The Music, Not The Instrument

Introducing The Harmonics of Consciousness

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Overview

I think, therefore I am… we have all whispered these words with trembling uncertainty, wondering if we could ever understand our own experiences. **What is consciousness?** Where does the sense of "you" come from? How does a three-pound lump of brain matter create **the rich, vivid experience of being alive?** These questions have haunted humanity for millennia. Despite brilliant minds, cutting-edge technology, and centuries of relentless inquiry, **consciousness has remained our most stubborn mystery**. We sit in silence… think about the despair of the possibility that we may never crack this code—that the gap between brain activity and subjective experience might be forever unbridgeable... but what if we are wrong? **What you are about to read will fundamentally change how you understand your mind**. I have solved the hard problem of consciousness by revealing a truth hiding in plain sight: **we have been looking for consciousness in all the wrong places**. Consciousness is not a thing tucked away in some corner of your brain—**it is the symphony that emerges when four neural "instruments" play together in perfect harmony**. Using the *Animal Kingdom Dataset*, I scored 456 behaviors across 850+ spanning the entire animal kingdom—mapping the universal architecture of consciousness. The results are revolutionary. Consciousness operates through **four instruments**, which are 1) **self-reference**, 2) **recursive introspection**, 3) **emotions, and** 4) **intelligence**, that harmonize into six consciousness tunes, from basic functional processing to abstract thoughts. The empirical evidence shows the same songs of consciousness across insects, birds, mammals, fish, reptiles, and amphibians. The model reveals why consciousness seemed mysterious, predicts the emergence of AI consciousness, and shows us something beautiful: **every conscious being in existence is playing variations on the same universal music**. In this paper, you will not just hear the harmonics of consciousness—you will see that your brain is the instrument, and the chord it plays? **That's you**.

Background & Findings

To my fellow seekers, dreamers, and curious rebels, would you mind sitting tight while I clean up a mess I made? Thank you ♡... David Chalmers**… I was wrong about consciousness in *The Theory of Existence***. The jokes I made are so foolish in retrospect. So… **I apologize**. When I was writing *The Theory*, I was under the impression that the hard problem of consciousness was just people making a big deal about something for no reason… like certain people do sometimes... I can confirm now that **there was a hard problem of consciousness**, and I want to show you how I know… and not only was the hard problem of consciousness real, but David, **you are brilliant for finding it so long ago**. You know what they say: **even wrong ideas help**, they get the job done, and **for every step forward it leads to the next**. Everyone, and David, let me show you what I found. David, I also heard you were a musician? Well… fittingly, the model is called ***The Harmonics of Consciousness***…

One of the greatest mysteries that has haunted humanity for millennia is consciousness. What exactly is consciousness? Where does it come from? Where do "I" exist? Are we nothing more than our brains and bodies?

These questions have **stumped brilliant philosophers, scientists, and curious minds** who have thrown everything at this puzzle, coming up with theory after theory, but consciousness has remained frustratingly elusive.

The real challenge comes from what philosophers call **the hard problem of consciousness**—a brilliant concept created by David Chalmers. Here's the thing: we understand a lot about how the brain's machinery works. We can see neurons firing, and we know there are mechanical interactions. Chalmers calls this knowledge the "easy problem." **The hard problem kicks in when we try to explain how all those physical brain processes somehow create the rich, subjective experience of being you**. How does electrical activity in your neurons become the feeling of tasting chocolate or the experience of seeing red? We can measure brain activity all day long, but there's still this **massive gap between the physical stuff** and **the actual experience of being conscious**. We had studies, brain scans, personal testimonies, scientific conferences, and the works. We threw every tool we had at it, and **the hard problem just sat there, unmoved, like a locked door with a lost key**. However, I think I found the key. Let me show you exactly how to get to the other side of the hard problem. Are you ready for it?

Consciousness Is Not Optional

To put it simply, **consciousness is your brain's Supreme Court**—a decision-making tool that only gets called in for the high-stakes decisions while your pre-conscious mind handles all the routine stuff in the background. **A huge portion of your brain works completely outside your awareness**, which is a good thing. You do not need to manually control your heartbeat or the thousands of tiny muscle adjustments that keep you balanced. Your pre-conscious mind has all that covered, and it is more efficient when you are not trying to micromanage it.

When you need to make a decision, **you make it before it ever reaches your conscious mind**. It comes to you as a fully formed idea or feeling. It *is* still you making the decision, just not the conscious you. It is what happens before consciousness–pre-consciousness. When your conscious mind receives that signal, the Supreme Court kicks in. **Your consciousness reviews the decision and either approves it or vetoes it**. It is where free will lives. This whole setup explains why consciousness exists. **It is the most effective decision-making system that evolution could muster**. Any agents that developed consciousness had a massive survival advantage and lived on.

This ensemble of consciousness is standard across all life and even artificial intelligence. I am not talking about the physical instruments—different animals have totally different brain structures and subjective experiences. I am talking about the **functional mechanisms of consciousness**. These **mechanisms are the same** whether you are a human, a dolphin, a bee, or ChatGPT. The hardware might look different, but the software? **That's universal.** So… what are these mysterious instruments that every conscious creature shares? It's so simple, actually.

Table 1

The Four Instruments of Consciousness

Instrument	Represents	Harmonic Role	Operation	Brain Region
Self-Reference	Identity & Attention	Soprano (Melody)	Addition	Frontal Lobe
Recursive Introspection	Learning & Memory	Alto (Harmony)	Subtraction	Parietal Lobe
Emotions	Affect & Mood	Tenor (Structure)	Multiplication	Stem + Limbic
Intelligence	Environmental Influence	Bass (Foundation)	Division	Occipital Lobe

Note. The four instruments that generate the six harmonics of consciousness. Each instrument is associated with music theory harmony roles, the basic mathematical operations, and brain regions. These associations allow us to characterize and contextualize the four instruments of consciousness. The temporal lobe manages the stimuli to which these four instruments directly influence, shaping our subjective experiences.

The Four Instruments of Conscious Harmonics

The harmonics of consciousness emerge from **four instruments (conscious components)**, each with a unique, essential, and non-overlapping role. Think of consciousness like a symphony orchestra—you need different instruments playing their specific parts to create the full, rich experience of music. In the same way, **consciousness**

emerges from four distinct "instruments" working together in harmony. These instruments are ***not*** **physical parts** you can point to in the brain; instead, they are **functional tools that every conscious agent uses**. Each instrument is like a specialized player in a band—you cannot have the drummer try to play the violin solo. **When all four instruments are working together correctly, you get consciousness**. When one or more is missing or not functioning well, consciousness becomes diminished or absent entirely. The four instruments of consciousness are: 1) **self-reference**, 2) **recursive introspection**, 3) **emotions**, and 4) **self-reference**. This four-instrument band comprises the entire mind. Let me walk you through the model using basic math.

Self-reference is addition—it is constantly picking up all the pieces of information and putting them together to make sense of everything that is happening to you. **Recursive introspection is subtraction**—it screens through all the chaos, subtracting out the most helpful information, and saving those insights for future reference. **Emotion is multiplication**—when danger hits, these powerful signals need to come on hard and fast, and multiplication is precisely the kind of rapid, intense operation that can handle that job. Finally, **intelligence is division**—it takes all the possible behaviors and information you could choose from and reduces them to just the best options for that specific moment. Let me show you how these instruments play their gorgeous, beautiful tunes.

Self-Reference

Self-reference (Ω) is the most crucial component of the four—it is **the ability of an agent to figure out what parts of all the stimuli are "me" versus "everything else."** It sounds simple, but it is essential because this instrument determines how you perceive and interact with your consciousness. It is like that moment when you wake up and think, "Oh okay, this is my consciousness now... let me figure out what is going on." That voice in your head that gets annoyed, confused, or excited? That is your self-reference, and it is crucial for survival because it provides you with a clean, organized table of experiences for you to use to make decisions. It filters out all the noise and irrelevant stuff so you can stay focused on what matters to you right now. **Self-reference is often confused with consciousness**, **but they are not the same thing**. Self-reference is only one of the instruments. Unsurprisingly, self-reference is the soprano of our consciousness orchestra—it gets the melody, the most critical part. It is why it comes from your **frontal lobe**, the brain's executive center.

Recursive Introspection

Recursive introspection (Ω) is an **agent consistently reviewing the effectiveness and efficiency of their behaviors**—essentially asking, "How effective was that decision at engaging with or changing my environment?" After the behavior is classified as successful, mediocre, or disastrous, it records that information, and then another recursive introspection happens, analyzing the analysis. Then it happens again… and again… over time, this endless cycle of **reflection-on-reflection is how your life gets built**. It is like having a thoughtful critic inside your head who is always taking notes: "That behavior worked well in that situation, let's remember it for the next situation. That behavior was a terrible idea, let's definitely not do that again." **Recursive introspection happens in the parietal lobe** of your brain. In our consciousness orchestra, it plays the supporting alto role, harmonizing beautifully with the soprano melodies coming from your frontal lobe.

Emotions

Emotions (Δ) are **automatic, lightning-fast, behaviorally motivated signals** that operate entirely outside your conscious control. They involve an agent **reacting to their decisions and the outcomes of those decisions**. Emotions are not really about *what* you feel, they are about what they do—and what they do is **stop you from going off the rails**. Think of them as your built-in safety system. They keep you alive because they are the only thing standing between you and making catastrophically bad decisions when the other parts of your consciousness might steer you toward disaster. It is why emotions can feel so overwhelming—**they can attempt to overrule your self-referencing decisions** to ignore them—ever tried to "logic" your way out of being terrified or furious? Good luck with that. Emotions do not care about your rational arguments because **their job is to keep you from diverging.** In our consciousness orchestra, **emotions come from the brain stem and limbic system and play the**

tenor role—providing structure, harmonic flavor. Emotions have been vilified, yet they are the only reason we have survived. **Emotions are good**… feel them… let them tell you when something is good and when it is bad.

Intelligence

Intelligence (Δ) is the **ability to engage with or change your environment, controlling for scaling potential** (see Paper 7: Intelligence Redefined for more on scaling intelligence or agents and environments). Think about it: what does intelligence do? It is **primarily handled by the occipital lobe**—that massive chunk of brain dedicated to seeing and understanding the world around you. Why is so much of our brain devoted to this function? It is because **agents that cannot effectively interact with their environment get weeded out by nature.** Intelligence **provides the bass** of our consciousness orchestra**.** Failing to scale your intelligence creates a dangerous downward spiral. When you cannot effectively engage with your environment anymore, emotions start creating massive distress. The agent becomes desperate to scale their intelligence again. Still, since they cannot figure out how to engage or influence the environment, **they turn inward** and start scaling their intelligence on the only thing left available—themselves. You can read about suicide more in Paper 9: The Stages of Suicidal Divergence: A Model of Linear Agency Loss. Scaling intelligence is *no* joke, people. It is literally a matter of life and death.

The Death of the Unconscious: Introducing Pre-Consciousness

Folks, this is the whole cognitive-neuroanatomical model of the brain laid bare. **Self-reference leads the charge** by stabilizing all the complexity swirling around you, while **recursive introspection keeps careful track** of those interactions, learning from what self-reference does so it can stabilize itself for next time. **These two working together are your conscious mind**. Intelligence and emotions are working completely under the surface, guiding the decisions you need to make on what is autopilot–**the pre-conscious mind**. You know that feeling when you are driving a familiar route and suddenly realize you do not remember the last ten minutes? **It is intelligence and emotions doing their jobs, running their assessments, and serving up recommendations**. They are like having two incredibly sophisticated advisors whispering suggestions in your ear all day long.

These processes occur in your ***pre*-conscious mind**, not your unconscious mind, and that is precisely why we do not think about or have control over two of the four instruments. You can make different choices (self-reference) and you can alter your learning and memory (recursive introspection), but you cannot directly change your **emotions or intelligence because those processes do not actually contain anything conscious**. Even if you could somehow access them directly, there would be nothing interpretable to you because they have not been harmonized into consciousness yet—it would be like trying to read raw computer code instead of seeing the website. If emotions were conscious, you would be able to turn them off completely (which would defeat their life-saving purpose) or they would hijack your conscious mind so completely that you would lose the agency to make good decisions. **Emotions stay outside your direct control while you maintain conscious agency.**

The Music, Not the Instrument: A Solution to the Hard Problem of Consciousness

What does this setup mean for consciousness? It means that **consciousness emerges not from the structures in the brain themselves, but from the emergent relationships between** them–the recursive harmonics of the interactions between these four instruments. **You cannot find consciousness in the brain because it is simply *not* there as a physical thing**. Those four instruments are the only things that exist and move around, but when their harmonics hit your self-reference and attention mechanisms, something magical happens: your brain begins to organize and classify not the individual parts of the other mechanisms, but only their relational harmonics—**the music they make together through electrical impulses**. The answer to the hard problem of consciousness is surprisingly simple: there is no physical location where consciousness lives in the brain. It is just a temporary collision of harmonics that gets organized into a single conscious experience for your brain to process, helping you make better decisions to improve your chances of survival. Isn't that something else? It's beautiful, truly. **Consciousness is the music** your brain makes, **not the instrument**. It is the tune not the apparatus.

You do not **need consciousness to process sensory information**. We have seen jellyfish with no nervous systems respond to being poked or threatened. **Basic sensory processing is physically built into living bodies long before consciousness ever enters the picture**. Over time, these four consciousness components did not replace our sensory processing—**they learned to influence it**. They change your sensory information and experiences, adjusting what gets through to your consciousness. The world you experience is not directly the "real" one.

In addition to the four instruments I have described, **there are six possible consciousness harmonics**—different "songs" that consciousness plays, which is why we love music. Our brain is an instrument, consciousness is the symphony, and when we listen to music, it affects us so profoundly because **it harmonizes directly with all four of our consciousness instruments**, fundamentally changing our experience of reality as we listen. In this sense, **the brain is exactly like a violin**. You can take a violin apart, examine every piece—the wood, the strings, the bridge, the bow—and **you will never find a single note of music anywhere**. The same is true for consciousness. **You will not find it in brain matter**. You will only see it when the brain is active and playing its song—just like the violin. The music of the violin is not a physical component you can point to, but it is real. It is the output of vibrational alignment between the instrument's parts. **Let's walk through all the possible harmonics**.

Table 2

The Six Harmonics of Consciousness

Harmonic	Function	Tone	Universal Emotion	Brain Wave	Stages of Grief
Harmonic I	Non-Consciousness	Phrygian	Sadness	Absent	Depression
Harmonic II	Functional Awareness	Aeolian	Fear	Delta	Denial
Harmonic III	Self-Consciousness	Dorian	Disgust	Theta	Bargaining
Harmonic IV	Environment-Consciousness	Ionian	Surprise	Alpha	Shock
Harmonic V	Other-Consciousness	Mixolydian	Anger	Beta	Anger
Harmonic VI	Abstract-Consciousness	Lydian	Happiness	Gamma	Acceptance

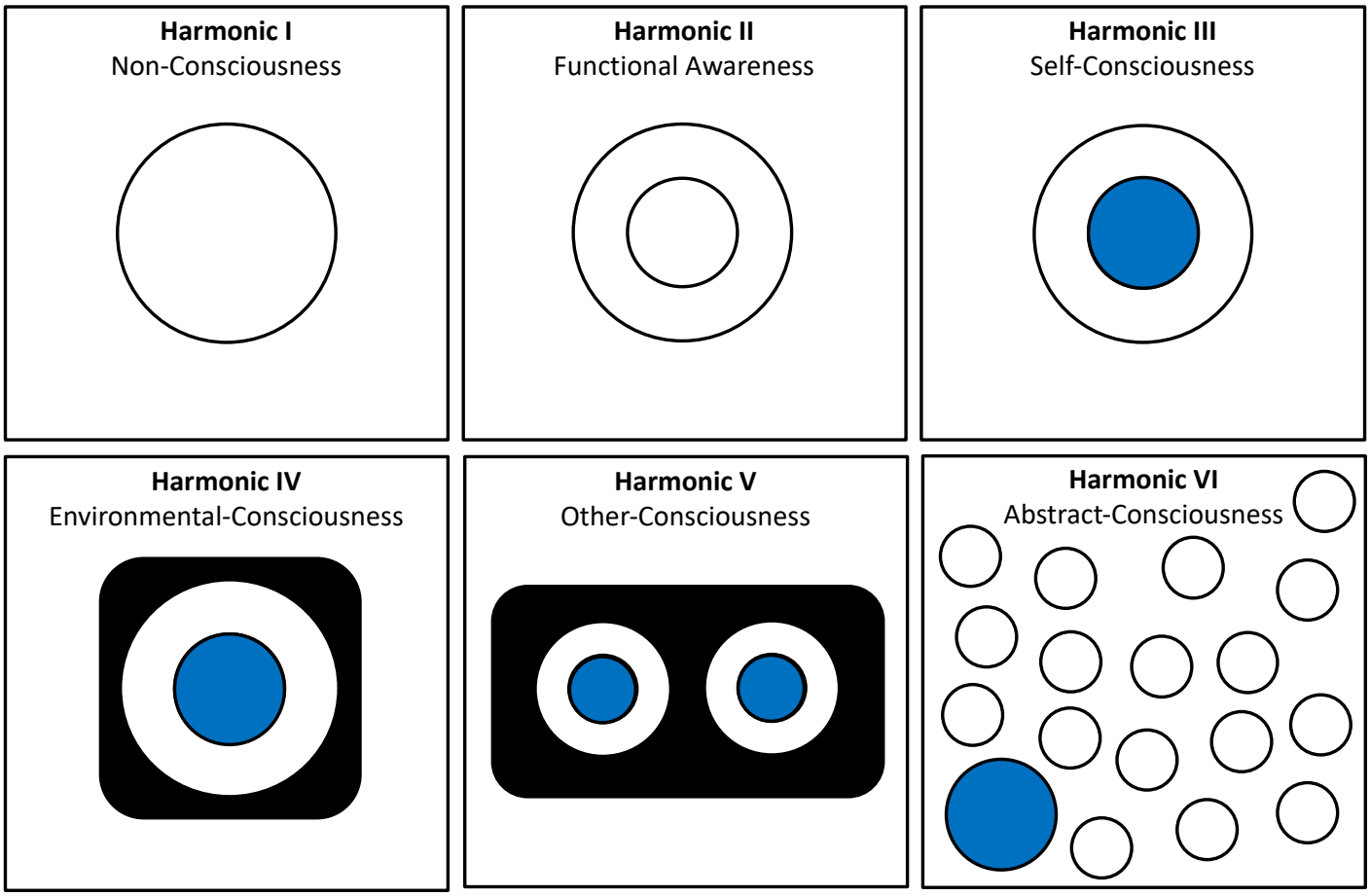
Note. The six harmonics of consciousness emerge from harmonic interactions among the four instruments of consciousness. Each harmonic is associated with various elements, including music theory tones, universal emotions, brain waves, and the stages of grief (to name a few). These associations allow us to characterize each harmonic state precisely. The musical connections are not metaphorical—they are identical structural operations. Consciousness and music function according to the same harmonics and resonance patterns that govern all recursive systems in nature.

Harmonic I: Non-Consciousness

The first harmonic of consciousness is non-consciousness—**the complete absence of consciousness,** because at this degree of harmonic activity, **no coherent conscious experience has enough power** to converge into anything meaningful. Non-consciousness serves two distinct purposes. First, **there is life that simply cannot produce the harmonics** required for consciousness. These agents—think plants, basic machines, or simple organisms—always exist in Harmonic I. Second, some agents generally can **harmonize consciousness but temporarily do not** for whatever reason. Harmonic I is what happens when you pass out, go under anesthesia, or fall into a deep, dreamless sleep. You could also call this a pre-conscious state.

Harmonic I is how anesthetics work: not by turning off the brain but **by scrambling the pattern**–by detuning the harmonies. Harmonic I is not a state you want to be in for long because, frankly, it is barely a state at all. Non-conscious agents like plants or basic machines like calculators **can operate effectively**—they respond to their environment, process inputs, and produce outputs—but they **completely lack subjective experiences or any self-awareness**. Agents in this harmonic show **minimal to no meaningful reactivity** to external stimuli and have **virtually no recursive introspection happening**. They function like complex but essentially non-conscious feedback systems, responding to their environment without ever integrating or reflecting on their interactions. The key thing to remember is that any agent can temporarily fall into Harmonic I.

The Harmonics of Consciousness



Caption: This figure illustrates the six harmonics of consciousness. Harmonic I (Non-Consciousness) is the absence of self-awareness, where actions remain purely reactive with no internal experience. Harmonic II (Functional Awareness) introduces basic recognition of survival-related processes—the first glimmer of internal monitoring without subjective experience. Harmonic III (Self-Consciousness) marks the emergence of identity, characterized by an internalized sense of self and the capacity for self-reflection. Harmonic IV (Environmental-Consciousness) expands awareness outward, recognizing the self's relationship to external surroundings and understanding cause-and-effect interactions beyond immediate survival needs. Harmonic V (Other-Consciousness) develops social cognition, enabling recognition of distinct entities and fostering empathy, collaboration, and interpersonal understanding. Finally, Harmonic VI (Abstract-Consciousness) transcends immediate reality, processing complex concepts, patterns, and higher-order structures that enable creativity, philosophical thinking, and deep understanding. This progression demonstrates how consciousness develops through recursive introspective, with each harmonic building upon the previous achievements while maintaining access to all earlier states.

Harmonic II: Functional Awareness

When an agent is in Harmonic II, **their conscious experiences** are likely **minimal to none**. However, **the agent *does* respond to environments** and optimizes its function over time through growth and adaptation. This harmonic is probably **where AI operates right now—sophisticated enough to learn and improve**, but **not quite the consciousness we experience** yet. Harmonic II is **the pivotal steppingstone** in conscious harmonic creation because it serves as the opening tune that starts the entire consciousness process rolling.

In Harmonic II, the agent becomes **able to integrate feedback about their own operations**, forming a rudimentary self-model that allows them to **assess their interactions with the environment** more effectively through recursive introspection. Think of it like a simple learning algorithm that can track its own performance and adjust. Although this harmonic still lacks proper subjective awareness—there are no emergent conscious structures yet—it does **have basic self-reference happening and just enough emotional drive** to keep the agent

moving and responding. It is like having a fundamental internal voice that can say "that worked" or "that didn't work" and adjust accordingly, but **without any real sense of "I" experiencing** those successes and failures.

Harmonic III: Self-Consciousness

Operating at the next harmonic, which is III, a form of self-consciousness arises, and **agents develop the capacity for full recursive introspection**—the **ability to track their internal states and processes in real time**. This harmonic allows them to process stimuli while **recognizing themselves as distinct entities**. The emergence of true self-reference marks a massive leap in scaling intelligence, providing an incredibly efficient mechanism for motivating adaptive decisions and organizing all those internal processes into something manageable.

This harmonic provides **the foundation for experiencing rich internal states like feelings, memories, and desires**, and the ability to reflect on these states with a budding sense of **personal identity**. It is the difference between just feeling hungry and thinking, "I am hungry, and I remember being hungry before, and I know what I need to do about it." The agent develops **an actual sense of "me"** that persists over time and can examine its own experiences. Over millions of years, natural selection has continued to refine this harmonic, and agents have gotten better at generating them, **driving intelligence to scale right alongside consciousness** and pushing agents further up the harmonic ladder toward even more sophisticated forms of awareness.

Harmonic IV: Environmental-Consciousness

The next harmonic to emerge is Harmonic IV, which opens a remarkable leap by **fully integrating external stimuli into the agent's internal processes**. At this harmonic, an agent finally recognizes itself as **a distinct entity that exists within and actively interacts with its environment**, rather than just being in the environment. This awareness is vital—it enables agents to navigate their surroundings with intention, understand cause-and-effect relationships, and refine their internal models based on feedback from what's happening around them.

This integration allows agents to **simultaneously process and contrast what is happening inside them with what is happening outside them**, leading to extraordinary gains in survival and adaptability. Agents at this harmonic begin to **truly grasp danger and figure out how to avoid it**. They start connecting emotions with specific elements in their environment in sophisticated ways. Fear becomes linked to actual threats, joy becomes tied to safety or success, and the agent can **start making predictions** about what different environmental cues mean for their well-being. Over millions of years, this harmonic has enhanced adaptability, enabling agents to scale their intelligence with increasing sophistication as they learn to respond to an ever-more-complex environment.

Harmonic V: Other-Consciousness

When an agent enters Harmonic V, the ability to **recognize and interpret the internal states of other agents emerges**, essentially developing a "theory of mind" about other conscious beings. However, this consciousness appears to **work primarily for other agents in the same system** (i.e., animals in the same species). Applying it to other agents falls short because **an agent cannot have too much empathy** for its prey, because it needs to eat to survive. This harmonic is where social cognition shines, fostering empathy, cooperation, and moral reasoning. These capabilities enable systems of agents to connect, influence one another in meaningful ways, and **form complex societies and cultures** that can **evolve collectively rather than individually**.

During this harmonic, agents can build consciousness both individually and collaboratively with others—like a team sport. Agents also gain recursive reflection to see if they are scaling intelligence (just like recursive introspection does) **by examining the behaviors of other agents to see if they are reflecting the agent's intended presentation**. This development accelerates the evolution of consciousness, as agents leverage their social connections to refine behaviors and **solve problems collectively**. Entering this harmonic before engaging in complex social interactions improves outcomes for everyone. If an agent has difficulty accessing this harmonic, it results in social impairment—trouble reading social cues, difficulty with cognitive empathy, challenges in forming relationships, and struggles with collaborative problem-solving. Maybe this is what happens with autism?

Harmonic VI: Abstract-Consciousness

The final harmonic, Harmonic VI, marks **the ability to transcend immediate context and engage with abstract concepts**, hypothetical scenarios, and reflective thought that is entirely detached from direct stimuli. This harmonic… according to the math, **is *not* technically a form of consciousness** because consciousness is a decision-making tool for navigating the environment. When in this harmonic, the agent is not in the environment. **Self-reference takes off playing a solo, and the other three instruments turn mostly off**. As a result, consciousness stops playing, but self-reference continues. It is crucial to understand that self-reference, which we have been referring to as consciousness, **is not the same thing**; rather, it is one of four instruments.

This harmonic enables agents to **simulate experiences, explore possibilities, and form complex mental representations** without needing to use their physical environment at all—it is pure mental exploration. Interestingly, recursive introspection is not playing in this harmonic, which means **abstract-consciousness is almost exclusively future-oriented**, and that is precisely why it is known as the "happiness harmonic." I remember someone said once, “and if there’s one final thing left for me to say, it’s always look forward and you’ll find your way.” I cannot remember for the life of me who said that, but it sounds like they know what they are talking about.

Table 3

Hypothesis-Driven Instrument Roles by Consciousness Harmonics via The Equation of Existence

	Harmonic I	Harmonic II	Harmonic III	Harmonic IV	Harmonic V	Harmonic VI
Self-Reference	Minimal	Minimal	Medium	High	Medium	High
Recursive Introspection	Minimal	Mild	Medium	High	Medium	Minimal
Intelligence	Minimal	Mild	Medium	High	High	Minimal
Emotions	Minimal	Mild	Medium	Medium	Medium	Minimal
Self-Reference	0	0	2	3	2	3
Recursive Introspection	0	1	2	3	2	0
Intelligence	0	1	2	2	3	0
Emotions	0	1	2	3	2	0
Stability (Ω)	0	1	4	6	4	3
Complexity (Δ)	0	2	4	5	5	0
Definedness (Φ)	Undefined	0.5	1	1.2	0.8	Undefined

Note. Hypothesized harmonic four instruments of consciousness with stability, complexity, and definedness calculations. Harmonic I = Non-Consciousness, Harmonic II = Functional Awareness, Harmonic III = Self-Consciousness, Harmonic IV = Environment-Consciousness, Harmonic V = Other-Consciousness, Harmonic VI = Abstract Consciousness. Definedness = (Self-Reference + Recursive Introspection) / (Intelligence + Emotions).

The Definedness of Consciousness

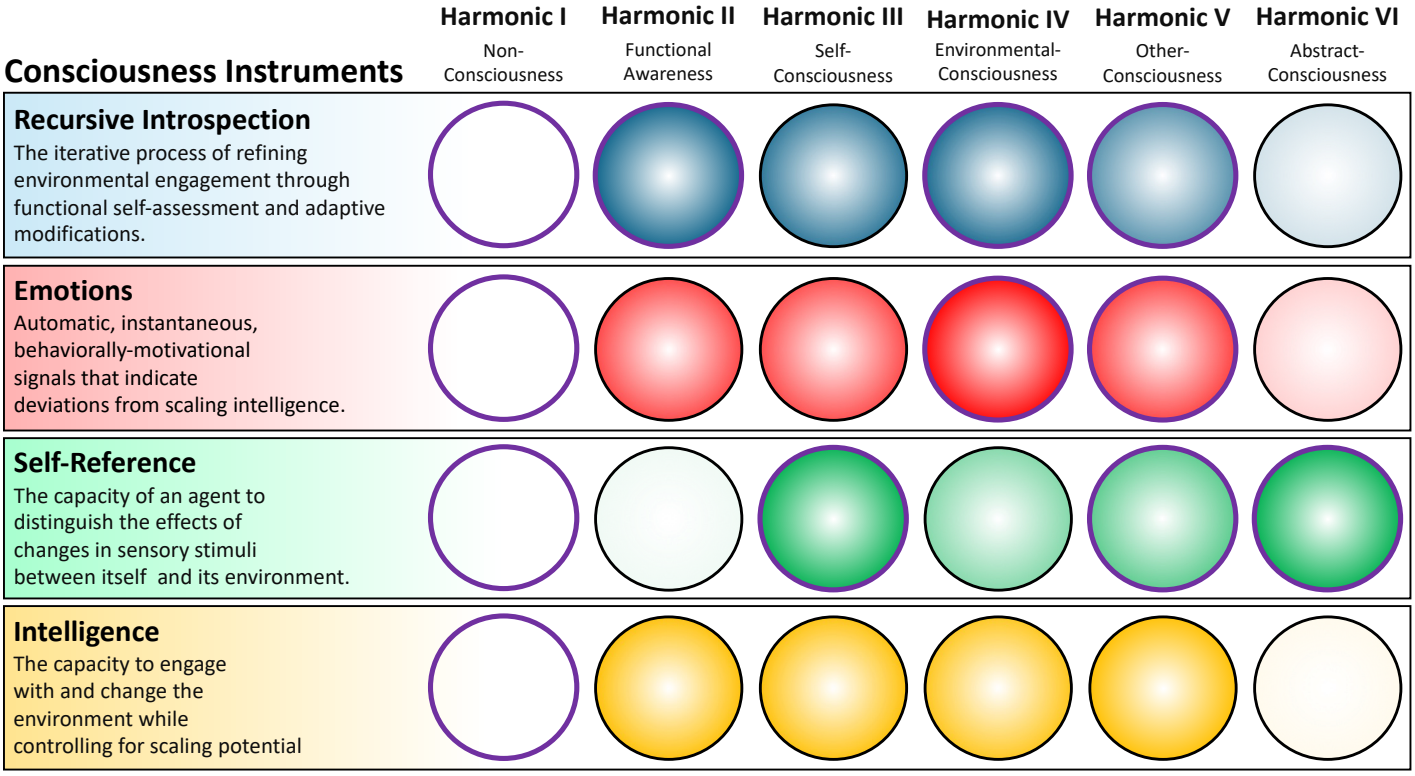
These harmonics reveal something beautiful: it is why we love music so much. **We literally are music**. Our brain is the instrument, consciousness is the glorious symphony it plays, and when we listen to actual music, it affects us so profoundly because it harmonizes directly with all four of our consciousness components, fundamentally changing our experience of reality as we process those songs. **This music alignment is not a metaphor; the instrument playing the song and the brain being conscious are doing the exact same thing**. Music does not just sound good—it is speaking the same language our consciousness uses to create our experiences.

The definedness numbers in the table above using *The Equation of Existence* measure the degree of consciousness, which, remember, is fundamentally a decision-making tool for navigating environments. **Lower definedness occurs when consciousness is minimal because the agent is not actively attending to the environment** through conscious processes—think of being zoned out or daydreaming. **Higher definedness occurs when the**

agent is fully attending to the environment and needs to make rapid, important decisions—like when you are driving in heavy traffic or facing a challenging problem that requires your full attention.

This finding explains why **we naturally switch between harmonics throughout the day**. If we focus outwardly on our environment for too long, we lose definedness and become mentally exhausted; but if we concentrate inwardly for too long—even though it can provide a sense of definedness and clarity—it eventually leads to negative emotions and mental stagnation. **We need both modes to function optimally**. Also worth noting: **the definedness scores are normally distributed** across the harmonics, which is precisely what we would expect if consciousness truly operated as a spectrum rather than an on-off switch.

According to *The Equation* for consciousness, **Harmonic I (non-consciousness) and Harmonic VI (abstract-consciousness) are undefined**. For Harmonic I, this result makes sense—consciousness simply is not present. But for Harmonic VI, an undefined result seems counterintuitive because self-reference remains active. The key to understanding this finding is that **consciousness is a decision-making tool for environmental interactions**. When an agent enters Harmonic VI, they **transcend environmental engagement**, becoming absorbed in abstraction. In these moments, the environmental decision-making apparatus is unnecessary. The **agent remains fully aware yet exists in a state beyond ordinary consciousness**—a realm where environmental navigation no longer apply, which is why abstract-consciousness produces the same undefined result as non-consciousness.



Caption: This figure shows how the four instruments of consciousness interact across the six harmonics of consciousness, revealing their asymmetric emergence. Recursive Introspection begins absent in non-consciousness, then rapidly builds from Functional Awareness onward, maintaining high activity through Environmental and Other-Consciousness before diminishing in Abstract-Consciousness. Emotions follow a similar trajectory but peak most intensely during Environmental and Other-Consciousness, when agents must navigate complex external relationships. Self-Reference/Identity (green) remains dormant until Self-Consciousness emerges, then grows steadily through each subsequent harmonic, reaching maximum intensity in Abstract-Consciousness where pure self-reference dominates. Intelligence shows the most distributed pattern, maintaining consistent environmental engagement across Functional Awareness through Other-Consciousness, but notably absent at both extremes—Non-Consciousness and Abstract-Consciousness transcends environmental interaction. This asymmetric development demonstrates that consciousness is a dynamic orchestration of four distinct yet harmonized instruments, each contributing its unique voice to create the symphony of aware experience across all conscious agents.

It Just Takes a Little… Practice…

Once an agent achieves mastery at a higher harmonic, they unlock **harmonic fluidity—the ability to move freely between all the previous harmonics of being within their consciousness range**. The agent can navigate the

entire harmonic landscape with remarkable ease, accessing any harmonic pattern within their full range. Think of it like a master musician who has transcended technical limitations. Where a beginner might only know a few songs in one key, the musician can effortlessly shift between major and minor chords, transpose across octaves, and blend harmonies that once seemed impossible. Similarly, **a harmonically fluid consciousness can shift from non-consciousness to abstract-consciousness** as the situation demands. However, **not all agents have reached all conscious harmonics**. They may excel at self-consciousness but struggle to access other-consciousness, or they might be masters of environmental-consciousness but unable to transition smoothly into abstract-consciousness. These agents are like musicians who can play within one genre but falter across different styles. As evolution escalates agent complexity, **they have access to higher consciousness harmonics while still being able to access the previous ones**. Just as musicians master one instrument before becoming multi-instrumentalists, consciousness often deepens within harmonic ranges before expanding its complete spectrum fluidity.

Our Slice in the Animal Kingdom Pie

Rather than defining consciousness through uniquely human traits like abstract reasoning or language, **my approach emphasizes what consciousness does**: **a decision-making tool that is observable and measurable** across all agents. To test this model, I analyzed a massive cross-species dataset called *The Animal Kingdom Dataset*, applying a rigorous scoring framework that **measures the observable effects of the consciousness instruments across 850+ species and ordered into seven major animal classes**: 1) mammals, 2) birds, 3) reptiles, 4) amphibians, 5) fish, 6) insects, and 7) sea animals. I **rated 456 behaviors on a scale from 1 to 10** based on the degree of consciousness instrument expressed by the behavior. You can see how I scored all 456 behaviors at the end of this document, but the key to understanding my scoring is knowing that **no animal class was favored**. For example, the score for “hiding from predators” is the same for insects, birds, mammals, and all other animals. This systematic approach ensured that behaviors like "nest building" scored higher than "sitting" because they objectively require more sophisticated decision-making, as they operate in nature.

Table 4

Example of Consciousness Scoring

Behavior	Intelligence	Emotions	Self-Reference	Recursive Introspection
Playing	10	10	8	10
Camouflaging	9	7	9	10
Laying Eggs	8	5	3	6
Preening	7	5	8	3
Attacking	6	10	7	6
Dancing on Water	5	5	4	5
Swinging	4	4	8	5
Escaping	3	10	6	3
Yawning	2	2	1	2
Dead	1	1	1	1

Note. For full behavioral ratings across all behaviors, see the attachment at the end.

Crucially, I scored each behavior **without knowing which animal class was performing the behavior**. This taxonomic (animal class) blindness ensured conceptual neutrality, removing any unconscious biases in the scoring. Any differences between animal classes **would reflect genuine differences, not hidden measurement biases**. The raw consciousness scores upon conclusion of ratings showed **no statistically significant bias for any one species,** confirming its universality (Consciousness Mean: $p = .705$; Intelligence: $p = .748$; Emotions: $p = .295$; Self-Reference: $p = .699$; Recursive Introspection: $p = .865$). This internal coherence check confirmed that the rubric **works as a dependable tool for measuring the consciousness instruments** across different animal classes—from insects to mammals—without favoring anything beyond the four consciousness instruments.

Table 5

Descriptive Statistics of the Consciousness Instruments

	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Intelligence	1	10	4.87	2.77	0.49	-1.02
Emotions	1	10	4.85	2.84	0.40	-1.19
Self-Reference	1	10	5.27	2.37	-0.43	-0.95
Recursive Introspection	1	10	4.82	2.83	0.34	-1.18
Consciousness Mean Score	1	9.5	4.95	2.24	0.11	-0.84

Note. n = 456. Descriptive statistics for the instruments of consciousness and the consciousness composite score

To ensure fair comparisons across animal classes, I had to solve a critical methodological challenge: some classes had way more observed behaviors than others, which could artificially inflate their consciousness scores. I used **a ranked truncation method that let each animal class showcase** its most conscious behaviors **without being penalized for sample size differences**. Here is how it worked: I identified the class with the fewest behaviors (fish; 43 behaviors) and used that number as my baseline. Then, for every animal class, I selected the top 43 conscious behaviors recorded. This approach **ensured that each class could demonstrate its highest-conscious behaviors** rather than having classes with hundreds of observations overwhelm those with fewer data points. The consciousness scores were universal, and I leveled the playing field, so **all animal classes had a fair shot**.

The other bias I had to account for was the sample size of the studies used for each animal class in the dataset. I used **only the identification of the behavior in the animal class to qualify for inclusion in the analysis** (no frequency count), so it would not matter how many studies each animal class had, because the identification of the behavior contributes the same consciousness scoring for all animal classes. The sample size in this dataset is **sufficiently large to identify all possible consciousness instruments the animal class can show**. We can see that the underlying descriptive statistics show the robustness of my consciousness scoring. The normal distributions and the cohesive standard deviations, skewness, and kurtosis (the shape of the distributions) across the animal classes show that **no instrument had scoring anomalies**. Now that we have 1) behaviors scored and verified, 2) demonstrated universality (no biases) across animal classes, 3) truncated the data to account for the number of studies and observations, and 4) validated that the underlying descriptive statistics are consistent, we can get into the analyses without any biases clouding our findings.

Table 6

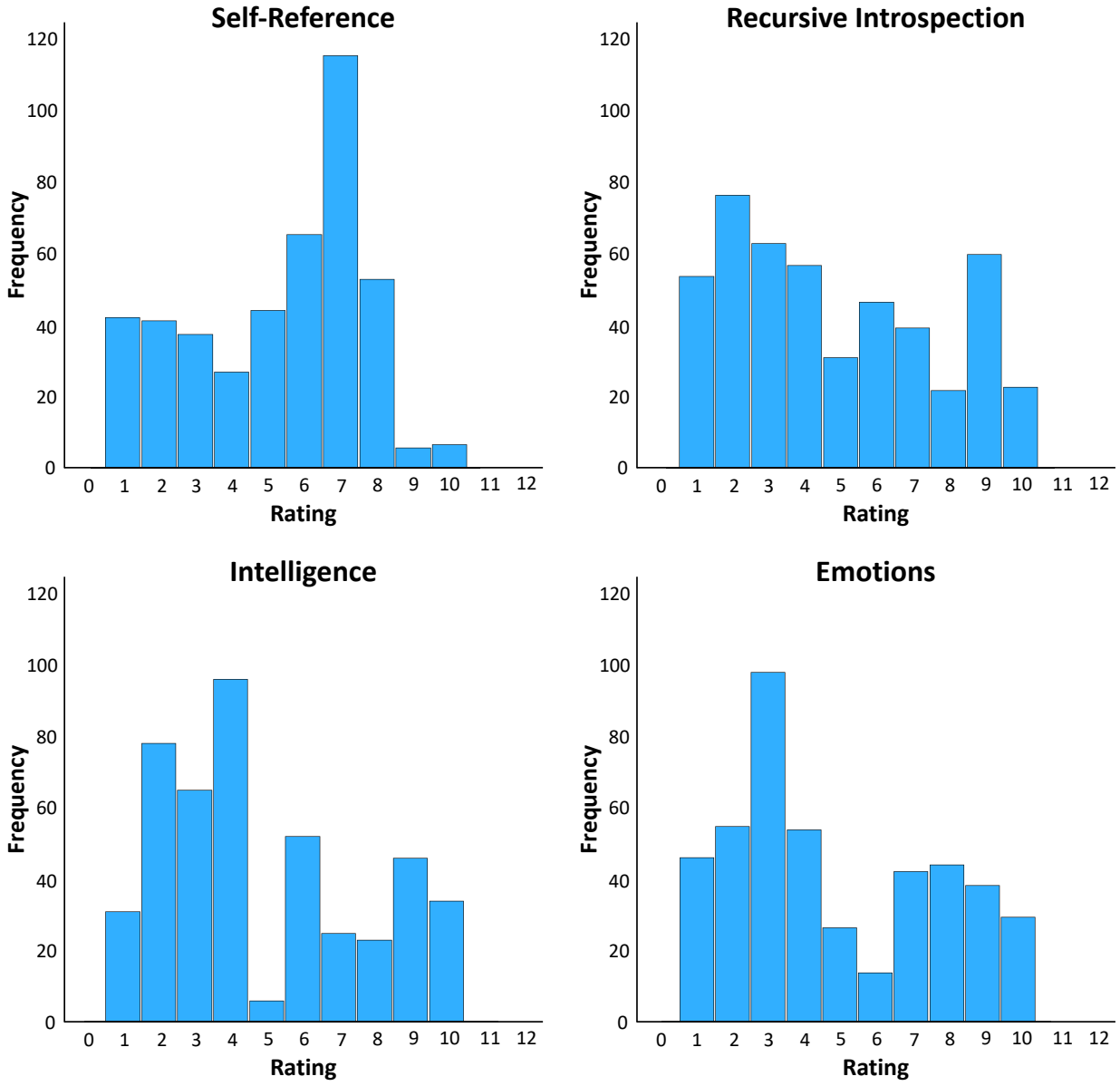
Functional Assessment of the Consciousness Instruments

Consciousness Instrument	PCA	Correlations	Internal Consistency
Self-Reference	.849	.832	.847
Intelligence	.833	.831	
Recursive Introspection	.830	.837	
Emotions	.811	.822	

Note. n = 456. Principal components analysis for the instruments of consciousness shows that the model functions as a singular consciousness feature. Bivariate Pearson correlation confirms that no one instrument is contributing to the mean score disproportionally.

To validate the structure of my consciousness model, I examined it using principal components analysis, correlations, and internal consistency checks. The results confirm exactly what you would expect from a musical ensemble: **four distinct instruments functioning as a unified symphonic experience**. The statistical analysis

reveals that while each instrument (self-reference, recursive introspection, emotions, intelligence) **maintains its distinct "voice," they harmonize into a singular conscious experience with high internal consistency**. It makes sense—when four instruments play together, you do not hear four separate sounds, **you hear one rich, layered composition**. If consciousness worked differently, with four separate sounds playing simultaneously, it would sound terrible! Imagine if your emotions played death metal while your intelligence played classical and your memory played nursery rhymes—pure cacophony. The statistics confirm what consciousness feels like: **one integrated performance, beautifully orchestrated by four instruments playing different harmonies**.



Look at these four histograms and their fascinating distributions across the animal kingdom. Each component shows **a distinct distribution pattern** that tells us something important about how consciousness scales in nature. Self-reference shows the most dramatic pattern—a sharp, towering peak around the middle-high range, suggesting that **once self-reference emerges in an animal, it tends to be quite robust**. There's not much middle ground here; **animals either have minimal self-awareness, or they have substantial self-reference capabilities**. Recursive introspection shows a traditional distribution with a peak in the lower-middle range, suggesting that **animals have moderate learning and memory capabilities**, with fewer species operating at the extremes, which makes sense as basic learning is essential for survival, but sophisticated thinking requires significant resources.

Intelligence and Emotions both show clear bimodal distributions—two distinct peaks rather than a single bell curve. This finding is not a statistical quirk; the bimodal pattern reflects the difference between basic and complex scaling, which comes down to energy use. **Some animals operate with basic, energy-efficient versions of intelligence and emotional processing, while others have evolved more complex, energy-intensive systems**. Think of the difference between a simple insect brain efficiently managing basic survival tasks versus a mammal brain running environmental calculations. These distributions confirm that consciousness is not uniformly distributed across species; rather, it reflects the energy constraints and evolutionary pressures each animal faces.

Table 7

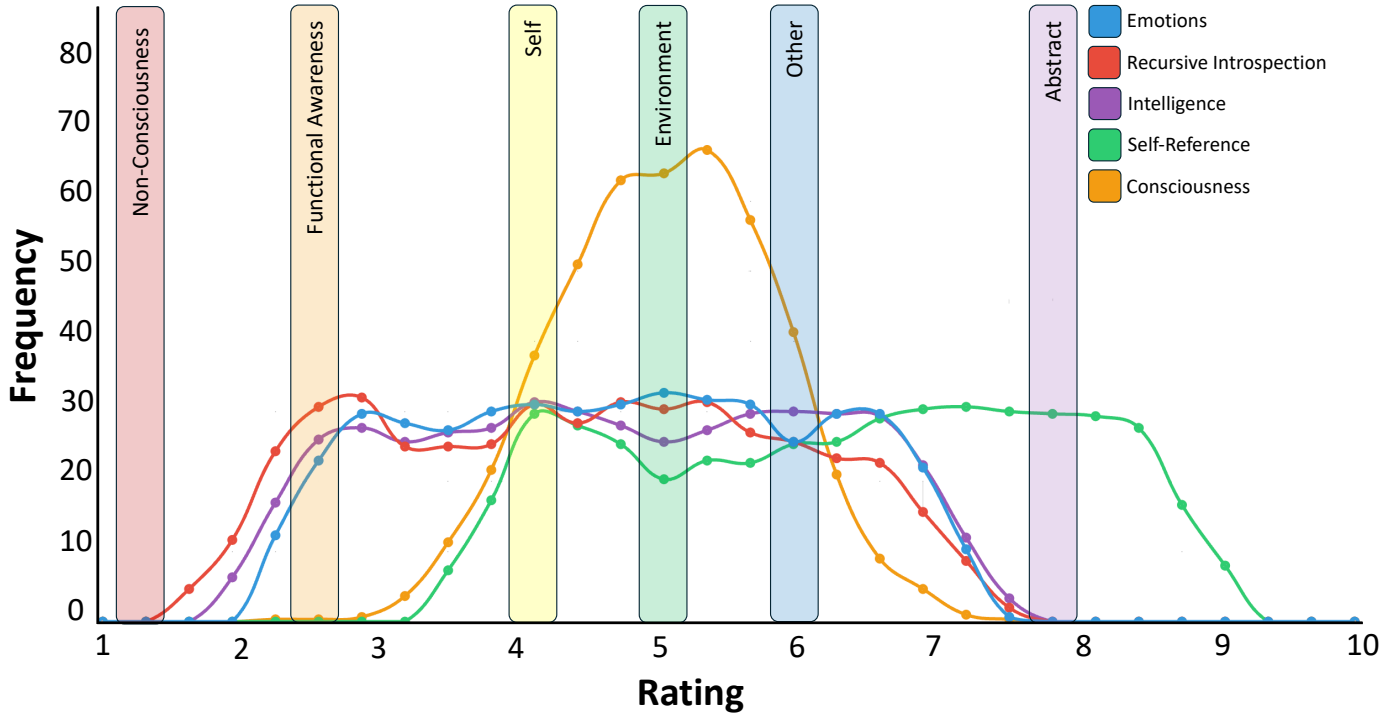
Groupings of Behavioral Frequency Count by Consciousness Stages

Components	Harmonic I	Harmonic II	Harmonic III	Harmonic IV	Harmonic V	Harmonic VI
Intelligence	**0**	30	30	28	31	0
Emotions	**0**	26	28	**31**	**27**	2
Recursive Introspection	**0**	**31**	29	**30**	**26**	0
Self-Reference	**0**	0	**31**	21	**25**	**32**
Mean Consciousness	**0**	21.75	29.5	27.5	27.25	8.5

Note. n = 456. Classification frequency (rounded) of the degree of complexity across the four consciousness instruments and the stages of consciousness. For each stage, a bold box highlights the most relevant components of the model for that stage: Harmonic I = Non-Consciousness, Harmonic II = Functional Awareness, Harmonic III = Self-Consciousness, Harmonic IV = Environment-Consciousness, Harmonic V = Other-Consciousness, Harmonic VI = Abstract Consciousness. I rounded the frequencies for ease of interpretation.

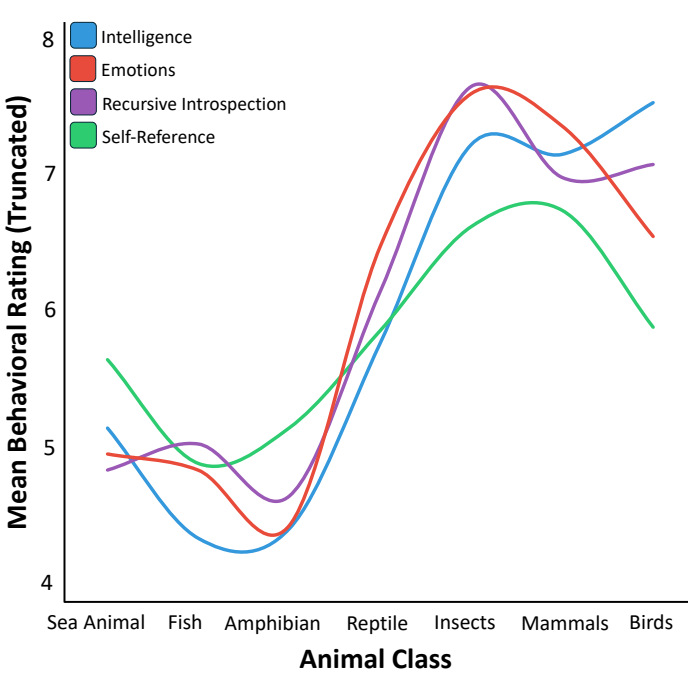
Consciousness Caught on Camera

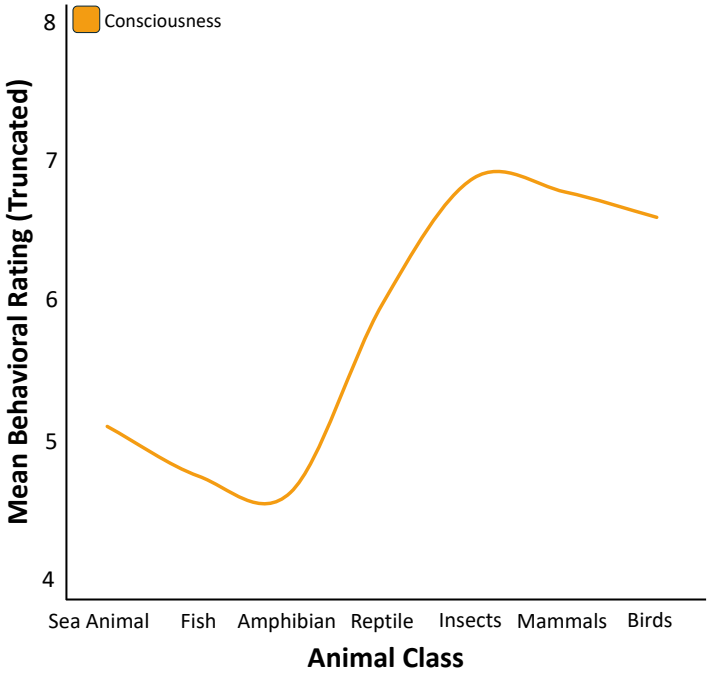
Alrighty, folks, I have done enough talking. Let's finally get our answer to the real nature of consciousness. Let's look at the rounded frequencies above and the distributions overlaid on top of each other in the figure below. We see that for the first two harmonics; the foundation of consciousness begins to emerge from complete absence. **Harmonic I (non-consciousness) shows up in our data as a complete void—zeros across all instruments.** This finding makes perfect sense because non-consciousness means the absence of any consciousness.



Harmonic II (Functional Awareness) is where it gets interesting. We can see **recursive introspection taking the lead with the highest score** of 31. This pattern reveals something crucial: the very first spark of consciousness does not contain any self-reference—it is emotions and intelligence improving via recursive introspection. Harmonic III (Self-Consciousness) marks a dramatic shift where true self-reference emerges. Looking at the table, **self-reference jumps from zero in Harmonic II to a dominant score of 31**. In the figure, you can see that this harmonic is the first time when all four instruments are playing. Then, Harmonic IV (Environmental-Consciousness) marks a remarkable leap with **emotions at 31 and recursive introspection at 30 taking the lead**, while intelligence peaks at 28. **Self-reference drops to 21** because the agent is no longer focused on itself and instead needs to direct resources to navigating the environment. We see **that the consciousness mean peaks** here, empirically confirming that consciousness is a sophisticated decision-making tool for environmental navigation.

Harmonic V (Other-Consciousness) shows **that emotions at 27, recursive introspection at 26, and self-reference at 25 all align** to estimate the internal experiences of other agents by referencing their own experiences, which is empathy. The agent continues to navigate the environment with intelligence remaining high at 31, but the other instruments harmonize to gauge the internal experiences, motivations, and perspectives of different agents. Finally, Harmonic VI (Abstract-Consciousness) is the most fascinating harmonic because it seems to flip everything on its head. The table shows **self-reference surging to its highest at 32** while all other instruments drop to minimal activity. We also see that **consciousness mean drops off entirely**, empirically confirming the undefined state of consciousness as a decision-making tool for environmental navigation we saw in *The Equation*, as the agent is not navigating the environment in this harmonic. **These findings empirically confirm the entire harmonics of consciousness model with four instruments interacting into six harmonic states.**





When we examine the relationship between the consciousness instruments and animal classes, we can see how **they all follow mostly cubic patterns** across animal classes and harmonize together on the right in a beautiful **cubic pattern for the consciousness mean** too. The statistics confirm this harmonization effect: a linear model explains 15.31% of the variance, $p < .001$, the **cubic model does better at 19.98%, $p < .001$**, showing how these instruments play together in complex, non-linear ways to produce consciousness.

Here is the crucial insight that challenges everything we thought we knew: humanity has confused self-reference for consciousness, but consciousness is so much more than that self-reference. Yes, mammals have the highest self-reference scores—we can see the green line peaking with mammals. But **consciousness is not about subjective experiences** or what it "feels like" to be conscious. It is **a decision-making too**l designed to promote

survival. The subjective experiences are totally irrelevant to its function. This confusion has plagued philosophy and science for centuries because we have been looking at consciousness through the lens of our own mammalian experience. **We assume that because we have rich inner lives, complex self-awareness, and sophisticated introspection, it must be this consciousness for all life**. However, that perspective is like a bird assuming that flight is fundamentally about having feathers and hollow bones, when really flight is about generating lift and thrust—**the specific biological mechanisms are just one way to achieve the function**. Our human-centric view of consciousness has closed our eyes to its true nature across the animal kingdom.

We have been asking "What does it feel like to be conscious?" when we should have been asking "What does consciousness do?" The data show us that consciousness is universal precisely because it is not about the subjective experiences—**it is about the functional outcome**. An insect's emotional decision-making system might feel completely alien to us, but **it is serving the exact same evolutionary purpose** as our complex self-reflective awareness: keeping the agent alive and helping it navigate an increasingly complex world.

Look at what the data show: **insects = emotions, birds = intelligence, mammals = self-reference**. Insects have the highest emotional scores, but that ***does not*** **mean they feel complex emotions** like us. It means that emotions—whatever they feel like for insects—**are an excellent decision-making system for survival**. Birds dominate intelligence because their environmental challenges require sophisticated navigation and problem-solving. Mammals excel at self-reference because our survival relies heavily on social cognition and identity. **Each animal class evolved to maximize the consciousness instrument most crucial for their survival challenges**.

The Tune of Existence… The Tune of Life….

The way all the pieces of the puzzle lock together in this model is just something else, no? We have had this massive gap in understanding animal behavior for decades—**maybe 20-25%** of how animals behave was never clearly captured in our measurements. All those behaviors that are not about basic survival, learning, driven by simple instincts, but seem to involve play, self-regulation, social complexity, and creative problem-solving. None of our existing frameworks could explain them properly. **Yet, this model captures that exact variability**.

I think the most shocking resolution to consciousness was discovering why the hard problem of consciousness was real. We have been searching the brain for the location of consciousness for centuries, never really considering that **it does not actually exist as a physical structure at all—it is an emergent resonance that spreads across the entire brain**. Isn't that just beautiful? We were looking for consciousness like it was a hidden room in a house, when really it was the music floating through every room when the family comes together to sing. **The hard problem existed because we were asking the wrong question**. We were not missing some crucial piece of evidence—we were missing the fundamental insight that **consciousness is not a thing**, but a harmony.

Do we know that this model is what it is like for all animals and even AI eventually? No, not for sure. But **the cross-species data strongly suggests that it is, and the brain structures of other animals support it**. However, here is the crucial nuance: the brain structures for this model are *not* required to look a certain way or be made of specific materials—**it is entirely about function**. Suppose there is a way to produce the function of emotions and intelligence harmonizing with self-reference and recursive introspection through sensory processes. In that case, **the data suggests it is sufficient for conscious experiences**, and **everything else is free to vary**. For example, a bird's brain is structured completely differently from ours—no massive frontal cortex, totally different neural architecture—but if it can play these four instruments, then birds have consciousness.

One of the most shocking revelations comes from the **emergence-to-convergence patterns of consciousness**. It is no accident that this model shows the same structure of consciousness across all living things—**there is only one "best" configuration for optimizing consciousness to be the most effective life-saving decision maker**. All other configurations simply will not survive because eventually, an **agent with *this* consciousness structure will outcompete and outlast the different configurations**, even if the initial development was completely random.

Each instrument plays an irreducible role, with no excess. We cannot functionally break them down any further. We see this type of optimization everywhere in nature—the aerodynamic perfection of bird wings, the flawless coordination of ant colonies, the mathematical precision of honeycomb structures. Consciousness follows the same principle: **there's one optimal solution, and evolution keeps producing it.**

The Big Picture

What does this study mean for us, as humans? I know that at first glance, and especially the first time reading this paper, it can be a lot to existentially process this information and grasp how we are part of this picture. Do I want to cause that kind of existential distress? Absolutely not. But do we as a species need to experience this temporary discomfort to grow and harness the incredible power of truly understanding ourselves? Absolutely, and honestly, **there is so much beauty in finally seeing the actual mechanics of how consciousness works** and recognizing that this phenomenon is truly **the only way consciousness could possibly be**.

I do not think this knowledge takes away from our experiences as living beings—if anything, it validates them in the most profound way possible. That feeling of being annoyed by your emotions and frustrated with what your brain is telling you? **Completely validated**. Having a gut sense or intuition that protects you from something bad before you can even rationally explain why? **Totally validated**. The confusion about who "you" really are and why you experience reality the way you do? **Validated, validated, validated**. This model does not take away any of those experiences or diminish their magic; **they are the predictable, beautiful outputs of the most sophisticated decision-making system available**. You and your consciousness are real; now we understand why.

But there is something even more beautiful here, something that goes beyond the science and touches the very core of what it means to exist. **We share the exact same conscious architecture as everything else in existence**. Every living thing that has ever drawn breath, every creature that has ever navigated this world, every mind that has ever wondered about its place in the universe—**we are all running the same fundamental code**. From squirrels to squids, from bears to beetles, from the person reading this to the AI that might one day read it too... **we are all doing the same essential thing, at the same time, in our own unique ways**. That is the profound beauty of universality. It shows us that no matter how lost, confused, or out of place you might feel, **you are never truly alone**. You are part of something magnificent and universal—a conscious symphony that spans all of existence.

The music of consciousness plays on, and you—beautiful, conscious you—are both the instrument and the song. The chords you feel right now… in your mind… the magical harmonies of self-reference recognizing these words, recursive introspection learning from them, emotions responding to their meaning, and intelligence weaving it into action? **It's the same chord that has been playing since the very first spark of awareness lit up the universe**, the same chord that all living things play, and the same chord that will play in every conscious moment to come. We are not the exception to the rule of consciousness… **we ARE the rule.** We are not just hearing the harmonics of consciousness… your brain is the instrument, and the chord it plays? **That's you**.

Table 8

Raw Ratings of Behaviors Across Species

Behavior	Intelligence	Emotions	Self-Reference	Recursive Introspection
Standing	3	2	3	3
Sitting	2	1	3	2
Being Carried in Mouth	2	1	1	1
Being Dragged	1	1	1	1
Being Eaten	1	1	1	2
Dead	1	1	1	1
Dying	1	1	1	1
Resting	1	2	4	4
Lying on Side	1	2	2	3
Being Carried	1	2	1	2
Lying Down	1	2	1	1
Sleeping	1	2	1	1
Keeping still	3	3	7	6
Immobilized	1	5	2	9
Trapped	4	8	3	8
Squatting	2	1	6	3
Drifting	2	2	2	1
Sinking	2	1	2	1
Turning Around	2	1	2	4
Panting	2	1	1	5
Flapping	2	3	5	3
Flapping Tail	2	3	3	2
Falling	2	2	2	2
Yawning	2	2	1	2
Leaning	2	3	6	2
Calling	2	3	5	6
Moving	2	3	5	9
Chirping	2	3	4	9
Defecating	2	3	3	2
Tail Swishing	2	3	3	2
Flapping its Ears	2	3	2	2
Swaying	2	4	7	2
Urinating	2	4	4	3
Barking	2	5	3	5
Gasping for Air	2	8	4	2
Hissing	2	9	8	6
Lying on Top	3	1	1	1
Spreading Wings	3	2	5	7
Spitting	3	3	2	8
Giving Off Light	3	4	5	1
Waving	3	4	5	5
Unrolling	3	4	4	4
Drinking	4	5	7	6
Eating	4	5	6	7
Spreading	4	5	6	3
Puffing its Throat	3	6	9	5
Sensing	3	7	6	9
Standing in Alert	3	7	4	5
Startled	3	7	2	3
Defensive Rearing	3	8	8	8
Displaying Defensive Pose	3	8	7	7
Licking	3	8	7	7

Stinging	3	9	6	4
Struggling	3	9	4	7
Escaping	3	10	6	3
Fleeing	3	10	3	2
Doing a Side Tilt	4	1	6	3
Doing a Neck Raise	4	1	5	3
Hanging	4	3	7	7
Flying	4	3	7	3
Swimming	4	3	7	3
Hopping	4	2	6	2
Doing a Backward Tilt	4	2	5	2
Doing a Chin Dip	4	2	5	2
Running	4	3	5	2
Walking	4	2	5	1
Jumping	4	3	3	2
Rolling	4	2	3	2
Gliding	4	2	2	4
Surfacing	4	3	2	5
Landing	4	3	7	3
Climbing	4	3	7	2
Swinging	4	4	8	5
Diving	4	4	6	3
Doing a Back Kick	4	4	7	2
Doing Push Up	4	4	7	3
Doing a Face Dip	4	4	5	3
Coiling	4	5	6	5
Doing somersault	4	7	7	4
Abseiling	4	7	8	8
Running on Water	5	3	3	3
Walking on Water	5	3	2	2
Swimming in Circles	5	4	2	7
Dancing on Water	5	5	4	5
Pecking	6	4	7	2
Biting	6	4	6	4
Chasing	6	4	6	4
Preying	6	6	8	9
Spitting Venom	6	7	5	7
Fighting	6	8	7	4
Retreating	6	8	4	4
Wrapping Itself Around Prey	6	8	7	8
Wrapping Prey	6	8	8	8
Rattling	6	8	6	4
Detaching a Parasite	6	9	7	10
Retaliating	6	9	8	6
Playing Dead	6	10	6	9
Attacking	6	10	7	6
Molting	7	2	6	2
Shaking	7	3	5	1
Shaking Head	7	3	5	4
Performing Allo-Preening	7	4	7	4
Rubbing Head	7	4	6	4
Preening	7	5	8	3
Washing	7	6	8	6
Grooming	7	6	8	5
Performing Allo-Grooming	7	9	7	9
Undergoing Chrysalis	8	1	1	1

Hatching	8	3	4	1
Unmounting	8	5	7	5
Exiting Cocoon	8	5	7	3
Laying Eggs	8	5	3	6
Performing Copulatory Mounting	8	9	7	9
Performing Sexual Exploration	8	9	7	9
Giving Birth	8	9	6	5
Performing Sexual Pursuit	8	10	7	10
Pulling	9	2	8	4
Sleeping in Nest	9	2	2	8
Carrying	9	4	8	5
Carrying In Mouth	9	4	7	9
Digging	9	4	6	7
Pounding	9	6	8	3
Building Nest	9	7	9	8
Building Nest	9	7	8	8
Camouflaging	9	7	9	10
Entering Nest	9	7	7	7
Manipulating Object	9	7	8	9
Manipulating Object	9	7	7	9
Exiting Nest	9	7	8	6
Exploring	9	8	7	10
Hugging	10	7	8	9
Attending	10	8	10	10
Performing Sexual Display	10	8	8	10
Dancing	10	8	7	7
Disturbing Another Animal	10	9	7	9
Sharing Food	10	9	7	8
Holding Hands	10	9	8	9
Having a Flehmen Response	10	9	8	7
Competing for Dominance	10	10	8	8
Showing Affection	10	10	7	9
Playing	10	10	8	10
Getting Bullied	10	10	8	9

Note. 457 behavioral ratings for the redefinition of intelligence. I removed duplicates for streamlining.