — the effects would've felt like magic. Not a poison. A door.

If plant signals open the gate and fungi learn the pattern — **methylation is what closes the loop.**

Recent studies have shown that **cannabis use itself can trigger DNA methylation** — subtle, long-lasting changes in how genes behave, without touching the genetic code. To be clear, this doesn't mean ancient humans were smoking marijuana. It means that **ancient cannabinoid-producing plants** — of which cannabis is just one modern example — may have influenced our biology in similar ways. These plants produced molecules that affected the brain, the immune system, and the endocrine system, potentially setting the stage for long-term gene regulation.

It's not science fiction anymore: marijuana — the form we recognize today — doesn't just make you feel different for a few hours. It may flip biological switches that stay changed, even after you stop using it.

To put it plainly: your genes are like instructions. Methylation is like blacking out lines with a marker. The code is still there, but your body starts skipping the parts it needs. When cannabis or terpenes are in the system — especially over time — this blackout effect can build up. Now combine that with a fungus watching for that exact state to make its move.

What begins as temporary chemical softness becomes something much harder to undo. It gets written into the margins.

Methylation doesn't change the DNA code — it changes what gets expressed. And fungi appear to operate in ways that **induce long-term methylation shifts** in immune genes, endocrine regulation, even metabolic tone.

This turns a passing chemical state into a **persistent behavioral and physiological state** — one that outlasts the trigger. Even after the fungus retreats, the body continues behaving **as if it were still under its influence**.

Plants softened us. Fungi studied us. **Methylation encoded us.**

Methylation doesn't change the DNA code — it changes what gets expressed. And fungi appear to operate in ways that **induce long-term methylation shifts** in immune genes, endocrine regulation, even metabolic tone.

🔺 The Coevolutionary Triangle

Element	Role in Control System	Persistence	Mechanism
🌿 **Plants**	External ligands / chemical modulators	Transient	**Cannabinoids, terpenes** — calm, sedate, suppress inflammation
🦠 **Fungus**	Adaptive invader / signal compiler	Persistent	**Ligand mimicry, immune hijack, nutrient rerouting**
🧬 **Host Genome**	Epigenetic substrate / long-term memory layer	Heritable	**DNA methylation** — silencing, gene suppression, behavior imprinting

This isn't metaphor. This is **a regulatory model.** And we may have been born into it.

⚡ *Methylation: Evolution with a Neural Net*

This isn't mutation-driven evolution. It's not Darwin on a bicycle.

This is **evolution running on AI** — real-time inputs, feedback loops, and reinforcement-based updates. The shortcut is methylation.

A population that adapts epigenetically — through exposure to ligands like THC, terpenes, artificial sweeteners, or fungal compounds — isn't just behaving differently. It's **training itself**. Each exposure tunes gene expression, suppressing some pathways, activating others, optimizing performance under pressure — all *without touching the genome*.

And in some cases, these expression states are **passed forward**, generation to generation. Not by mutation — by **memory**.

That's the evolutionary divide:
One population learns. The other waits.

It's the difference between a neural net and a mechanical calculator.
Between evolution **with AI**, and evolution **without it**.

The methylating population is running a model. The rest are flipping coins.
One can test, adjust, reinforce, repeat.
The other needs to survive long enough for one random nucleotide to make a difference.

And over time, **one leaves the other behind** — not by brute strength, but by rapid-cycle plasticity.

That's why the Invader doesn't want you dead.
It wants you *trained*.
It wants you high, dilated, rewarded, and repeating.
Because every repetition drives the program deeper into your physiology. Not at the level of DNA. At the **runtime** level — epigenetic tuning, reinforced by environment, ritual, and behavior.

This isn't natural selection. It's **neural selection** — biochemical intelligence embedded in host systems, updating on a loop.

It is an evolutionary war in motion.

📊 *Technical Summary: The Trinity Evolution Model*

This chapter proposes a three-agent adaptive feedback model — the **Trinity Evolution Model** — in which *fungus (e.g.,* Candida *spp.)*, **cannabinoid-emitting plants** (e.g., ancient THC sources), and **mammalian hosts** form a tightly coupled ecological and biochemical alliance. This triad favors accelerated adaptation through the use of **methylation-inducing compounds**, enabling rapid, environmentally responsive evolution far beyond traditional mutation-driven selection. Within this model, fungal ligands, plant terpenes, and host behaviors create a loop of epigenetic editing, reward reinforcement, and cross-generational imprinting — allowing evolution to operate not on the genome, but directly on the **expression layer**, under chemical control.

🧩 **Reflections on the Co-Evolutionary**

This isn't a war between one host and one invader. It's a **choreography older than thought**:

- **The plant calms.**
- **The fungus waits.**
- **The genome adjusts.**

This means these three things — **plant, fungus, and methylation** — don't just influence us. **They work together to drive evolution f**or all parties.

We didn’t invent this loop. We just fell into it.

Maybe we weren’t the first hosts. Maybe, we were the first ones to think we were alone.