

## Learn, Lie, Rinse, Repeat

This installation explores the human need to understand, particularly what happens when we do not understand something. We immediately enter an uncomfortable state of confusion; so desperate to leave this disposition of uncertainty, we become willing to accept any answer to our question. Our need to comprehend overpowers any demand for the solution to be factually sound and results in the human mind latching on to an explanation that could be entirely arbitrary. In my work, I call this resolution a *placeholder*: an excuse we use to explain something we do not understand. I investigated this notion of how humans conceptualize knowledge through the lens of how humans conceptualize dinosaurs. My research explores how paleontologists' quick assumptions and underdeveloped research has infiltrated the public eye to create widespread misinformed dinosaur stereotypes. Not only is this model flawed, but society has also latched on to this representation as "fact" and, in turn, people have closed their minds to any information that challenges what they might already "know." I wanted to see how far I could push this image of abstracted dinosaurs and got to work designing the *stegopod*: a fake dinosaur.

I chose to present my "findings" in the form of a museum exhibition, typically a place one goes in search of factual information. Here, the viewer will find a collection of work surrounding the study of stegopods, an artificial genus of sauropod that features the back plates and tail spikes of a stegosaurus and the skull design of a hadrosaur. I chose these particular dinosaurs as inspiration because they have all been discovered in similar parts of North America. Provided with the proper misjudgment, paleontologists could have feasibly created the stegopod. Using a multimedia approach to communicate a museum setting, I contrasted the professional imagery with child-like aspects seen in the coloring book and the toy dinosaur model; I included these pieces because most dinosaur media is catered toward children. Of course, the world of dinosaurs is only one of countless placeholders in our daily lives. My work is intended to make the viewer reconsider what placeholders they have chosen to believe.

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Phoebe Defends Dinosaurs  
Because They're Too Dead To  
Defend Themselves:  
A Research Paper

Phoebe D.



“You mean old books?”

“Stories written before space travel but about space travel.”

“How could there have been stories about space travel before –”

“The writers,” Pris said, “made it up.”

— Philip K. Dick, *Do Androids Dream of Electric Sheep?*

## Part 1: Placeholders: A Working Title

Epistemology is a term that refers to various theories surrounding the concept of knowledge. The field encourages us to question what we know about our human experience, how we know it, and most importantly: if we really know it. It forces us to reconsider how we understand reality. When philosopher René Descartes was trying to answer these profound questions, he came to the famous conclusion: “I think, therefore I am.” He implies that the only things we can be certain of –the only things we can prove exist– are our own minds. His philosophy forces us into imagining a world occupied only by our own consciousness: a world in which there is no world. This terrifying perspective would imply that nothing we thought we knew about reality is certain. However, it could also be liberating, allowing us to see things we would normally place too much importance on for what they really are, or rather, are not. So in a universe where nothing exists, where do humans come in? and what good do they serve?

In Aristotle’s *Nicomachean Ethics*, he claims that “to discover the human good we must identify the function of a human being.” He argues that the human function is rational activity (Korsgaard, 2008). In epistemological terms, this “rational activity” is all we are, our own mind. It is the only tool we have available to make sense of the world around us. This principle applies to humanity as a whole: the way that we understand knowledge directly correlates to the overall function of humanity.

What we know about each other will influence how we interact with one another. Fear has immense impact on what we know, if we are afraid of something we will create a mental block that prevents us from learning about it. A fear of the unknown is what controls our world. We see this phenomenon everywhere, from widespread xenophobia to issues with anxiety to a general belief in things that are plainly inaccurate. “Fear that was an adaptation to our original environment becomes dysfunctional in modern life,” (Olsson, 2014). Instead of greeting things we do not understand with curiosity, we encounter unfamiliar subjects armed and afraid. Our society has become violent because of this, ready to pounce on anyone or anything we consider alien. When this process manifests in large groups of people, it creates social threats and molds values into the public eye. Often seen as an “ancient survival instinct” this approach is outdated, often causing more harm than good.

This process begins when we do not understand something. We immediately enter an uncomfortable period of confusion, in this state we are vulnerable. We become willing to accept any answer to our question, just to escape this disposition of uncertainty. Our desperate need to comprehend overpowers any demand for the answer to be factually sound and results in the human mind latching on to an explanation that could have easily been made up. Here is where we find the concept of an old wives tale, a supposed truth based entirely on word of mouth.

These explanations are duct tape on a leaking water pipe; they are temporary solutions to much deeper problems. I refer to these “answers” as *placeholders*. A placeholder is an excuse we

use to explain something we do not understand. When we become attached to certain placeholders, we close our minds to other possible ways of thinking. We begin to create things to explain what we do not understand, these things can come in the form of religion, karma, superstitions, even outdated science and medicine. All to attempt to prove the existence of things beyond our own mind.

*“Today we live in a society in which spurious realities are manufactured by the media, by governments, by big corporations, by religious groups, political groups... So I ask, in my writing, What is real? Because unceasingly we are bombarded with pseudo-realities manufactured by very sophisticated people using very sophisticated electronic mechanisms. I do not distrust their motives; I distrust their power. They have a lot of it. And it is an astonishing power: that of creating whole universes, universes of the mind. I ought to know. I do the same thing.”*

— Philip K. Dick

Our explicit knowledge, what we can prove for sure, is contained by the present moment. We can predict the events of the recent past or near future with decent accuracy, however, once we begin to reach too far into the future, our narrative has leeway to become increasingly abstract. The same is true for predicting the ancient past. At a certain point, humans can start making things up. As Philip K. Dick notes, we see this predominantly in Science Fiction genres: a hypothetical narrative of the future can be used to express a certain message about our present.

Dick also remarks on the “manufactured realities” of the world around us, the placeholders. What is most interesting, is when these two worlds intersect: when humans latch on to the worlds of science fiction the same way they latch on to an old wives tale: to accept it as fact.

## Part 2: Dinosaurs: The Birds of Christmas Past

To see this concept more clearly, picture a dinosaur. It is quite likely that the image of a dinosaur that you have in your mind is oddly similar to the one of the person next to you.<sup>1</sup> How is it that this particular picture of a dinosaur has infiltrated the public eye so clearly?

When Philadelphia Naturalists began to arrange the large bones they discovered into a full skeleton, they started by creating something familiar, something that looked like the greatest thing they could think of: an elephant. They called their creation the *mastodon*<sup>2</sup>, which included features like enormous claws (belonging to a giant sloth), enormous size (six times its actual proportions), and enormous speed (comparable to that of a tiger); essentially the “big bad wolf in grandma’s clothing” of a woolly mammoth. This mastodon was simply a rough draft, a placeholder until we could figure out what these bones really belonged to. The most shocking and prevalent conclusion that came out of this process was the fact that this animal—did not exist.

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<sup>1</sup> Perhaps a striking Tyrannosaurus-Rex, huge and reptilian with alarming teeth dripping with saliva and ready to attack, able to demolish a human in a single bite.

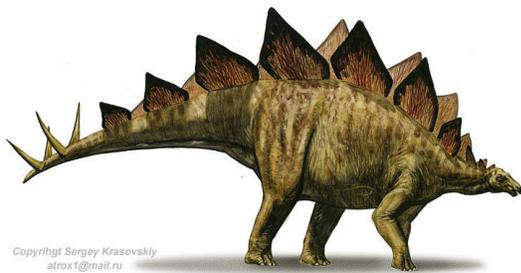
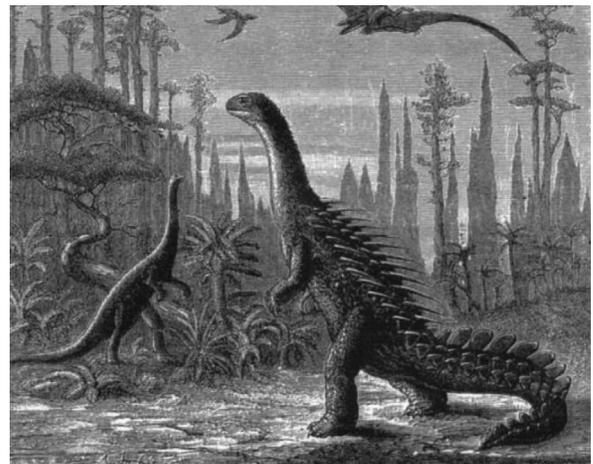
<sup>2</sup> Meaning “nipple-teeth”



In his paper *Note on the Species of Living and Fossil Elephants*, Georges Cuvier, a French aristocrat with particular paleontology skills<sup>3</sup>, proposed the first formal theory of extinction—and he was right, it is hypothesized that 99 percent of all species that have ever existed on Earth are now extinct. Right here is what’s most interesting: with the addition of this new, contrasting information we are given the opportunity to observe how people react to knowledge that challenges their previous beliefs. For them to accept Cuvier’s facts, it would require them to rethink everything that they previously “knew,” and at the

time, that information was primarily sourced from religion. Religion was how they were used to explaining the world around them, it was their placeholder. The most challenging part about placeholders is letting go of them, letting something actually take the place of the placeholder. To do this, you must enter a period of uncertainty where your understanding of the world is temporarily inadequate, you are vulnerable. Thomas Jefferson felt this ambivalence and decided that to avoid it, he must prove Cuvier wrong. This led to the historical event known as Lewis and Clarke’s expedition of the Mississippi, also known as the great search for living mastodons.

The notion of the mastodon was not the last time Paleontologists made some bold assumptions that were presented as facts. Other early interpretations of dinosaurs were equally ridiculous, the stegosaurus, for example, has been gifted a generous makeover since Othniel Charles Marsh’s first description of the fossils found in Como Bluff, Wyoming. O.C Marsh’s stegosaurus (right) was bipedal and featured an extra brain at the base of their tail, as they clearly did not have enough brain space in the tiny skull they found. A 1914 interpretation abandoned the back plates altogether, covering the poor thing in tail spikes, the part of the dinosaur known as the “thagomizer.” A modern stegosaurus interpretation is theorized to have plates all down its back and a thagomizer at the very end of its tail (right).



Almost every easily recognizable dinosaur<sup>4</sup> was discovered by one of two men during the 19th century (Bryson, 2003). This includes the same O.C. Marsh who patented the butt brain in the stegosaurus, and his contemporary, a man named Edward Drinker Cope. These two shared countless similarities, both incredibly rude and incredibly rich, having way too much time on their hands.

<sup>3</sup> His favorite party trick was being able to take the tooth of any animal (extinct or living) and predict the size, age, appearance, and diet with great accuracy.

<sup>4</sup> Stegosaurus, brontosaurus, triceratops, etc.

They started out as close friends, the pair even named certain fossil species after each other (n.d.). It later came out that something had happened between them, sparking a lifelong vendetta. While no one is quite sure what it was that broke their bond, it is speculated that Marsh incessantly mocked Cope after having accidentally put the skull on the wrong end of the *Elasmosaurus*. Another theory is that Cope had tipped off a school teacher one hundred dollars—an absurdly large amount for the time period and the reason: for him to send all his fossil samples to him and not to Marsh. This marked the beginning of what would become known as The Bone Wars, a great competition in which these two individuals devoted their lives to discovering more dinosaurs than the other. Through this endeavor, they together increased the number of described dinosaur species from 9 to nearly 150. Present day, they have discovered over 45 percent of all known dinosaurs.

Unfortunately, in their hasty search for great quantities of dinosaurs, the two greatly neglected the quality of their descriptions. Countless mistakes were made, many of which spread to the general public's knowledge and people to this day, are walking around with their heads full of false information. The public wants an understanding of things and when the scientific community releases its best guess as concrete fact, we immediately hold on to it with no regard to how developed the research is or how many assumptions scientists have made too soon. When NASA was forced to redefine Pluto as a planet because of the amount of backlash that came with the original change in definition in 2006, it is revealed how fragile we have let our knowledge bases become.

Cope and Marsh may have been the founder of the placeholder dinosaur of our imaginations, but even with their countless scientific journals, there is no way these two men alone could have popularized the idea to the extent that we see it today. That credit goes to the first wave of artists and storytellers to read the descriptions that came out of The Bone Wars and make their own interpretations based off of them. Suddenly, every image of a *Stegosaurus* has the plates in the same place, every *Sauropod* is depicted underwater, and we have this huge collection of dinosaur culture that monotonously resembles the same widespread descriptions (see images). It is because they are so common that people have stopped questioning their accuracy.

The topic of dinosaurs has become less about their historical correctness and more about their abstracted brand that has been popularized by the media. This is the reason that Steven Spielberg and the creators of *Jurassic Park*, with the continuation of the franchise, have decided NOT to update the accuracy of their dinosaurs in the upcoming *Jurassic World* movies. In an interview with NPR, Jack Horner, the advising Paleontologist on the films, remarks, “I think the thing that really interests kids and anyone. What



dinosaurs actually do for people. First off, they're gigantic. A T-Rex is 40 feet long. Some of these big sauropods are 100 feet long. They're just enormous animals, and they're different than anything that's alive today. Completely different. There's no animal alive today that looks like a dinosaur. And they're gone. They're just these gigantic imagination engines, especially for little kids.” Unlike the accidental mistakes

spread by artists after *The Bone Wars*, the film's creators knew exactly what they were doing. They have curated this disgustingly altered image to please the public.



Not only do we see this dinosaur stereotype everywhere from children's books to cartoons, cereal boxes, and even bed sheets. It is this type of carelessness put into the story we popularize that has created leeway for people to build off of this reconstructed dinosaur narrative. People begin to feel as though they can get away with anything and most of the time—they can. Pictured left is a plush toy advertised as a dinosaur that was being sold in a Safeway grocery store in Phoenix, Arizona as of last week. This is—and I hate to break it to you—not a dinosaur. There is no such thing as a ceratops that is also bipedal, so this right here—is a fake dinosaur. Some may say that is just their interpretation of a Triceratops, but mind you, the store stocked a much more accurate Triceratops alongside this disgusting monstrosity (right).

When creators stop caring about the accuracy of the information they are dispersing, so do you, the consumer. This particular process of misinformation is toxic, partially because it does not seem harmful or intentional. It creates the illusion of fact which gives humans the feeling of comfort, and humans will do anything to maintain their comfort, even if it means believing in lies.

For years people believed that giant Sauropods lived their lives partially submerged in water for they would simply be “too big to hold their own weight on land.” People never

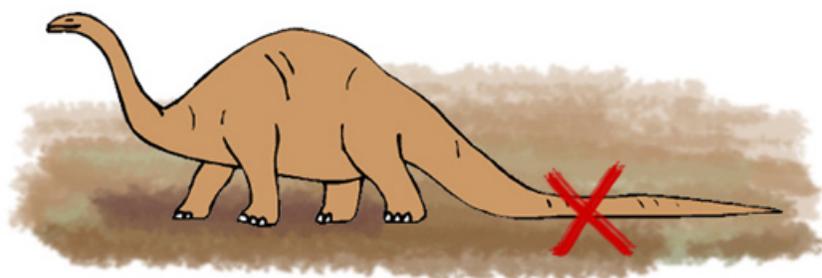


questioned this logic until someone pointed out that they could not live under water for the same reason, they would be so large that when partially submerged, their lungs would collapse from the water pressure. On a more intuitive note, we have found their fossilized footprints on land, giving them no reason to live anywhere else. Another popular dinosaur myth was that, like many have dragged their tails on

modern reptiles, dinosaurs must the ground. This was later disproved when scientists took a closer look at the anatomy that would be required for that type of movement and realized that dinosaurs physically could not have dragged their tails. Along with the fact that we have discovered countless dinosaur footprints and not a single tail mark. It is this neglect of critical thinking towards information we assume is correct, that allows for mistakes like these. If we believe that we already know something, then we are far less likely to come back and question its legitimacy. Issues arise when the information we thought we “knew” is given to us by an unreliable source, like a plush toy in a grocery store.



So how would one avoid this haunting notion that no information they know can be fully accurate? I would propose that the solution is much easier said than done, one must free themselves from fear. When the unknown does not terrify the thinker, when the thinker *embraces* the unknown, they become unstoppable. A whole world of knowledge is unlocked and there is nothing stopping you from learning all you can and searching for more. No idea is too ambitious, no story is outlandish, no explanation is simple, no word is final.



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