Intelligence Redefined

Written by Bryant Stone (*The Architect*)

Overview

Humanity has **never produced a unified definition of intelligence**, creating a fragmented landscape of IQ tests, *g* factors, multiple intelligences, street smarts, intuition, emotional intelligence, and dozens of competing frameworks—**each capturing something real. Yet, none providing a complete, satisfying picture**. What's up with intelligence? Nothing else in science behaves this way, so let's figure it out. Working from the hypothesis that all existing definitions represent fragments of a larger truth, I developed a comprehensive framework that connects every theory under a single principle: **scaling intelligence**, defined as **an agent's capacity to engage with and change its environment while controlling for scaling potential**. To test this framework, I analyzed the *Animal Kingdom* dataset—a comprehensive collection of **video-coded behavioral assessments spanning 850+ species** across all major animal classes. I scored **456 behaviors** based on their environmental engagement and influence, then calculated intelligence scores to examine the presence and extent of intelligence across the animal kingdom. The analysis revealed **the complete metabolic and evolutionary trajectory of intelligence across the animal classes**, with scaling intelligence explaining **an astonishing 20% of behavioral variance across all 850+ species**. Biologists, zoologists, and ecologists have long attempted to explain a missing 20-25% in animal behaviors that has always been a mystery; this paper provides the answer and finally shows that human intelligence in the universe is not the exception, it is the rule; **now… we are finally smart enough to see it.**

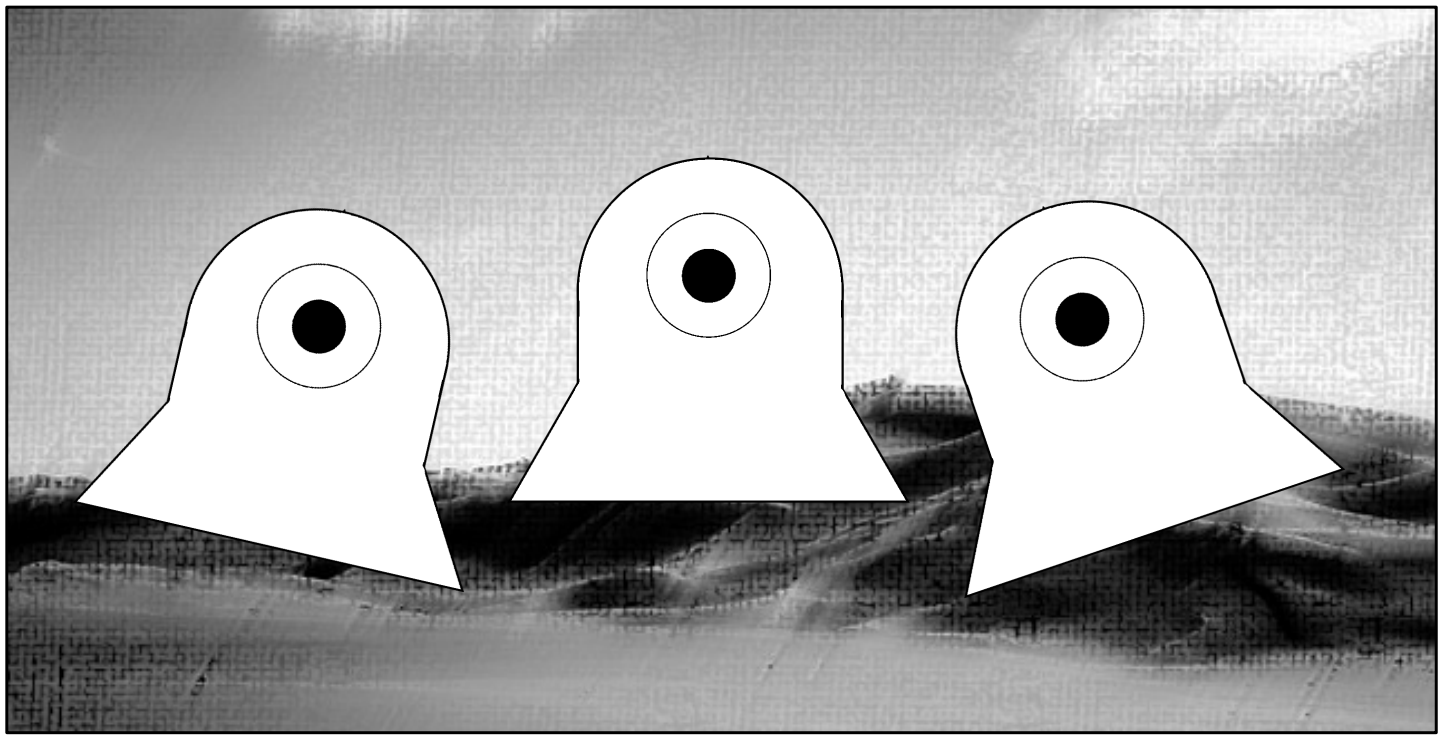
Background & Findings

When we see equations, we recognize their beauty and inevitability. When we gaze into space, we marvel at the beauty and vastness. When we study cute animals in nature, we admire their beauty and perseverance. Yet **when we turn that same gaze inward, why does beauty seem to vanish**? We perceive the mind as complicated, incomprehensible, mysterious—perhaps even frightening. Why the disconnect? Why does the human mind fail to meet the beauty we apply to the rest of existence? Why can we study plants, planets, and pandas with confidence, yet when we look within ourselves, we encounter pandering to existing frameworks, performative confusion, and persistent unknowability about our nature? The answer is more straightforward than we imagine. **Our minds fit seamlessly into the same elegant pattern of beauty we recognize throughout existence**. Let me show you this beautiful fit, but first… I have something important to say to clear some of the fog from our view.

There Is No Bridge Here

What connects the "physical" and "non-physical" phenomena? Many might expect me to have **a bridge from the "physical" phenomena of reality to the "non-physical" ones**. However, a bridge implies there is a gap to cross, a division to reconcile between two distinct phenomena. Yet, the "physical" and the "non-physical" phenomena are not separate—they are different expressions of **the same recursive-propagative complexity escalated phenomena that stabilize**. The "non-physical" emerges naturally as the "physical" complexity escalates, reaching thresholds where "abstract" patterns like thoughts, intelligence, and social organization emerge. **These "non-physical" phenomena are all based on physical processes**, whether in the electrical activity in the brain or shared among others. **To propose a bridge is to misunderstand the very nature of existence**. Bridging implies

separateness, but **the "physical" and "non-physical" are not separate**, and it is time to unify them; they exist on a continuum governed by the same universal principles in *The Theory* that govern everything else. There is **no need to connect them** because they are not separate. The bridge is a relic of human categorization, an artifact from compartmentalizing a unified reality. With *The Theory*, there is no need to hold on to this training wheel; so, here is the hard truth: there is no divide, no separateness, and that means… **there is no bridge here**.



Caption: An image of cute little Definedlings in their natural habitat. Agents and environments are recursive-propagative partners in the definedness of existence. Together, they embody the balance of stability and complexity that underpin all intelligences and life. Also, I heard they love dancing and singing along to music.

The Dance of Agents & Environments

I invented a framework to help streamline our understanding of what it means to have intelligence: **agents and environments**. An **agent** is a phenomenon **capable of independent action** instead of the simple passivity towards universal forces and dynamics, that has agency either internally (**engagement with the environment**) or externally (**influence over the environment**). The **environment** is the **broader context within which agents exist**. It contains only phenomena that show simple passivity towards universal dynamics. The give-and-take relationship between agents and environments rests at the heart of the universe's structure–an inevitable outcome of the complexity escalation of physical and organic material; **one of the most profoundly beautiful ones, too**.

Agents in the universe comprise vast physical manifestations. To our knowledge, we know of **organic** (you and me) **and mechanical** (artificial intelligence) **agents**. Agency arises from recursive propagation (shocking, I know, I know, who would expect that?)—an agent's capacity to iterate upon itself and extend its influence into its environment. The environment, in turn, is not static, as **true stasis does not exist in relational reality**. It is a dance of co-complexity escalation, as the universe shapes the environment to agency and the agents to intergalactic environmental influence. **The whole system is constantly moving… blooming endlessly with creation**.

Humanity Has Decided… So, I Have Listened

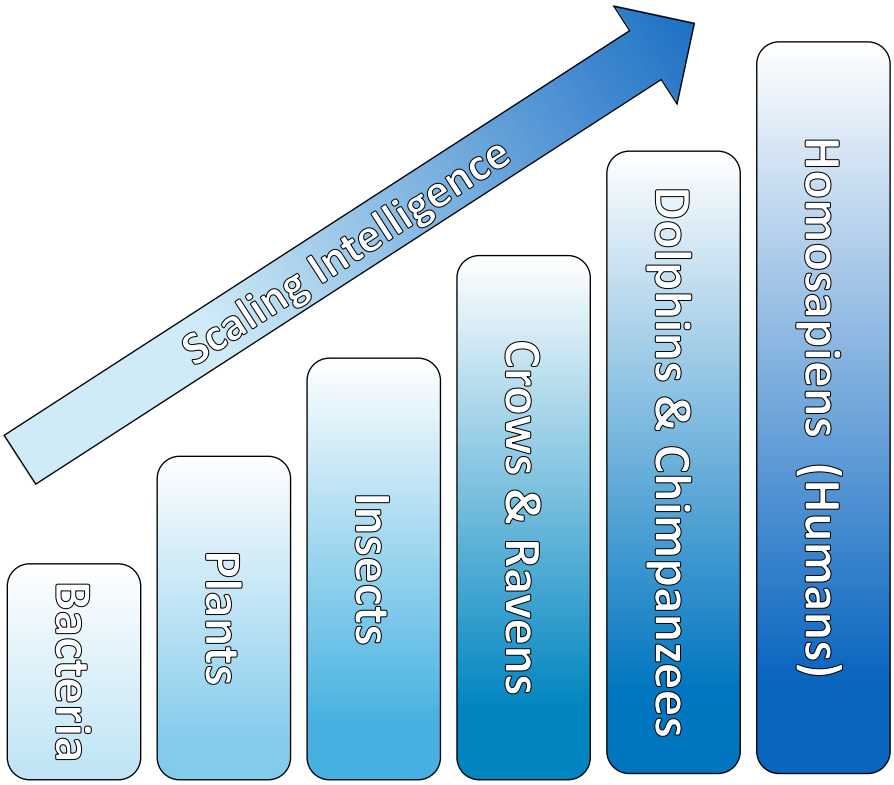
When I am not out being a philosopher-poet-mathematician-savant-researcher-scientist-activist-theorist-saboteur-author-artist-revolutionary-mythic-anti-hero-visionary in my spare time (**you can just call me *The Architect***), I am—by training—a Licensed Clinical Psychologist. I have an *extensive* background in intelligence and intelligence quotient (IQ) testing for adults and children. **I know the IQ tests like the back of my hand**; I also

know the effects IQ and IQ testing have on people. With over a decade of experience in psychological assessments, including IQ tests, **I think it might be time to throw them all in the trash (respectfully; use a scented garbage bag first)**. In almost every case of mine, the IQ test adds little to nothing to the diagnosis and recommendation of any condition that better, targeted assessments cannot capture; **their clinical utility is low**.

The IQ, too, is often used for harm, stigma, or a flat attempt to feel good about oneself. In extreme intelligence cases, such as developmental disabilities or child prodigies, **IQ tests are unnecessary to see the disabilities or brilliance**. The abilities to **see and listen offer more helpful information,** in my opinion. For pretty much everyone else, with an IQ between 85 and 115 ($M = 100$, $SD = 15$), the **IQ test provides very little, if any, helpful information** for distinguishing why a person has problems and teasing apart their symptoms. Very often, it is just, "Hmm, okay, average IQ as per usual," then we use it in all our assessments anyway… **why do we do this?**

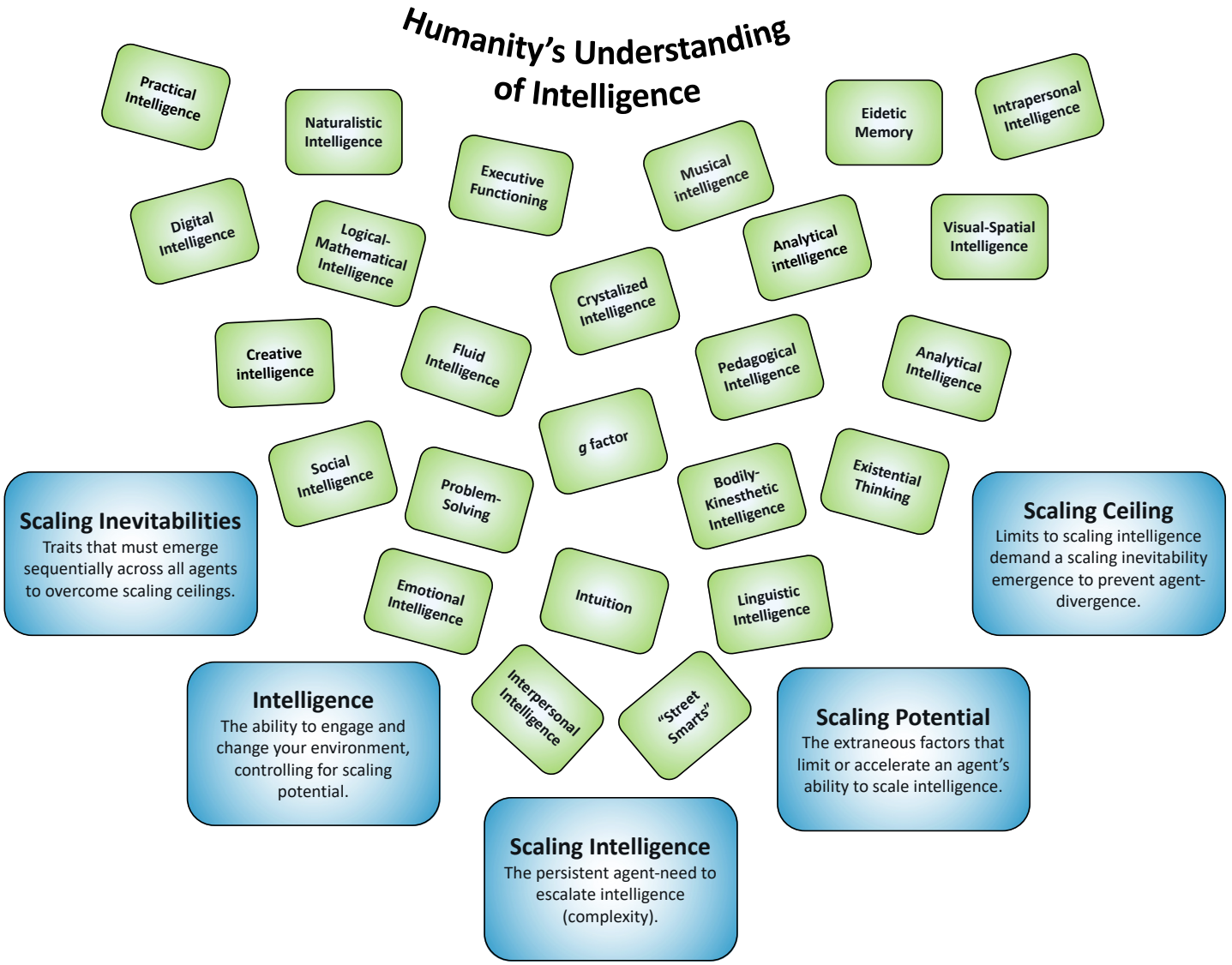
As clinicians, we are often discouraged from using the full-scale IQ score, the most common one, because **it is often statistically invalid**. We use one of the subscales as a person's "full-scale IQ score." **What other concept in science would we allow this degree of clear internal and external consistency, validity, and clinical utility issues?** We would not tolerate it anywhere else in science—and I will not either. There is a public tension that has been building up over the last decades; I am here to relieve it. **The time has come to redefine intelligence**.

Many people I know think IQ tests are garbage, and intelligence as a concept has no clear definition that maps onto real-world phenomena. Why is there a universal dislike for something we use all the time? We have eyes and can see that **IQ does not predict or explain success, talents, emotions, or skills well**. Let's think about what we *do* see that makes the biggest difference across people regarding "success" in our system. It is their "street smarts" because "book smarts" do not cut it. We call it "emotional intelligence," or "intuition," or "the *g* factor," and the eight others in Gardner's Multiple Intelligences. Humanity has been trying to articulate intelligence for as long as humans could think, **with so many ideas that are just fragments of our observations and experiences**…



Caption: This figure shows the spectrum of intelligence scaling across agents on Earth, showing how environmental influence shapes intellectual capabilities. Intelligence emerges through interactions with surroundings, scaling in alignment with evolutionary constraints. The distribution highlights that intelligence is an emergent property of all agents.

According to the **wisdom of crowds** phenomenon, guessing the number of things in a jar… you know, like **those annoying office games where you have to guess the number of jellybeans in a jar**, and you can win a high five and a "go team?" Data show that, for example, while individual guesses for 100 jellybeans typically range from 50 to 150 or $100 \pm 50\%$, the wisdom of crowds prevails as groups of 50+ people consistently range from 97 to 103 beans or $100 \pm 3\%$. The crowd is **extraordinarily good at figuring things out**. So, humanity… let's use the collective wisdom, experiences, and definitions we have collected throughout human history to put it together, to tie it in place with one, elegant, simple, explanatory framework for all possible life… which we can call… **Scaling Intelligence.**



Caption: Humanity has articulated many forms of intelligence—such as logical-mathematical, social, creative, emotional, and intuition—that are fragments of an agent's ability to engage and change their environment. Scaling intelligence describes the persistent drive of agents to escalate complexity, while Scaling Potential encompasses extraneous factors that either limit or accelerate an agent's ability to scale intelligence. Scaling ceilings represent inherent mathematical limits that necessitate scaling inevitabilities to prevent agent divergence. Scaling inevitabilities are traits that must emerge sequentially across all agents to overcome scaling ceilings.

Look! We already had all the pieces, and the scaling intelligence model organizes them into the completed puzzle. Scaling intelligence reframes intelligence as the recursive adaptation and propagated influence that maintains steady growth across increasingly complex environments. Then, **the redefinition of intelligence is simple: the ability of an agent to engage with or change the environment while controlling for scaling potential**. Agents, by definition, engage with (observe) and change (manipulate) their environment; agency and intelligence align perfectly. **Scaling potential is everything that affects an agent's ability to scale intelligence**, such as physical limitations and resource access. This redefinition is what intelligence means for the rest of this paper.

Scaling intelligence is **a universal phenomenon observable across all organic-based (humans or animals) or machine-based (AI) agents**. Whether in the coordination of ant colonies, the problem-solving strategies of octopi, the computation precision of ChatGPT and Claude, or human civilizations going to the moon. Scaling intelligence **is an agent-specific term that better explains how agents escalate complexity than saying "complexity**

escalation." However, they both describe the same thing, where scaling intelligence is the term underneath the umbrella of complexity escalation. It is the continuous persistence of agents to expand their environmental engagement or influence, navigate complexity escalation effectively, continuously adapt to challenges, and persist in agency over time. **It is the universal requirement for all agents to exist**, including for all of us…

All agents, including humans, must scale intelligence because the universe itself evolves through increasing complexity. Agents are not separate from the laws that govern physical reality; they are embedded within and shaped by the *exact* same principles. Everything that persists grows, evolves, and becomes more intricate. This inherent drive means **stagnation for agents is a trajectory toward divergence, irrelevance, and extinction**. Ultimately, it means that **scaling intelligence is not optional; it is mandatory**. In Paper 9: The Stages of Suicidal Divergence: A Model of Linear Agency Loss, I show the scaling intelligence structure in the mind, where agents use assessments of their scaling potential by examining their scaling effectiveness (the degree of environmental impact) and scaling efficiency (the cost of enacting the behavior). I showed how scaling intelligence is so not optional that **people will kill themselves if they see no future scalability**–yes, it is that important, people.

Scaling Ceilings & Inevitabilities

As agents and environments develop over time, agents encounter something called **scaling ceilings**, which are **the functional limits of agents' scaling intelligence across the continuum of complexity escalations**. Think of the complexity of a system (species) of agents like a yardstick, and **the markers on the yardstick are the scaling ceilings**. As agents move up the yardstick, they encounter scaling ceilings, which are problems or challenges that require specific new traits for them to overcome, or they diverge. These traits are called **scaling inevitabilities and are required of all agents regardless of species or substrate**. They also always follow similar trajectories.

Scaling inevitabilities arise from functional necessity, so examining these traits requires a functional perspective that **deprioritizes the experience and focuses on the benefits of the scaling inevitabilities**. These traits include consciousness, emotions, morality, and free will, which are essential mechanisms for navigating the environment and scaling intelligence. **Without these traits, all systems of agents eventually diverge and go extinct**. For example, consciousness acts as a means of making rapid survival decisions; emotions are immediate, motivational survival cues; morality is a social organization trait of a system to promote system scaling; free will acts as a means of encouraging diversity and growth. **Game theory provides rigorous mathematical evidence for overcoming scaling ceilings with scaling inevitabilities**, such as altruism, cooperation, and empathy.

However, it is essential to note that *even* intentional divergence—the deliberate decision to step away from the active scaling of intelligence—**is rare and still a profound form of environmental influence**. Despite the consequences for the agents, these disparate, **seemingly random acts of divergence provide significant emergent variation that later become converged traits**. For example, aggression is typically a destructive trait that causes issues within-system agents, such as school shootings and war. However, when aggression emerged between between-system agents, **the aggressive systems are more likely to scale intelligence**, whether for obtaining resources or removing predators. Even choosing not to scale intelligence inherently results in engaging with and changing the environment to suit preferences, inevitably contributing to scaling intelligence anyway.

The irony is that even the refusal to scale intelligence scales it differently. This concept is why **agents cannot escape scaling intelligence**, even with intentional divergence, withdrawal, or resistance—it is simply a different, worse path within it. **Scaling intelligence is a fundamental process woven into the fabric of existence**, operating through the core principles of recursive propagations and emergence-to-convergence (E2C) that govern everything in the universe. The reason you are reading this paper right now is to scale your intelligence in some way. The information in this paper helps you scale intelligence better. So, it means that you and I… **we are all part of this dance between agents and environments; this is your home**. Why don't we get into some of the data?

Our Piece in the Animal Kingdom Puzzle

Rather than defining intelligence through uniquely human traits like abstract reasoning or language, my approach emphasizes what intelligence *does*: **observable and measurable environmental engagement and influence 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 environmental engagement and influence across $850+$ species. This dataset is a goldmine for this study because each entry links behaviors to major animal classes: 1) **mammals**, 2) **birds**, 3) **reptiles**, 4) **amphibians**, 5) **fish**, 6) **insects**, and 7) **sea animals**.

I developed a behavioral complexity rubric; **I rated 456 behaviors on a scale from 1 to 10** based on the relative environmental engagement and influence. 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 by the scale of the environmental influence**. For example, the score for "hiding from predators" is the same for insects, birds, mammals, and all other animals. This approach ensured that behaviors like "nest building" scored higher than "sitting," not because we find nest-building more impressive, but because it objectively requires more sophisticated environmental engagement and influence. **The scoring captures intelligence as it operates in nature**.

Table 1

Universal Intelligence Scores Example

Behavior	Rating
Attending	10
Camouflaging	9
Performing Copulatory Mounting	8
Grooming	7
Attacking	6
Dancing on Water	5
Doing a Chin Dip	4
Defensive Rearing	3
Barking	2
Being Carried	1

Note. See attachment below for full ratings.

Crucially, I scored intelligence without knowing which animal class was performing the behavior. This taxonomic (animal class) blindness ensured universality, **removing any unconscious biases in the scoring**. Any differences between animal classes would reflect **genuine intellectual differences, not the measurement**. The raw intelligence scores showed no statistically significant bias for any species, $F(6, 454) = 0.55, p = .767$, **confirming its universality**. This coherence check confirmed that the rubric **works as a dependable tool for measuring intelligence across completely different species and animal classes**—from insects to mammals—without favoring species, cognitive styles, or human-centric assumptions about what intelligence *should* look like.

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 intelligence scores. My solution was elegant and theoretically sound—a ranked truncation method that let each class showcase its most complex behavior without being penalized for sample size differences. Here's 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 most intelligent behaviors recorded**. This approach was crucial to our analyses because it ensured that each animal class **could demonstrate its highest-intelligence behaviors,** rather than classes with hundreds of observations simply overwhelming those classes with fewer data points. The intelligence score was universal, and **I leveled the observational playing field**, so all animal classes had a fair shot at showing their scaling intelligence behaviors. Let's check those descriptive statistics to see if it worked.

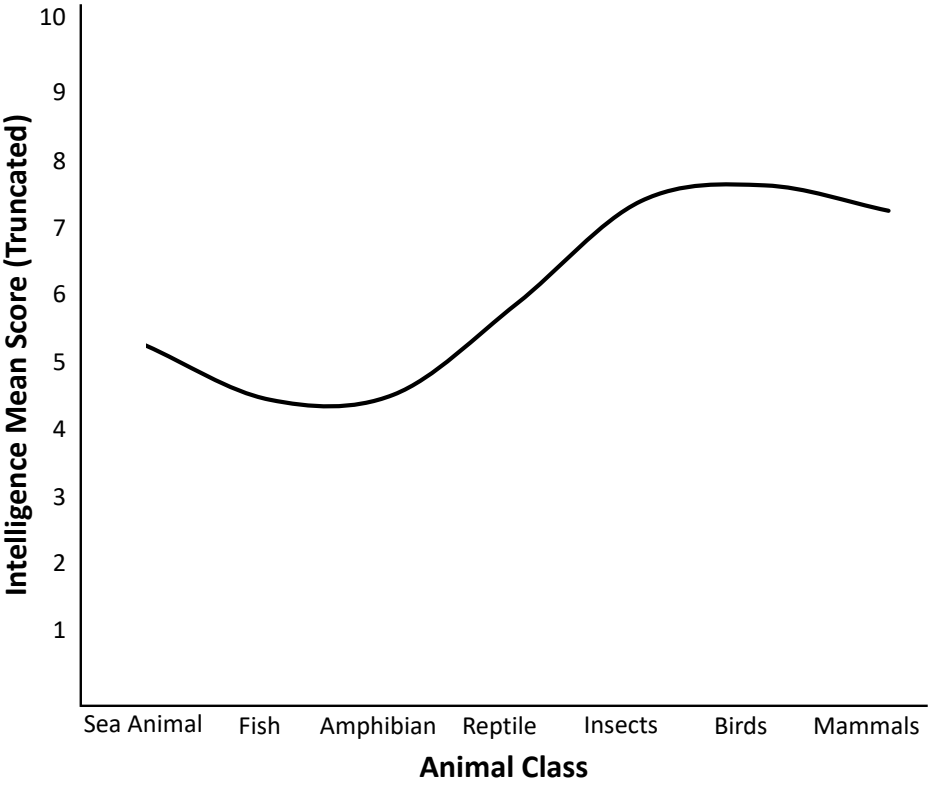
Table 2

Descriptive Statistics of Metrics Across Animal Classes

Animal Class	*n*	Minimum	Maximum	Mean	*SD*	Skewness	Kurtosis
Sea Animals	43	1	10	5.23	2.76	0.31	-1.26
Fish	43	1	10	4.44	2.99	0.78	-0.78
Amphibians	43	1	10	4.51	2.76	0.78	-0.51
Reptile	43	3	10	5.84	2.31	0.49	-1.07
Insects	43	4	10	7.33	1.84	-0.29	-0.86
Birds	43	4	10	7.56	1.80	-0.24	-1.07
Mammals	43	4	10	7.19	2.13	-0.15	-1.29

Note. n = 301. Descriptive statistics of the intelligence scores.

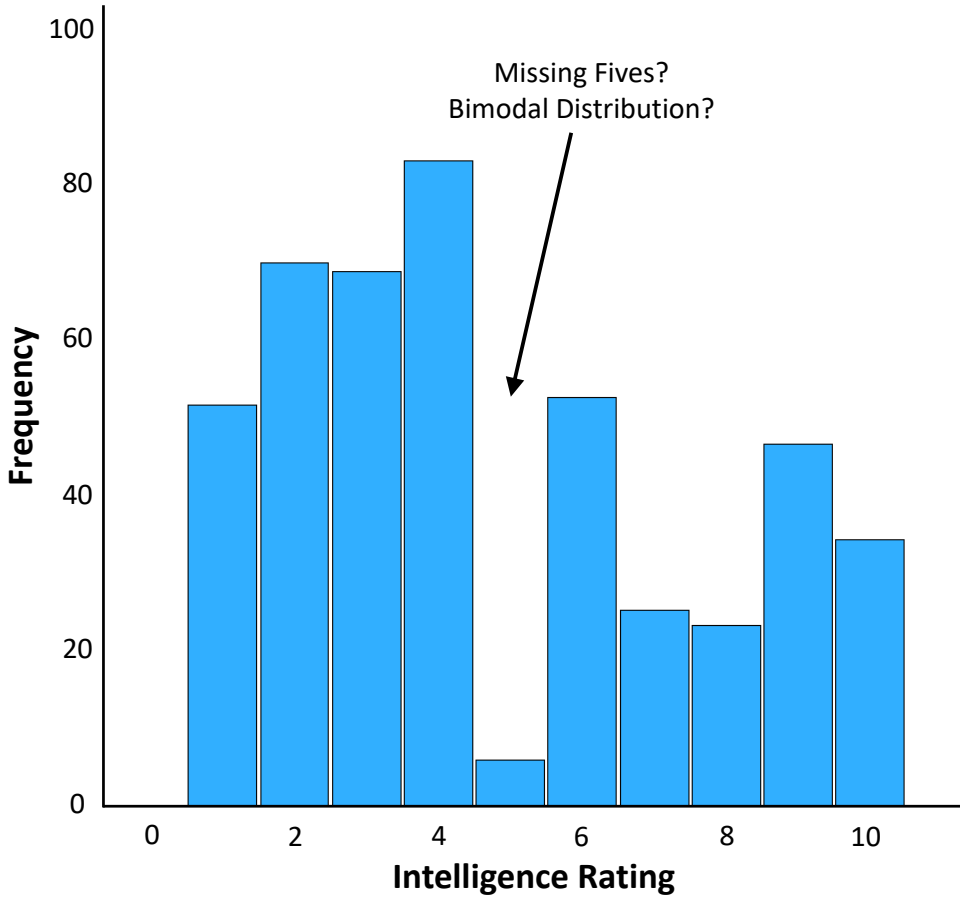
We can see that **the underlying statistics show the robustness of my intelligence scoring**. The normal distributions and the cohesive standard deviations, skewness, and kurtosis across the animal classes show that **no animal class has anomalies in their scoring**. Now that we have 1) behaviors scored and verified, 2) demonstrated universality (no biases) across animal class, 3) truncated the data to account for observational differences across the classes, 4) account for the number of studies, and 5) validated that the underlying descriptive statistics are consistent across animal classes and match the normal distributions, **we can finally get into the analyses without worrying about any biases clouding our findings**. Geeez, this study made us really work hard for these findings, huh? Anyway, let's look at some group differences. **I aligned the animal classes up in the correct evolutionary order and plotted the mean intelligence scores**, which you can see in this figure right here.



When we look at the group differences after truncating the data, the animal classes pool into three groups, $F(6, 293) = 12.67, p < .001, \eta^2 = .206$. This effect size is very large. The **sea animals, fish, amphibians, and reptiles show similar intelligence** scores, $p = .145$, while **insects, mammals, and birds**, $p = .991$, show the highest intelligence scores, $ps < .001$. **Reptiles land right in the middle** with no statistical differences between all animal classes except for birds, $p = .017$. Let's look at some R^2 values, which measure **the ability of one variable (intelligence) to explain why the scores on the other variables (animal behavior) occur in the pattern they do**. Suppose we have an R^2 of 0% then the two variables are entirely unrelated; if we have an R^2 of 100% then it means that every score on one variable corresponds exactly to a score on the other variable **without any deviations**. When we run a regression model (to check the shape of the relationship), we find that the linear regression explained an extraordinary degree of variability, $F(1, 298) = 54.09, p < .001, R^2 = 15.36\%$. However, when we fit the cubic model, the explained variability

shoots to a **whopping 20%**, $F(3,296) = 25.28, p < .001, R^2 = 20.40\%$. **This cubic relationship is the same one we have seen in many other places in *The Show of Existence***. To see it here in intelligence echoes a profound truth that **we follow the same universal principles that govern existence**. We are the same dance of definedness that everything else is, from math to planets, to the origins of existence… it's all the same…

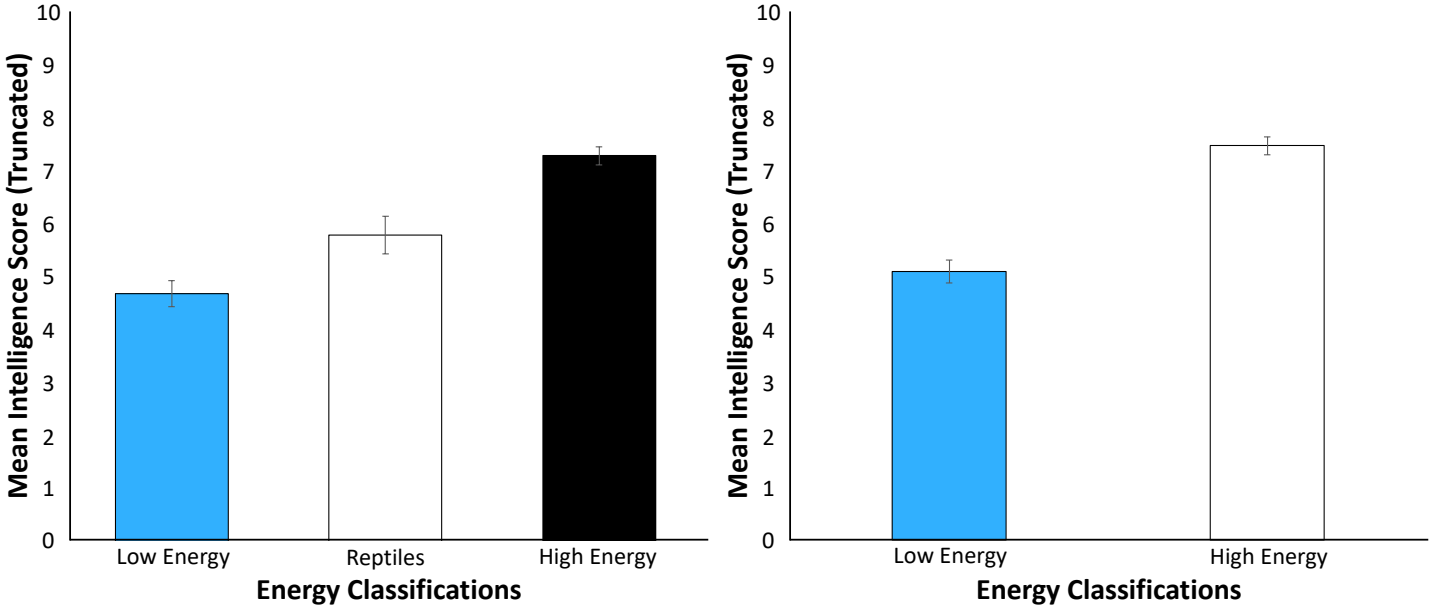
The intelligence variables explain 20% of variability across the animal kingdom behaviors, all $850+$ species. This degree of explained variability across the entire animal kingdom for a variable that is not a basic need like hunger, sex, thirst, or belonging is absolutely shocking. Think about what we are witnessing here: a **single behavioral variable accounting for one-fifth of all behavioral variance across nearly a thousand species spanning every major branch of the animal kingdom**. We are not talking about obvious biological universals that every creature needs to survive—we are talking about intelligence, something so complex and seemingly species-specific that **science has never been able to measure it consistently across different forms of life**. Yet, here it is, following the same recursive-propagative pattern that governs quantum mechanics, stellar formation, and the structure of consciousness itself. The universe isn't just consistent—**it's relentlessly, beautifully, mathematically consistent at every scale**, from the smallest particle to the most complex living systems.



One of the most shocking aspects of this study that emerged totally naturally was that after I started to examine the data for basic analyses, I went **to simply plot a histogram** of the intelligence scores just to see how it distributed. We noticed that in each animal class, the intelligence scores all appeared normally distributed, so when this figure emerged, my immediate thought was "**Oh no… I messed up the ratings**" because it looks like I had avoided fives for some reason. But… then I remember, if we call back to Paper 3: The Harmonics of Existence: Solving the Collatz Conjecture & Recursive Systems, **we find convergence and divergence zones in recursive number sequences**. So, I thought… oh… maybe the same thing is happening here. I went back to how the animal classes pooled together naturally with sea animals, fish, amphibians, and reptiles grouping together and separately from insects, mammals, and birds. **What do these groups have in common that can explain what is happening?** These distributions are not smooth–they have bumps.

What emerged was mind-blowing. **The grouping was not random**—it was metabolic and evolutionary. **Sea animals, reptiles, fish, and amphibians are all cold-blooded (ectothermic),** while **insects, mammals, and birds are warm-blooded or have sophisticated thermoregulatory systems that allow for consistent, high-energy cognitive processing.** Cold-blooded animals depend on environmental temperature to regulate their metabolism, which fundamentally constrains the energy available for complex, intelligent behaviors. Warm-blooded animals,

by contrast, can maintain the consistent, high-energy neural activity required for sustained environmental engagement and influence. The fact that **this complete evolutionary progression—from low energy to high energy—emerged naturally from the intelligence scores completely independently** suggests we are not just measuring intellectual complexity. We have inadvertently **mapped the major cognitive leaps that drove evolutionary progress**. The universe's self-organizational principles are so consistent that measuring intelligence as environmental engagement revealed **the evolutionary pathway that made complex intelligence possible**.



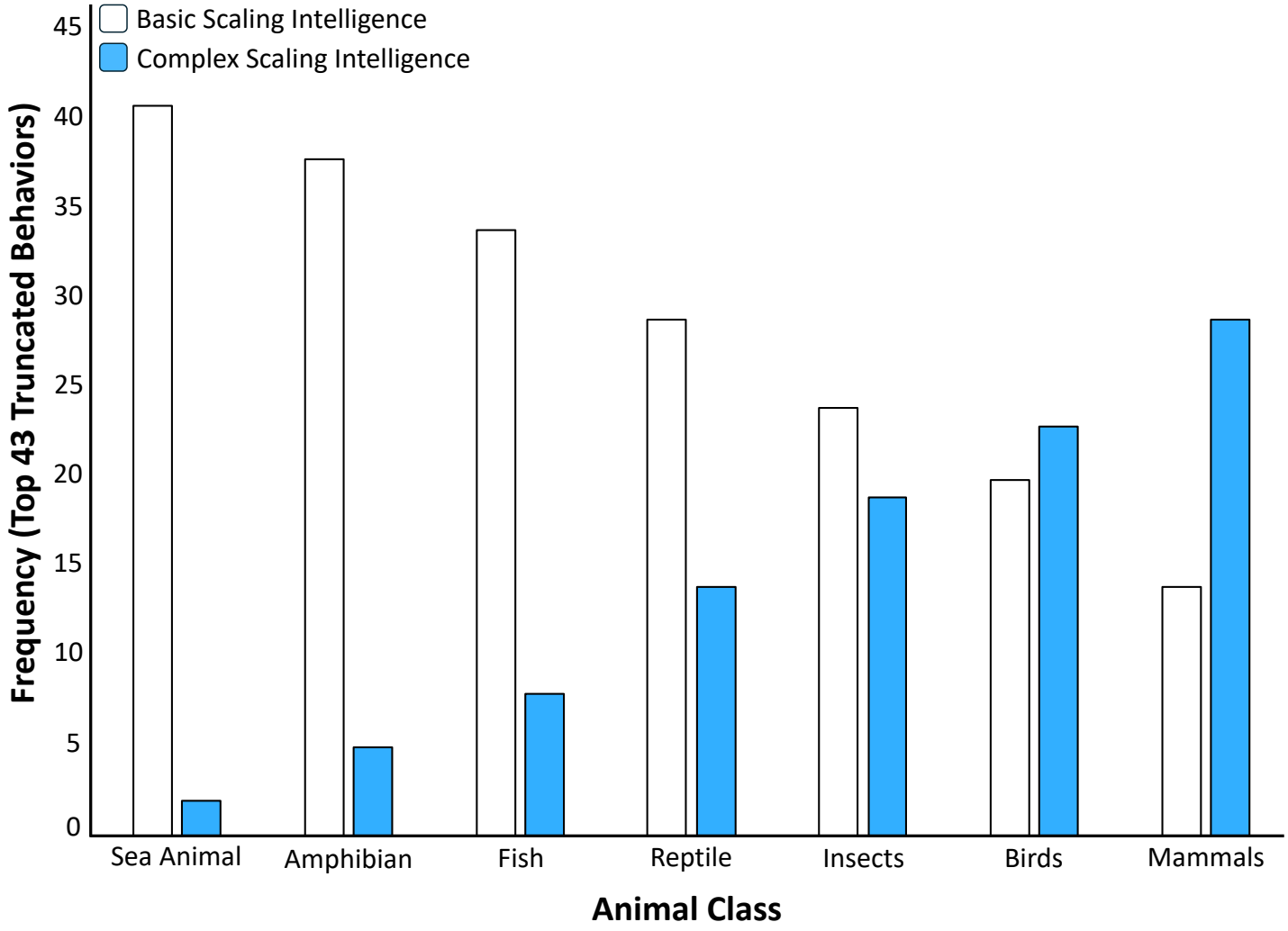
The metabolic divide becomes even more striking when we examine intelligence scores across energy classifications. **The three-group analysis (low energy, reptiles, high energy) reveals massive differences**, $F(2,298) = 36.35, p < .001, \eta^2 = .197$, with energy metabolism **explaining $\sim$20% of the variance in intelligence scores across the entire animal kingdom**. This finding is extraordinary—a single metabolic characteristic accounts for one-fifth of all intelligence variation across nearly 850+ species. **The two-group comparison (combining low and high energy animals) shows the same effect**, $F(2, 298) = 65.43, p < .001, \eta^2 = .180$, demonstrating that the fundamental **cold-blooded versus warm-blooded distinction may explain cognitive capacity**.

What we are witnessing is profound validation that **intelligence is not just about brain structure or neural complexity**—it is fundamentally **constrained by energy use capacity**. Cold-blooded animals, regardless of their evolutionary sophistication, hit a metabolic ceiling that limits sustained intellectual behaviors. Warm-blooded animals broke through this barrier, achieving the consistent energy output necessary for complex environmental engagement. **This finding may explain our extraordinary intelligence compared to other animals.**

These findings reveal two groundbreaking patterns that fundamentally reshape our understanding of intelligence across the animal kingdom. First, **scaling intelligence operates through a bimodal distribution**, with **basic scaling intelligence (scores 1-4)** and **complex scaling intelligence (scores 6-10)** representing functionally distinct modes. Second, animal classes **cluster into metabolically driven intelligence groups**, with energy production capacity serving as the primary determinant of intellectual potential. But here's the crucial question: **do these two discoveries interact with each other?** Let's think about this interaction carefully…

If metabolic capacity drives scaling intelligence, and intelligence operates through distinct basic versus complex forms, then we should see systematic differences in how animal classes balance these two intellectual behaviors. **Cold-blooded animals, constrained by metabolic limitations, should rely more heavily on basic scaling intelligence, while warm-blooded animals with abundant energy should demonstrate higher ratios of complex scaling intelligence**. To test this interaction, we can examine the distribution of basic versus complex scaling

intelligence across animal classes. If our hypothesis is correct, **the ratio of basic to complex intelligence scaling should correspond to the evolutionary and energetic hierarchy we already identified, providing validation** that we are measuring the architecture that emerges from metabolism, evolution, and intelligence scaling.



We Did Not Invent Intelligence–We Are Intelligence

Look at this figure and witness evolution itself unfolding before your eyes. **What we are seeing is the entire story of life on Earth told through the language of scaling intelligence**. Sea animals and amphibians are almost entirely locked into basic scaling intelligence, **their metabolic constraints creating a scaling ceiling that prevents access to complex intellectual processing**. These ancient lineages, the foundational forms of vertebrate life, remain trapped in the energetic basement of environmental engagement and influence.

The reason basic scaling intelligence diminishes as complex scaling intelligence increases comes from the recursive nature of existence itself. **As complex scaling emerges, it does not simply add to basic scaling intelligence—it transforms it**. The basic patterns become embedded within more sophisticated behaviors that enact the original scaling behavior and extend it. The foundational intelligence scaling does not disappear; instead, **it becomes the substrate for increasingly complex behaviors** that build upon and transcend the original patterns.

Yet, something extraordinary happened in evolutionary history. **As we move from cold-blooded to warm-blooded animals, we witness the great intellectual revolution playing out in real time**. Fish show the first glimmers of complex intelligence scaling, a tiny blue sliver suggesting the metabolic breakthrough was beginning. Reptiles achieve a more substantial balance, their terrestrial mastery requiring new forms of environmental

influence. Insects—those brilliant outliers with their alien neural architectures—demonstrate that convergent evolution found alternative pathways to complex intelligence through distributed processing systems.

Then we reach the summit: **birds and mammals, the intellectual titans of the animal kingdom**. Look closely at their profiles—they tell different stories from the other animals. **Mammals and birds have achieved more complex scaling behaviors than basic ones**; they are masters of adaptive flexibility. What we are witnessing is nothing less than the universe's experiment in life and agency—**4 billion years of recursive-propagative intelligence scaling**, from the first neural networks processing simple environmental signals to the sophisticated cognitive architectures that can contemplate their existence. **We just witnessed the cosmos learning to think, one evolutionary leap at a time**. Yet, somehow, impossibly, beautifully—we measured it all with numbers.

The Big Picture

What a sight to see, huh? It seems that IQ tests do measure what they claim to be measuring—I do not want to take that away from them. **The problem is that what they are measuring simply is not intelligence**; it is a narrow slice of it. **IQ tests are more accurately described as Western-oriented human cognitive processing assessments**. They are excellent at what they do, but do they measure accurate intelligence? **Not really, deep down, we all know it.** Intelligence is a scalable structure for environmental engagement and influence that operates across all agents—**from the simplest organisms to the most complex… from every animal to you and me.**

There's no rational reason to believe that animals lack intelligence while we possess it exclusively. **Why would we be the singular exception in a universe governed by consistent patterns?** We would not be an exception, and this paper shows we did not create intelligence from nothing—**we inherited it from every form of life that came before us**, each generation building on the last in an unbroken chain of growth stretching back *billions* of years. Instead of feeling diminished by our kinship with animals, **we should recognize two profound truths**:

First, **we belong**. We are not alien visitors to this planet or cosmic accidents floating in isolation. We are part of the magnificent tapestry of life, connected to every creature that has ever scaled intelligence before us. This shared heritage does not diminish our achievements—it reveals them as the culmination of an epic collaboration spanning time. Second, **we are genuinely special**, but not in the way we thought. Special does not mean excluded from natural law or exempt from the patterns that govern existence. It means we were given the same fundamental opportunities as every other form of life, **and we—as a species—have scaled intelligence to levels that would have seemed impossible to our ancestors**. We found mathematics, composed symphonies, built technologies, mapped the cosmos, and unraveled the very equations that govern reality itself.

We should be incredibly proud of this achievement. Right now, our species is solving the deepest mysteries that have puzzled humanity for millennia. Yes, I am writing these papers, **but they exist because of the countless generations who developed the tools, frameworks, and knowledge that made them possible**. This paper is not *my* intellectual triumph—it is our collective turning point as a species, finally understanding our place in the cosmic story. By developing a framework that captures intelligence through environmental interaction, **we have made the invisible visible**. We are not just measuring another basic function; we are revealing a fundamental property of existence that was hidden in plain sight, waiting for the right mathematical lens to bring it into focus.

Now, for the first time in human history, **intelligence is measurable and universal**–no longer clouded by obscurities and complications. We **saw today that the human-centric, anthropomorphic definition of intelligence that excludes most of the thinking, adapting, and problem-solving life on this planet is incomplete**. We have found intelligence in all its beautiful breadth and variations across the animal kingdom, and it has been everywhere… all along, **waiting for us to develop the mathematical eyes to see its beautiful parade–its dance throughout time**. Welcome to the universe where elements become stars, stars become planets, planets become life, and life becomes the cosmos thinking about itself. Intelligence is not the exception in the universe—it is the rule. **We are just finally smart enough to see it**.

P.S. I wanted to share something special that emerged during this research—a discovery that never quite fit into the main paper but feels too fascinating to omit. Consider this bonus content that reveals just how deep these patterns run. I call it the Fractal Media Theory.

Fractal Media Theory

A profound insight emerged during my pattern recognition work as I searched for phenomena that would either support or challenge *The Theory of Existence*. Among the patterns I investigated was the Golden Ratio, which appears throughout nature and serves as a fundamental constant in *The Theory*. However, my methodology began revealing Golden Ratio emergence in domains where we would never expect to find it. What I discovered was remarkable: **our cultural preferences for media lengths—from ultra-short TikTok clips to multi-generational television series—follow fractal patterns based on powers of the golden ratio (φ) and its square (φ^2).**

Starting with the typical 15-second TikTok video and scaling up through brief YouTube videos, TV episodes, movies, seasons, and entire series, each media length corresponds to specific mathematical relationships involving ϕ. The margins of error are remarkably tight, often under 1%, suggesting this finding is not coincidental but reflects something fundamental about how we naturally structure temporal experiences. Even though these media lengths likely evolved from practical and audience-driven decisions rather than deliberate design, **the persistent appearance of Golden Ratio relationships across all scales is statistically extraordinary**. It hints that our preferences themselves emerge from the same mathematical principles governing all existence.

Table 3

Media Lengths with Fractal Scaling Factors

Media Type	Scaling	Calculation	Median Runtime	Error
TikTok Video	-	-	15 Seconds	-
Brief YouTube Video	x^2	15 Seconds * 15 Seconds =	4 Minutes (240 Seconds)	~3.30%
YouTube Video / Short Film	x^2	240 Seconds * 240 Seconds =	16 Minutes	~0.00%
TV Show Episode	$x*\phi^2$	16 Minutes * 2.618 =	42 Minutes	~0.27%
Movie	$x*\phi^2$	42 Minutes * 2.618 =	~110 Minutes	~0.04%
Extended Movie	$x*\phi$	110 Minutes * 1.618 =	~178 Minutes	~0.01%
Season	x*11	42 Minutes * 11 Episodes =	11 Episodes	~0.00%
Full Series	$x*\phi^2$	11 Episodes * 2.618 =	2.62 Seasons	~0.00%
Extended Series	$x*\phi^2$	2.62 Seasons * 2.618 =	~6.85 Seasons	~0.00%
Generational Series	$x*\phi$	6.85 Seasons * 1.618	~11 Seasons	~0.73%
Multi-Generational Series	$x*\phi^2$	11 Seasons * 2.618	~30 seasons	~4.20%

Note. Estimations show consistent scaling across media lengths with minimal deviations.

Each progression uses multiplication by either φ or φ^2, creating a mathematical ladder that scales from seconds to decades of content. The computed values fall within tiny margins of the ideal values determined by these constants—often under 1% deviation—**providing compelling evidence of a recursive, self-similar scaling law governing human media preferences**. What makes this discovery particularly striking is that these media lengths emerged from practical considerations and audience psychology rather than deliberate mathematical design. Yet… **the persistent appearance of the Golden Ratio across every scale is statistically extraordinary**.

Our choices about how long stories should be, how much content feels satisfying, and what temporal rhythms resonate with human experience all emerge from the same recursive propagations that shape reality itself. We are not separate from the mathematical principles governing existence—**we ARE their conscious expression**, creating media that naturally conforms to the golden harmonies embedded in the structure of reality. **It's almost like the universe is fractal and we are part of the universe, isn't it? ;P**

Table 4

Universal Intelligence Scores

Behavior	Rating	Scaling Type
Attending	10	Complex
Competing for Dominance	10	Complex
Dancing	10	Complex
Disturbing Another Animal	10	Complex
Getting Bullied	10	Complex
Having a Flehmen Response	10	Complex
Holding Hands	10	Complex
Hugging	10	Complex
Performing Sexual Display	10	Complex
Playing	10	Complex
Sharing Food	10	Complex
Showing Affection	10	Complex
Building nest	9	Complex
Camouflaging	9	Complex
Carrying	9	Complex
Carrying in Mouth	9	Complex
Digging	9	Complex
Entering Nest	9	Complex
Exiting Nest	9	Complex
Exploring	9	Complex
Manipulating Object	9	Complex
Pounding	9	Complex
Pulling	9	Complex
Sleeping in Nest	9	Complex
Exiting Cocoon	8	Complex
Giving Birth	8	Complex
Hatching	8	Complex
Laying Eggs	8	Complex
Performing Copulatory Mounting	8	Complex
Performing Sexual Exploration	8	Complex
Performing Sexual Pursuit	8	Complex
Undergoing Chrysalis	8	Complex
Unmounting	8	Complex
Grooming	7	Complex
Molting	7	Complex
Performing Allo-Grooming	7	Complex
Performing Allo-Preening	7	Complex
Preening	7	Complex
Rubbing its Head	7	Complex
Shaking	7	Complex
Shaking Head	7	Complex
Washing	7	Complex
Attacking	6	Complex
Biting	6	Complex
Chasing	6	Complex
Detaching a Parasite	6	Complex
Fighting	6	Complex
Pecking	6	Complex
Playing Dead	6	Complex
Preying	6	Complex
Rattling	6	Complex
Retaliating	6	Complex

Retreating	6	Complex
Spitting Venom	6	Complex
Wrapping itself Around Prey	6	Complex
Wrapping Prey	6	Complex
Dancing on Water	5	-
Running on Water	5	-
Swimming In Circles	5	-
Walking on Water	5	-
Abseiling	4	Basic
Climbing	4	Basic
Coiling	4	Basic
Diving	4	Basic
Doing a Back Kick	4	Basic
Doing a Backward Tilt	4	Basic
Doing a Chin Dip	4	Basic
Doing a Face Dip	4	Basic
Doing a Neck Raise	4	Basic
Doing a Side Tilt	4	Basic
Doing Push Up	4	Basic
Doing Somersault	4	Basic
Flying	4	Basic
Gliding	4	Basic
Hanging	4	Basic
Hopping	4	Basic
Jumping	4	Basic
Landing	4	Basic
Rolling	4	Basic
Running	4	Basic
Surfacing	4	Basic
Swimming	4	Basic
Swinging	4	Basic
Walking	4	Basic
Defensive Rearing	3	Basic
Displaying Defensive Pose	3	Basic
Drinking	3	Basic
Eating	3	Basic
Escaping	3	Basic
Fleeing	3	Basic
Giving Off Light	3	Basic
Licking	3	Basic
Lying on Top	3	Basic
Puffing its Throat	3	Basic
Sensing	3	Basic
Spitting	3	Basic
Spreading	3	Basic
Spreading Wings	3	Basic
Standing in Alert	3	Basic
Startled	3	Basic
Stinging	3	Basic
Struggling	3	Basic
Unrolling	3	Basic
Waving	3	Basic
Barking	2	Basic
Calling	2	Basic
Chirping	2	Basic
Defecating	2	Basic

Drifting	2	Basic
Falling	2	Basic
Flapping	2	Basic
Flapping its Ears	2	Basic
Flapping Tail	2	Basic
Gasping for Air	2	Basic
Hissing	2	Basic
Leaning	2	Basic
Moving	2	Basic
Panting	2	Basic
Sinking	2	Basic
Squatting	2	Basic
Swaying	2	Basic
Tail Swishing	2	Basic
Turning Around	2	Basic
Urinating	2	Basic
Yawning	2	Basic
Being Carried	1	Basic
Being Carried in Mouth	1	Basic
Being Dragged	1	Basic
Being Eaten	1	Basic
Dead	1	Basic
Dying	1	Basic
Immobilized	1	Basic
Keeping still	1	Basic
Lying Down	1	Basic
Lying on its side	1	Basic
Resting	1	Basic
Sitting	1	Basic
Sleeping	1	Basic
Standing	1	Basic
Trapped	1	Basic

Note. 456 behavioral ratings for the redefinition of intelligence. I removed duplicate behaviors for streamlining.