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MEG; A Novel of Deep Terror

by *N.Y. Times* Best-selling author

Steve Alten



MEGALODON

Late Cretaceous Period, 70 Million Years Ago

The Coast of the Asiamerica-Northern Landmass (Pacific Ocean)

From the moment the early morning fog had begun to lift, they sensed they were being watched. The herd of Shantungosaurus had been grazing along the misty shoreline all morning. Measuring more than forty feet from their duckbilled heads to the end of their tails, these reptiles, the largest of the Hadrosars, gorged themselves on the abundant supply of kelp and

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seaweed that continued to wash up along the shoreline with the incoming tide. Every few moments, the Hadrosaurs raised their heads nervously like a herd of deer, listening to the noises of the nearby forest. They watched the dark trees and thick vegetation for movement, ready to run at the first sign of approach.

Across the beach, hidden among the tall trees and thick undergrowth, a pair of red reptilian eyes followed the herd. The Tyrannosaurus Rex, largest and most lethal of all terrestrial carnivores, stood twenty-two feet above the forest floor. Saliva oozed from its mouth as T-Rex watched, quivering with adrenaline. The two largest duckbills had just ventured out into shallow water, lowering their heads to forage among the thick strains of kelp.

The killer crashed from the trees, his eight tons pounding the sand and shaking the earth with every step. The duckbills rose on their hind legs and scattered in both directions along the beach. The two reptiles in the surf turned to see the carnivore closing on them, jaws wide, fangs bared, its bone-chilling roar drowning the crash of the surf. The pair of Hadrosaurs turned instinctively, plunging into deeper waters to escape. They strained their long necks forward and began to swim, their legs churning to keep their heads above water.

T-Rex plunged in behind them, crashing through the surf and into deeper waters. But as it reared its prey, the T-Rex's feet sank into the muddy sea floor. Unlike the buoyant Hadrosaurs, the thickly-muscled T-Rex could not swim and became hopelessly bogged in the mire.

The Hadrosaurs now swam in thirty feet of water. But having escaped one predator, they now faced another.

The six-foot gray dorsal fin rose slowly from the sea, gliding silently across their path.

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The current created by the creature's sheer mass began pulling the Hadrosaurs into deeper waters. The duckbills panicked at the sudden change. They would take their chances with the Tyrannosaurus. Within the deep waters lurked certain death. They turned, thrashing and paddling frantically until they once again felt the familiar mud beneath their feet.

T-Rex let out a thundering growl. In water to its chest, the predator struggled to keep from sinking farther into the soft sea floor. The duckbills broke in either direction, passing within fifteen yards of the frustrated hunter. The T-Rex lunged at them, snapping its terrible jaws, howling in rage at its fleeing prey. The duckbills bounded through the smaller waves and staggered onto the beach. Collapsing on the warm sand, too exhausted to move, the two Hadrosaurs looked back once more to face their would-be killer.

The Tyrannosaurus could now only hold his huge head a few feet above water. Insane with rage, it slashed its tail wildly in an attempt to free one of its hind legs. Then, all at once, it stopped struggling and stared out to sea. From the dark waters, slicing through the gray fog, the great dorsal fin was approaching.

The T-Rex cocked its head and stood perfectly still, realizing too late that it had wandered into the domain of a superior hunter. For the first and last time in its life, the Tyrannosaurus felt the icy grip of fear.

If the T-Rex was the most terrifying creature ever to walk the earth, then Carcharodon Megalodon was easily Lord and Master of the Sea. The red eyes of the Tyrannosaurus followed the gray dorsal fin, feeling the tug of current caused by the unseen mass circling below. The fin disappeared beneath the muddy waters. T-Rex growled quietly, searching through the haze. The

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towering dorsal fin rose again from the mist, now racing directly for him. The T-Rex roared and struggled, vainly snapping its jaws in futile protest.

From the beach, the two exhausted Hadrosaurs watched as T-Rex was slammed backwards through the ocean with a great whoosh, its huge head disappearing beneath the waves. In a moment the dinosaur surfaced again, wailing in agony as its ribcage was crushed within the jaws of its hunter, a fountain of blood spouting from its mouth.

The mighty Tyrannosaurus Rex vanished beneath the swirling scarlet water. A long moment passed, and the sea remained silent. The Hadrosaurs turned and lumbered toward the trees. Suddenly they turned, cowering at an explosion in the water. Clutching T-Rex in its gargantuan mouth, the sixty-foot shark, nearly three times the size of its prey, burst from the water, its enormous head and muscular upper torso quivering as it fought to remain suspended above the waves. Then, in an incredible display of raw power, the Meg shook the reptile from side to side between nine-inch serrated teeth, spraying pink froths and gouts of gore in every direction. The twenty-ton Megalodon and its mutilated prey crashed back into the sea, sending a great swell of water high into the air around them.

No other scavengers approached the Megalodon as it fed in the tropical waters. It had no mate to share its kill with, no young to feed. The Meg was a companionless creature, territorial by nature. It mated when it must and killed its young when it could, for the only challenge to its reign came from its own kind. It could adapt and survive the natural catastrophes and climatic changes that caused the mass extinctions of the giant reptiles and countless prehistoric mammals. And while its numbers would eventually dwindle, some members of its species might survive,

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isolated from the world of Man, hunting in the darkness of the ocean depths.

THE PROFESSOR

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The Scripps Institute, Anderson Auditorium
La Jolla, California*

"Imagine a Great White shark, fifty to sixty feet in length, weighing close to 40,000 pounds. Can you visualize that?"

Professor Jonas Taylor looked at his audience of just over six hundred and paused for effect. "I find it hard to imagine myself sometimes, but this monster did exist. Its head alone was probably as large as a Dodge Ram pickup. Its jaws could have engulfed and swallowed four grown men whole. And I haven't even mentioned the teeth: razor_sharp, seven to nine inches long, with the serrated edges of a stainless steel steak knife."

The forty_two year old paleontologist knew he had his audience's attention. It had been several years since he had returned to the Institute. Lecturing in front of a nearly sold-out crowd was not something he had anticipated. Jonas knew his theories were controversial, that there were as many critics in the audience as there were supporters. He loosened his collar a little, tried to relax.

"Next slide, please? Ah, here we have an artist's rendition of a six foot diver as

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compared with a sixteen foot Great White and our sixty foot Carcharodon Megalodon. I think this gives you a fairly good idea why scientists refer to the species as the King of all predators."

Jonas reached for the glass of water, took a sip. "Fossilized Megalodon teeth from around the world prove that the species dominated the oceans as long as 70 million years. What's really interesting is that we know that the Megalodon survived the cataclysmic events that occurred about 40 million years ago, when the dinosaurs and most prehistoric species of fish perished. In fact, we have Megalodon teeth that indicate these predators disappeared only 100,000 years ago. From a geological standpoint, that's a tick of the clock."

A twenty_six year old male grad student raised his hand. "Professor Taylor, if these Megalodons were alive 100,000 years ago, why did they become extinct at all?"

Jonas smiled. "That, my friend, is one of the great mysteries in the paleo_world. Some scientists believe that the staple of the Megalodon's diet had once been large, slow moving fish and that they could not adapt to the smaller, swifter species that exist today. Another theory is that falling ocean temperatures contributed to the species' demise."

An elderly man raised his hand from his seat in the first row. Jonas recognized him, a former colleague at Scripps. A former critic.

"Professor Taylor, I think we'd like to hear your theory of the disappearance of *Carcharodon Megalodon*."

Murmurs of approval followed. Jonas loosened his collar a little more. He rarely wore suits, and this eighteen year old wool one had seen better days. "Those of you who know me or follow my work know how my opinions differ from those of most paleontologists. Many in my

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field spend a great deal of time theorizing why a particular species doesn't exist. I prefer to theorize why a seemingly extinct species might exist."

The elderly professor stood. "Sir, are you saying you think Carcharodon Megalodon may still be roaming the oceans?"

Jonas waited for quiet. "No, Professor, I'm simply pointing out that, as scientists, we tend to take a rather negative approach when investigating certain extinct species. For instance, it wasn't long ago that scientists unanimously believed that the Coelacanth, a species of lobe_finned fish that thrived 300 million years ago had been extinct for the last 70 million years. And then, in 1938, a fisherman hauled a living Coelacanth out of the deep ocean waters off South Africa. Now, scientists routinely observe these 'living_fossils' in their natural habitat."

The elderly professor stood up again amid murmurs from the crowd. "Professor Taylor, we're all familiar with the discovery of the Coelacanth, but there's a big difference between a five foot bottom-feeder and a sixty-foot predator!"

Jonas checked his watch, realizing he was running behind schedule. "Yes, professor, I agree, but my point was simply that I prefer to investigate the possibilities of a species survival, rather than find reasons why it became extinct."

"And again, sir, I ask for your opinion regarding Megalodon." More murmurs.

Jonas wiped his brow; Maggie was going to kill him. "Very well. First, I disagree entirely with the theory regarding Megalodon being unable to catch quicker prey. We have learned that the conical or tailfin of the Great White, the modern-day cousin of the Megalodon, is the most efficient design for propelling a body through water. We know the Megs existed

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100,000 years ago. Then, as in now, the predator would have had an abundant supply of slower_moving whales to feed upon.”

"I do, however, agree that the diminishing ocean temperatures affected these creatures. May I have the next slide, please? I'm sorry, one more."

A slide showing several different maps of the planet appeared above. "As we see from these maps, our planet's continental masses are constantly moving as a result of seven major tectonic plates. This map," Jonas pointed to the center diagram, "is how the Earth looked about 40 million years ago, during the Eocene. As we can see, the land mass that would become Antarctica separated from South America at about this time and drifted over the South Pole. When the continents drifted towards the poles, they disrupted the transport of poleward oceanic heat, essentially replacing the heat-retaining water with heat-losing land. As the cooling progressed, the land accumulated snow and ice, which further lowered global temperatures and sea levels. As most of you know, the most important factor controlling the geographical distribution of a marine species is ocean temperature.”

“Now, as the water temperatures dropped, the warmer, tropical currents became top_heavy with salt and began running much deeper. So in essence, the ocean temperatures were cooler along the shallower surface waters, with a tropical current, heavy with salt, running much deeper.”

"Based on the locations of fossilized Meg evidence, we know that Megalodons inhabited warmer tropical seas, perhaps due to the fact that their food sources would have adapted to the drop in ocean temperatures by moving into the deeper, tropical ocean currents as well. We also

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know that *Carcharodon Megalodon* survived beyond the climatic changes that killed off the dinosaurs around 40 million years ago.”

"Now, about two million years ago, our planet experienced its last ice age. As you can see from this diagram, the deeper, tropical currents that had provided a refuge for many marine species was suddenly cut off. As a result, many species of prehistoric fish, including *Carcharodon Megalodon* perished, unable to adapt to the extreme drops in oceanic temperatures."

The professor called out from his seat. "So then, Professor Taylor, you do believe that the *Megalodon* became extinct as a result of climatic changes." The elderly man smiled, satisfied with himself.

"Not exactly. Remember, I said I prefer to theorize on how a species might still exist. About fifteen years ago, I was part of a scientific team that first studied deep_sea trenches. Deep_sea trenches form the 'hadal' zone, an area of the Pacific Ocean about which scientists know virtually nothing. We discovered that these trenches occur at the edges of two oceanic plates, where one plate melts back into the earth by a process called subduction. Inside these trenches, hydrothermal vents spew mineral_rich waters at temperatures that sometimes exceed 700 degrees Fahrenheit. So, in some of the deepest points of the Pacific Ocean, a tropical current of water can run along the very bottom. To our surprise, we discovered that the hydrothermal vents supported new life forms, never before imagined."

A middle_aged woman stood and asked excitedly, "Did you discover a *Megalodon*?"

Jonas smiled and waited for the crowd's laughter to subside. "No, ma'am. But let me

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show you something that was discovered back in 1873 which might be of interest." Jonas pulled a glass case, roughly twice the size of a shoe box from behind the podium. "This is the fossilized tooth of *Carcharodon Megalodon*. Scuba divers and beachcombers have turned up fossilized teeth like this by the thousands. Some are nearly 50 million years old. This particular specimen is special because it's actually not very old. It was recovered by the world's first true oceanic exploration vessel, the British *HMS CHALLENGER*. Can you see these manganese nodules?" Jonas pointed to the black encrustations on the tooth. "Recent analysis of these manganese layers indicated the tooth's owner had been alive during the late Pleistocene or early Holocene periods. In other words, this tooth is a mere 10,000 years old, and it was dredged from the deepest point on the Earth, the Mariana Trench's Challenger Deep."

The crowd erupted.

"Professor! Professor Taylor!" All eyes turned to an Asian_American woman standing in the back of the auditorium. Jonas looked at her, caught off guard by her beauty. Somehow she seemed familiar.

"Yes, go ahead please," said Jonas, motioning his hands for the audience to be quiet.

"Professor, are you saying that the Megalodon may still exist?" Silence. It was the question the audience wanted answered.

"Theoretically, if members of the Megalodon species entered the waters of the Mariana Trench two million years ago, waters that maintain a deep tropical layer as a result of hydrothermal vents, then one could logically say that a branch of the species might have survived. The existence of this 10,000 year old fossil certainly justifies the possibilities."

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"Professor--" A middle_aged man with a young son sitting next to him raised his hand. "If these monsters still exist today, why haven't we seen them?"

"A good question." Jonas paused. A beautiful blonde woman, tan, thirty years old, her figure flawless, was walking down the center aisle. Her classic topaz evening gown managed to expose her long legs. Her escort trailed behind, thirtyish, wearing a ponytail and tuxedo. The pair took the two empty seats reserved in the front row.

Jonas composed himself, waiting for his wife and best-friend to be seated. "Sorry. Your question was why we haven't actually seen a Megalodon, assuming members of the species still exist. First, if a Megalodon did inhabit the deepest waters in the Mariana Trench, it couldn't leave that tropical bottom layer. The Challenger Deep is seven miles down. The water temperature above the warm layer is near freezing. The Meg could never survive the transition through the cold in order to surface."

"It's equally difficult for Megalodon, or any shark for that matter, to leave behind evidence as to their existence, especially in the abyss. Unlike mammals, sharks do not float to the surface when they die as their bodies are inherently heavier than seawater. Their skeletons are composed entirely of cartilage. So unlike dinosaurs and many species of bony fishes, there are no Megalodon bones to leave behind, only their gruesome fossilized teeth."

Jonas caught Maggie's eye and it seemed to burn into his skull. "One other thing about the Mariana Trench. Man has only ventured down to the bottom twice, both expeditions occurring in 1960 and both times in bathyscaphes. That means we simply went straight down and back up again. The reality is, we've never come close to exploring the trench. In fact, we know more

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about many distant galaxies than we do about a 1,550 mile isolated section of the Pacific Ocean, seven miles down."

Jonas looked at Maggie and shrugged. She stood, pointing to her watch.

"You'll have to excuse me, ladies and gentlemen. This lecture has lasted a bit longer than expected__"

"Excuse me Doctor Taylor, one important question." It was the Asian woman again. She seemed perturbed. "Before you began studying these Megalodons, your career was focused entirely on piloting deep-sea submersibles. I'd like to know why, at the peak of your career, you suddenly quit?"

Jonas was taken back by the directness of the question. "I have my reasons." He searched the audience for another raised hand.

"Wait a minute, I need to know," she was standing now, walking into the center aisle. "did you lose your nerve, professor? There had to be a reason professor. You haven't been in a submersible for what? Seven years?"

"What's your name, Miss?"

"Tanaka. Terry Tanaka. I believe you know my father, Masao Tanaka of the Tanaka Oceanographic Institute."

"Yes, of course. In fact, you and I met several years ago on a lecture circuit."

"That's right."

"Well, Terry Tanaka, I can't get into details right now, let's just say I felt I was ready to retire from piloting deep-sea submersibles so I could spend more time researching prehistoric

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species like the Megalodon.” Jonas collected his notes. “Now, if there are no other questions...”

"Dr. Taylor!" A balding man with tiny wire_rim glasses stood in the third row. He had bushy, elfin eyebrows and a tight grin on his face. "Please sir, one last question if I may. As you mentioned, the two manned expeditions to the Mariana Trench occurred in 1960. But Professor, isn't it true that there have been more recent descents into the Challenger Deep?"

Jonas stared at the man. "I'm sorry?"

"You made several dives there yourself."

Jonas was silent. The audience began to murmur.

The man raised his bushy eyebrows, moving his glasses. "Back in 1989, Professor. While you were doing work for the Navy?"

"I'm...not sure I understand." Jonas glanced at his wife.

"You are Professor Jonas Taylor, aren't you?" The man smiled smugly as the audience broke into light laughter.

"Look, I'm sorry, I really must be leaving now. I have another engagement. Thank you all for attending."

A smattering of applause trickled out amid murmurs from the crowd as Jonas Taylor stepped down from the podium. He was quickly approached by students with questions, scientists with theories of their own, and old colleagues desperate to say hello before he left. Jonas shook as many hands as he could, apologizing for having to run.

The pony_tailed man in the tuxedo squeezed his head through the swarming crowd. "Hey Jonas, the car's parked outside. Maggie says we need to leave now."

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Jonas nodded, finished signing a book for an admiring student, then hurried to the exit at the back of the auditorium where his wife Maggie was waiting impatiently.

As he reached the door, he caught a glimpse of Terry Tanaka, looking at him from behind the moving crowd. Her eyes seemed to burn into his as she mouthed the words, "We need to talk." Jonas held up his watch and shrugged. He had enough of the verbal assaults for one night.

As if in response, his wife yelled through the exit door. "Jonas, let's go!"

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