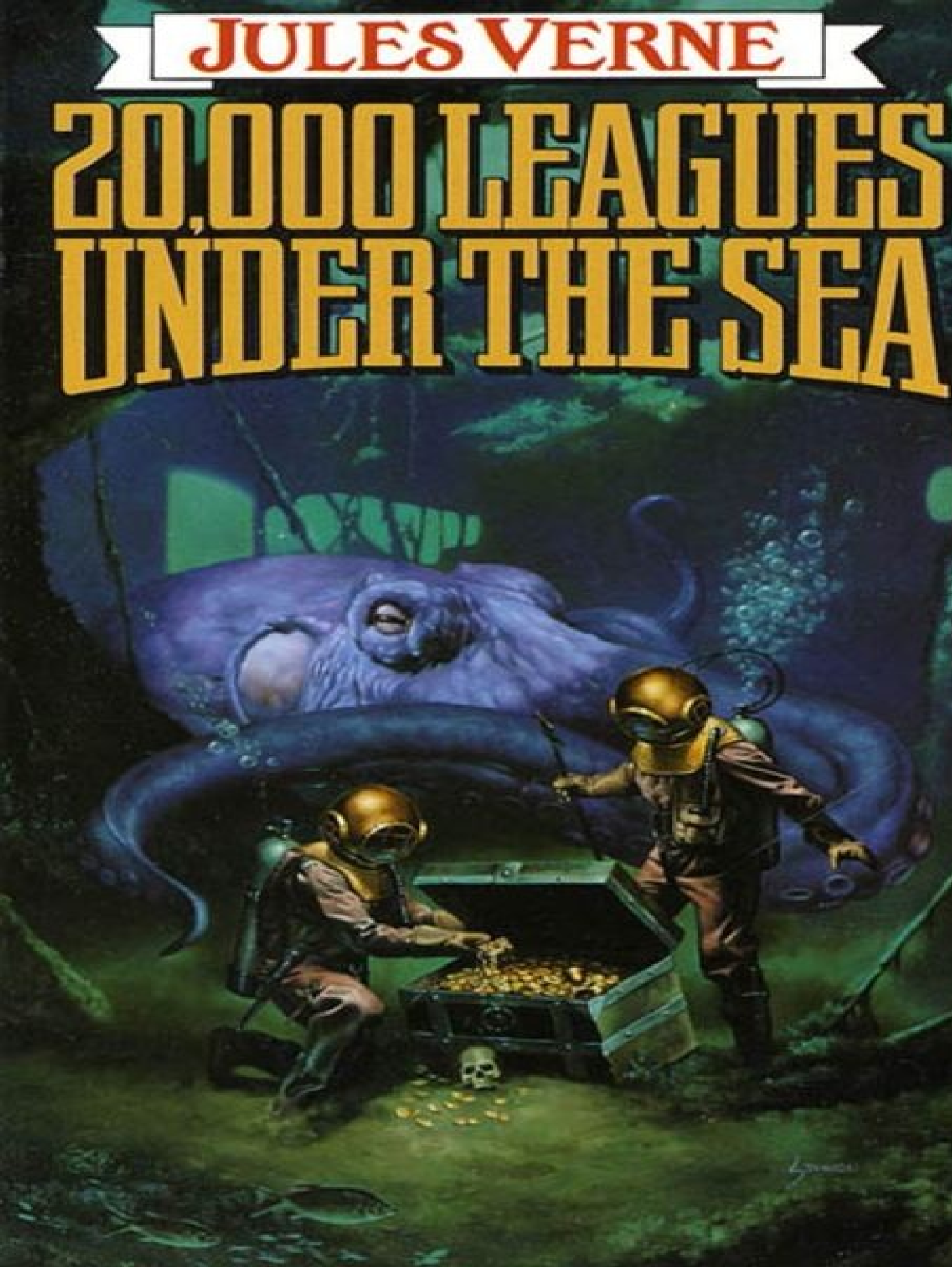
JULES VERNE

20,000 LEAGUES UNDER THE SEA



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20,000 LEAGUES UNDER THE SEA

Foreword and Afterword
by T.A. Baron

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FOREWORD

Try, as hard as you can, to imagine a world where gasoline-powered automobiles abound, where airplanes and helicopters are commonplace, where people work to bring water to the Sahara Desert, where computers and calculators grind away, where audiovisual reproductions—pictures that actuall move and talk—are part of daily life, where a trans-Siberian railway exists, where criminals are no longer beheaded but are instead electrocuted, where people travel by submarine to the depths of the oceans, and where a "photographic telegraph" allows anyone to send a facsimile of any message or design to the far reaches of the globe.

Sound familiar? Jules Verne, who predicted all of these things in the second half of the nineteenth century (one hundred years before the first fax machine), viewed the future with unusual clarity. In addition to these new technologies, he also predicted an explosive capable of destroying our planet, the widespread use of electricity, lasers, artificial rain, and a giant cannon that could be used to adjus the Earth's axis. Strangest of all, perhaps, was his conception in 1865 of a moon rocket with practically the same dimensions as the actual Apollo 8. Furthermore, Verne's imaginary vessel was launched from Florida, reached a top speed identical to the Apollo spacecraft, and splashed down onl four kilometers away from the spot in the Pacific Ocean where Apollo 8 actually landed.

If, with the benefit of hindsight, all this seems easy, try to do it yourself. What will happen to the world during the next century? Imagine the cascading changes in all realms of technology. Imagine the condition of social, political, and religious institutions. Imagine, most challenging of all, the evolution (or lack thereof) of human consciousness, of the self-awareness and spiritual fulfillment of the species that chooses to call itself *Homo sapiens*.

What would such a world be like? And would you want to be part of it?

Jules Verne lived and breathed such questions. Although not all of his books are set in the future, b the time he died in 1905 he was one of the most famous storytellers ever and was known as someone who combined a talent for creating adventurous plots with a shrewdness for divining the path of technological change. Verne did not fully appreciate the accelerating rate of technological development, but his "instinct for the direction of science," in the words of Leon Blum, informed by his extensive reading, remains unparalleled.

Verne did not take for granted the confidence of his readers, and therein lies a key to his success. H believed that such confidence must be earned, through the use of convincing detail. In addition, he believed, as I do, that no story has greater need of being grounded in honest, believable experience than a story attempting to carry its readers beyond the bounds of everyday experience. This approach requires both extensive research and a commitment to making all of the readers' senses come fully alive.

Yet, as the reader of *20,000 Leagues Under The Sea* will discover, Jules Verne was more than a brilliant futurist. He understood the importance of character development and tried to explore the often-baffling subtleties of interpersonal relationships. Captain Nemo, the enigmatic hero of the novel, is a complicated man, and his bond with his guest-and-prisoner, Professor Aronnax, is equally complicated. The novel is much richer for their intriguing relationship.

Nemo himself declares with great conviction: "The *Nautilus* is the ship of ships." For the reader as well as the passenger, that is certainly true. Come aboard, then, for a journey to a world both very distant and very near.

—T.A. Barr

T.A. Barron is the author of *Heartlight*, *The Ancient One*, and *The Merlin Effect*, all published in paperback by Tor Books.

PART ONE

CHAPTER I

A Shifting Reef

THE YEAR 1866 was signalised by a remarkable incident, a mysterious and puzzling phenomeno which doubtless no one has yet forgotten. Not to mention rumours which agitated the maritin population and excited the public mind, even in the interior of continents, seafaring men we particularly excited. Merchants, common sailors, captains of vessels, skippers, both of Europe ar America, naval officers of all countries, and the Governments of several States on the two continent were deeply interested in the matter.

For some time past vessels had been met by "an enormous thing," a long object, spindle-shape occasionally phosphorescent, and infinitely larger and more rapid in its movements than a whale.

The facts relating to this apparition (entered in various log-books) agreed in most respects as to th shape of the object or creature in question, the untiring rapidity of its movements, its surprising pow of locomotion, and the peculiar life with which it seemed endowed. If it was a whale, it surpassed size all those hitherto classified in science. Taking into consideration the mean of observations mad at divers times—rejecting the timid estimate of those who assigned to this object a length of tw hundred feet, equally with the exaggerated opinions which set it down as a mile in width and three length—we might fairly conclude that this mysterious being surpassed greatly all dimensio admitted by the learned ones of the day, if it existed at all. And that it *did* exist was an undeniab fact; and, with that tendency which disposes the human mind in favour of the marvellous, we ca understand the excitement produced in the entire world by this supernatural apparition. As to classin it in the list of fables, the idea was out of the question.

On the 20th of July, 1866, the steamer *Governor Higginson*, of the Calcutta and Burnach Stea Navigation Company, had met this moving mass five miles off the east coast of Australia. Captai Baker thought at first that he was in the presence of an unknown sandbank; he even prepared determine its exact position when two columns of water, projected by the mysterious object, shot wi a hissing noise a hundred and fifty feet up into the air. Now, unless the sandbank had been submitte to the intermittent eruption of a geyser, the *Governor Higginson* had to do neither more nor less tha with an aquatic mammal, unknown till then, which threw up from its blow-holes columns of wat mixed with air and vapour.

Similar facts were observed on the 23rd of July in the same year, in the Pacific Ocean, by th *Columbus*, of the West India and Pacific Steam Navigation Company. But this extraordinary creatur could transport itself from one place to another with surprising velocity; as, in an interval of thr days, the *Governor Higginson* and the *Columbus* had observed it at two different points of the cha separated by a distance of more than seven hundred nautical leagues.

Fifteen days later, two thousand miles farther off, the *Helvetia*, of the Compagnie-Nationale, and th *Shannon*, of the Royal Mail Steamship Company, sailing to windward in that portion of the Atlant lying between the United States and Europe, respectively signalled the monster to each other in 42 15' N. lat. and 60° 35' W. long. In these simultaneous observations they thought themselves justifie in estimating the minimum length of the mammal at more than three hundred and fifty feet, as th *Shannon* and *Helvetia* were of smaller dimensions than it, though they measured three hundred fe over all.

Now the largest whales, those which frequent those parts of the sea round the Aleutian, Kulamma and Umgullich islands, have never exceeded the length of sixty yards, if they attain that.

In every place of great resort the monster was the fashion. They sang of it in the cafés, ridiculed it the papers, and represented it on the stage. All kinds of stories were circulated regarding it. The appeared in the papers caricatures of every gigantic and imaginary creature, from the white whale, t terrible "Moby Dick" of sub-arctic regions, to the immense kraken, whose tentacles could entangle ship of five hundred tons and hurry it into the abyss of the ocean. The legends of ancient times we even revived.

Then burst forth the unending argument between the believers and the unbelievers in the societies the wise and the scientific journals. "The question of the monster" inflamed all minds. Editors scientific journals, quarrelling with believers in the supernatural, spilled seas of ink during th memorable campaign, some even drawing blood; for from the sea-serpent they came to dire personalities.

During the first months of the year 1867 the question seemed buried, never to revive, when ne facts were brought before the public. It was then no longer a scientific problem to be solved, but a re danger seriously to be avoided. The question took quite another shape. The monster became a sma island, a rock, a reef, but a reef of indefinite and shifting proportions.

On the 5th of March, 1867, the *Moravian,* of the Montreal Ocean Company, finding herself durin the night in 27° 30' lat. and 72° 15' long., struck on her starboard quarter a rock, marked in no cha for that part of the sea. Under the combined efforts of the wind and its four hundred horsepower, was going at the rate of thirteen knots. Had it not been for the superior strength of the hull of t *Moravian,* she would have been broken by the shock and gone down with the 237 passengers she w bringing home from Canada.

The accident happened about five o'clock in the morning, as the day was breaking. The officers the quarterdeck hurried to the after-part of the vessel. They examined the sea with the most caref attention. They saw nothing but a strong eddy about three cables' length distant, as if the surface ha been violently agitated. The bearings of the place were taken exactly, and the *Moravian* continued i route without apparent damage. Had it struck on a submerged rock, or on an enormous wreck? The could not tell; but, on examination of the ship's bottom when undergoing repairs, it was found th part of her keel was broken.

This fact, so grave in itself, might perhaps have been forgotten like many others if, three weel after, it had not been re-enacted under similar circumstances. But, thanks to the nationality of th victim of the shock, thanks to the reputation of the company to which the vessel belonged, t circumstance became extensively circulated.

The 13th of April, 1867, the sea being beautiful, the breeze favourable, the *Scotia,* of the Cuna Company's line, found herself in 15° 12' long. and 45° 37' lat. She was going at the speed of thirtee knots and a half.

At seventeen minutes past four in the afternoon, whilst the passengers were assembled at lunch the great saloon, a slight shock was felt on the hull of the *Scotia,* on her quarter, a little aft of the por paddle.

The *Scotia* had not struck, but she had been struck, and seemingly by something rather sharp ar penetrating than blunt. The shock had been so slight that no one had been alarmed, had it not been f the shouts of the carpenter's watch, who rushed on to the bridge, exclaiming, "We are sinking! we ar sinking!" At first the passengers were much frightened, but Captain Anderson hastened to reassu them. The danger could not be imminent. The *Scotia,* divided into several compartments by stron partitions, could brave with impunity any leak. Captain Anderson went down immediately into th hold. He found that the sea was pouring into the fifth compartment; and the rapidity of the influ proved that the force of the water was considerable. Fortunately this compartment did not hold th boilers, or the fires would have been immediately extinguished. Captain Anderson ordered the engin

to be stopped at once, and one of the men went down to ascertain the extent of the in jury. Som minutes afterwards they discovered the existence of a large hole, two yards in diameter, in the ship bottom. Such a leak could not be stopped; and the *Scotia*, her paddles half submerged, was obliged continue her course. She was then three hundred miles from Cape Clear, and, after three days' dela which caused great uneasiness in Liverpool, she entered the basin of the company.

The engineers visited the *Scotia*, which was put in dry dock. They could scarcely believe it possibl at two yards and a half below water-mark was a regular rent, in the form of an isosceles triangle. Th broken place in the iron plates was so perfectly defined that it could not have been more neatly don by a punch. It was clear, then, that the instrument producing the perforation was not of a commo stamp and, after having been driven with prodigious strength, and piercing an iron plate 1 3/8 inch thick, had withdrawn itself by a backward motion.

Such was the last fact, which resulted in exciting once more the torrent of public opinion. From th moment all unlucky casualties which could not be otherwise accounted for were put down to th monster.

Upon this imaginary creature rested the responsibility of all these shipwrecks, which unfortunate were consider able; for of three thousand ships whose loss was annually recorded at Lloyd's, th number of sailing and steam-ships supposed to be totally lost, from the absence of all news, amounte to not less than two hundred!

Now, it was the "monster" who, justly or unjustly, was accused of their disappearance, and, thank to it, communication between the different continents became more and more dangerous. The publ demanded sharply that the seas should at any price be relieved from this formidable cetacean.[1]

CHAPTER II

Pro and Con

AT THE PERIOD when these events took place, I had just returned from a scientific research in th disagreeable territory of Nebraska, in the United States. In virtue of my office as Assistant Profess in the Museum of Natural History in Paris, the French Government had attached me to that expeditio After six months in Nebraska, I arrived in New York towards the end of March, laden with a preciou collection. My departure for France was fixed for the first days in May. Meanwhile I was occupyin myself in classifying my mineralogical, botanical, and zoological riches, when the accident happene to the *Scotia.*

I was perfectly up in the subject which was the question of the day. How could I be otherwise? I ha read and reread all the American and European papers without being any nearer a conclusion. Th mystery puzzled me. Under the impossibility of forming an opinion, I jumped from one extreme to th other. That there really was something could not be doubted, and the incredulous were invited to p their finger on the wound of the *Scotia.*

On my arrival at New York the question was at its height. The theory of the floating island, and th unapproachable sandbank, supported by minds little competent to form a judgment, was abandone And, indeed, unless this shoal had a machine in its stomach, how could it change its position with suc astonishing rapidity?

From the same cause, the idea of a floating hull of an enormous wreck was given up.

There remained, then, only two possible solutions of the question, which created two distin parties: on one side, those who were for a monster of colossal strength; on the other, those who we for a submarine vessel of enormous motive power.

But this last theory, plausible as it was, could not stand against inquiries made in both worlds. That private gentleman should have such a machine at his command was not likely. Where, when, and ho was it built? and how could its construction have been kept secret? Certainly a Government mig possess such a destructive machine. And in these disastrous times, when the ingenuity of man ha multiplied the power of weapons of war, it was possible that, without the knowledge of others, a Sta might try to work such a formidable engine.

But the idea of a war machine fell before the declaration of Governments. As public interest was question, and transatlantic communications suffered, their veracity could not be doubted. But ho admit that the construction of this submarine boat had escaped the public eye? For a private gentlema to keep the secret under such circumstances would be very difficult, and for a State whose every act persistently watched by powerful rivals, certainly impossible.

Upon my arrival in New York several persons did me the honour of consulting me on th phenomenon in question. I had published in France a work in quarto, in two volumes, entitle *Mysteries of the Great Submarine Grounds.* This book, highly approved of in the learned worl gained for me a special reputation in this rather obscure branch of Natural History. My advice wa asked. As long as I could deny the reality of the fact, I confined myself to a decided negative. B soon, finding myself driven into a corner, I was obliged to explain myself point by point. I discusse the question in all its forms, politically and scientifically; and I give here an extract from a carefull studied article which I published in the number of the 30th of April. It ran as follows:

“After examining one by one the different theories, rejecting all other suggestions, it becom necessary to admit the existence of a marine animal of enormous power.

“The great depths of the ocean are entirely unknown to us. Soundings cannot reach them. Wh passes in those remote depths—what beings live, or can live, twelve or fifteen miles beneath th surface of the waters—what is the organisation of these animals, we can scarcely conjectur However, the solution of the problem submitted to me may modify the form of the dilemma. Eith we do know all the varieties of beings which people our planet, or we do not. If we do *not* know the all—if Nature has still secrets in the deeps for us, nothing is more conformable to reason than to adm the existence of fishes, or cetaceans of other kinds, or even of new species, of an organisation forme to inhabit the strata inaccessible to soundings, and which an accident of some sort has brought at lon intervals to the upper level of the ocean.

“If, on the contrary, we *do* know all living kinds, we must necessarily seek for the animal question amongst those marine beings already classed; and, in that case, I should be disposed to adm the existence of a gigantic narwhal.

“The common narwhal, or unicorn of the sea, often attains a length of sixty feet. Increase its siz fivefold or tenfold, give it strength proportionate to its size, lengthen its destructive weapons, and yo obtain the animal required. It will have the proportions determined by the officers of the *Shannon*, th instrument required by the perforation of the *Scotia,* and the power necessary to pierce the hull of th steamer.

“Indeed, the narwhal is armed with a sort of ivory sword, a halberd, according to the expression certain naturalists. The principal tusk has the hardness of steel. Some of these tusks have been foun buried in the bodies of whales, which the unicorn always attacks with success. Others have been drav out, not without trouble, from the bottoms of ships, which they had pierced through and through, as gimlet pierces a barrel. The Museum of the Faculty of Medicine of Paris possesses one of the defensive weapons, two yards and a quarter in length, and fifteen inches in diameter at the base.

“Very well! suppose this weapon to be six times stronger and the animal ten times more powerfu launch it at the rate of twenty miles an hour, and you obtain a shock capable of producing th catastrophe required. Until further information, therefore, I shall maintain it to be a sea-unicorn colossal dimensions, armed not with a halberd, but with a real spur, as the armoured frigates, or th ‘rams’ of war, whose massiveness and motive power it would possess at the same time. Thus may th puzzling phenomenon be explained, unless there be something over and above all that one has ev conjectured, seen, perceived, or experienced; which is just within the bounds of possibility.”

These last words were cowardly on my part; but, up to a certain point, I wished to shelter my digni as professor, and not give too much cause for laughter to the Americans, who laugh well when they d laugh. I reserved for myself a way of escape. In effect, however, I admitted the existence of th “monster.” My article was warmly discussed, which procured it a high reputation. It rallied round it certain number of partisans. The solution it proposed gave, at least, full liberty to the imagination. Th human mind delights in grand conceptions of supernatural beings. And the sea is precisely their be vehicle, the only medium through which these giants (against which terrestrial animals, such elephants or rhinoceroses, are as nothing) can be produced or developed.

The industrial and commercial papers treated the question chiefly from this point of view. Th *Shipping and Mercantile Gazette,* the *Lloyd’s List,* the *Packet-Boat,* and the *Maritime and Coloni Review,* all papers devoted to insurance companies which threatened to raise their rates of premiu were unanimous on this point. Public opinion had been pronounced. The United States were the first the field; and in New York they made preparations for an expedition destined to pursue this narwha A frigate of great speed, the *Abraham Lincoln,* was put in commission as soon as possible. Th arsenals were opened to Commander Farragut, who hastened the arming of his frigate; but, as always happens, the moment it was decided to pursue the monster, the monster did not appear. For tw months no one heard it spoken of. No ship met with it. It seemed as if this unicorn knew of the plo

weaving around it. It had been so much talked of, even through the Atlantic cable, that jeste pretended that this slender fly had stopped a telegram on its passage and was making the most of it.

So when the frigate had been armed for a long campaign, and provided with formidable fishi apparatus, no one could tell what course to pursue. Impatience grew apace, when, on the 2nd of Jul they learned that a steamer of the line of San Francisco, from California to Shanghai, had seen t animal three weeks before in the North Pacific Ocean. The excitement caused by this news w extreme. The ship was revictualled and well stocked with coal.

Three hours before the *Abraham Lincoln* left Brooklyn pier, I received a letter worded as follows:

To M. ARONNAX,
Professor in the Museum of Paris,

Fifth Avenue Hotel,
New York.

SIR,—If you will consent to join the *Abraham Lincoln* in this expedition, the Government of the United States will with pleasure see France represented in the enterprise. Commander Farragut has a cabin at your disposal.

Very cordially yours,

J. B. HOBSON,
Secretary of Marine.

CHAPTER III

I Form My Resolution

THREE SECONDS BEFORE the arrival of J. B. Hobson's letter I no more thought of pursuing th unicorn than of attempting the passage of the North Sea. Three seconds after reading the letter of th honourable Secretary of Marine, I felt that my true vocation, the sole end of my life, was to chase th disturbing monster and purge it from the world.

But I had just returned from a fatiguing journey, weary and longing for repose. I aspired to nothin more than again seeing my country, my friends, my little lodging by the Jardin des Plantes, my de and precious collections—but nothing could keep me back! I forgot all—fatigue, friends, an collections—and accepted without hesitation the offer of the American Government.

"Besides," thought I, "all roads lead back to Europe; and the unicorn may be amiable enough hurry me towards the coast of France. This worthy animal may allow itself to be caught in the seas Europe (for my particular benefit), and I will not bring back less than half a yard of his ivory halbe to the Museum of Natural History." But in the meanwhile I must seek this narwhal in the Nor Pacific Ocean, which, to return to France, was taking the road to the antipodes.

"Conseil," I called in an impatient voice.

Conseil was my servant, a true, devoted Flemish boy, who had accompanied me in all my travels. liked him, and he returned the liking well. He was quiet by nature, regular from principle, zealou from habit, evincing little disturbance at the different surprises of life, very quick with his hands, an apt at any service required of him; and, despite his name, never giving advice—even when asked f it.

Conseil had followed me for the last ten years wherever science led. Never once did he complain the length or fatigue of a journey, never make an objection to pack his portmanteau for whatev country it might be, or however far away, whether China or Congo. Besides all this, he had goo health, which defied all sickness, and solid muscles, but no nerves; good morals are understood. Th boy was thirty years old, and his age to that of his master as fifteen to twenty. May I be excused f saying that I was forty years old?

But Conseil had one fault: he was ceremonious to a degree, and would never speak to me but in th third person, which was sometimes provoking.

"Conseil," said I again, beginning with feverish hands to make preparations for my departure.

Certainly I was sure of this devoted boy. As a rule, I never asked if it were convenient for him or n to follow me in my travels; but this time the expedition in question might be prolonged, and th enterprise might be hazardous in pursuit of an animal capable of sinking a frigate as easily as nutshell. Here there was matter for reflection even to the most impassive man in the world. Wh would Conseil say?

"Conseil," I called a third time.

Conseil appeared.

"Did you call sir?" said he, entering.

"Yes, my boy; make preparations for me and yourself too. We leave in two hours."

"As you please, sir," replied Conseil, quietly.

"Not an instant to lose; lock in my trunk all travelling utensils, coats, shirts, and stockings—witho counting, as many as you can, and make haste."

"And your collections, sir?" observed Conseil.

“They will keep them at the hotel.”

“We are not returning to Paris, then?” said Conseil.

“Oh! certainly,” I answered, evasively, “by making a curve.”

“Will the curve please you, sir?”

“Oh! it will be nothing; not quite so direct a road, that is all. We take our passage in the *Abraha Lincoln.”*

“As you think proper, sir,” coolly replied Conseil.

“You see, my friend, it has to do with the monster—the famous narwhal. We are going to purge from the seas. A glorious mission, but a dangerous one! We cannot tell where we may go; thes animals can be very capricious. But we will go whether or no; we have got a captain who is pret wide-awake.”

Our luggage was transported to the deck of the frigate immediately. I hastened on board and aske for Commander Farragut. One of the sailors conducted me to the poop, where I found myself in th presence of a good-looking officer, who held out his hand to me.

“Monsieur Pierre Aronnax?” said he.

“Himself,” replied I. “Commander Farragut?”

“You are welcome, Professor; your cabin is ready for you.”

I bowed, and desired to be conducted to the cabin destined for me.

The *Abraham Lincoln* had been well chosen and equipped for her new destination. She was a friga of great speed, fitted with high-pressure engines which admitted a pressure of seven atmosphere Under this the *Abraham Lincoln* attained the mean speed of nearly eighteen knots and a third an ho —a considerable speed, but, nevertheless, insufficient to grapple with this gigantic cetacean.

The interior arrangements of the frigate corresponded to its nautical qualities. I was well satisfi with my cabin, which was in the after part, opening upon the gunroom.

“We shall be well off here,” said I to Conseil.

“As well, by your honour’s leave, as a hermit-crab in the shell of a whelk,” said Conseil.

I left Conseil to stow our trunks conveniently away, and remounted the poop in order to survey th preparations for departure.

At that moment Commander Farragut was ordering the last moorings to be cast loose which held th *Abraham Lincoln* to the pier of Brooklyn. So in a quarter of an hour, perhaps less, the frigate wou have sailed without me. I should have missed this extraordinary, supernatural, and incredib expedition, the recital of which may well meet with some suspicion.

But Commander Farragut would not lose a day nor an hour in scouring the seas in which the anim had been sighted. He sent for the engineer.

“Is the steam full on?” asked he.

“Yes, sir,” replied the engineer.

“Go ahead,” cried Commander Farragut.

CHAPTER IV

Ned Land

CAPTAIN FARRAGUT WAS a good seaman, worthy of the frigate he commanded. His vessel and h were one. He was the soul of it. On the question of the monster there was no doubt in his mind, and h would not allow the existence of the animal to be disputed on board. He believed in it, as certain goo women believe in the leviathan—by faith, not by reason. The monster did exist, and he had sworn rid the seas of it. Either Captain Farragut would kill the narwhal, or the narwhal would kill the captai There was no third course.

The officers on board shared the opinion of their chief. They were ever chatting, discussing, an calculating the various chances of a meeting, watching narrowly the vast surface of the ocean. Mo than one took up his quarters voluntarily in the cross-trees, who would have cursed such a berth und any other circumstances. As long as the sun described its daily course, the rigging was crowded wi sailors, whose feet were burnt to such an extent by the heat of the deck as to render it unbearable; sti the *Abraham Lincoln* had not yet breasted the suspected waters of the Pacific. As to the ship company, they desired nothing better than to meet the unicorn, to harpoon it, hoist it on board, an despatch it. They watched the sea with eager attention.

Besides, Captain Farragut had spoken of a certain sum of two thousand dollars, set apart for whoev should first sight the monster, were he cabin-boy, common seaman, or officer.

I leave you to judge how eyes were used on board the *Abraham Lincoln.*

For my own part I was not behind the others, and left to no one my share of daily observations. Th frigate might have been called the Argus, for a hundred reasons. Only one amongst us, Conse seemed to protest by his indifference against the question which so interested us all, and seemed to b out of keeping with the general enthusiasm on board.

I have said that Captain Farragut had carefully provided his ship with every apparatus for catchin the gigantic cetacean. No whaler had ever been better armed. We possessed every known engine, fro the harpoon thrown by the hand to the barbed arrows of the blunderbuss, and the explosive balls of th duck-gun. On the forecastle lay the perfection of a breech-loading gun, very thick at the breech, an very narrow in the bore, the model of which had been in the Exhibition of 1867. This precious weapo of American origin could throw with ease a conical projectile of nine pounds to a mean distance of te miles.

Thus the *Abraham Lincoln* wanted for no means of destruction; and, what was better still she had o board Ned Land, the prince of harpooners.

Ned Land was a Canadian, with an uncommon quickness of hand, and who knew no equal in h dangerous occupation. Skill, coolness, audacity, and cunning he possessed in a superior degree, and must be a cunning whale to escape the stroke of his harpoon.

Ned Land was about forty years of age; he was a tall man (more than six feet high), strongly bui grave and taciturn, occasionally violent, and very passionate when contradicted. His person attracte attention, but above all the boldness of his look, which gave a singular expression to his face.

Who calls himself Canadian calls himself French; and, little communicative as Ned Land was, must admit that he took a certain liking for me. My nationality drew him to me, no doubt. It was a opportunity for him to talk, and for me to hear, that old language of Rabelais, which is still in use some Canadian provinces. The harpooner’s family was originally from Quebec, and was already tribe of hardy fishermen when this town belonged to France.

Little by little, Ned Land acquired a taste for chatting, and I loved to hear the recital of h adventures in the polar seas. He related his fishing, and his combats, with natural poetry of expressio his recital took the form of an epic poem, and I seemed to be listening to a Canadian Homer singi the Iliad of the regions of the North.

I am portraying this hardy companion as I really knew him. We are old friends now, united in th unchangeable friendship which is born and cemented amidst extreme dangers. Ah, brave Ned! I ask n more than to live a hundred years longer, that I may have more time to dwell the longer on yo memory.

Now, what was Ned Land's opinion upon the question of the marine monster? I must admit that h did not believe in the unicorn, and was the only one on board who did not share that univers conviction. He even avoided the subject, which I one day thought it my duty to press upon him. O magnificent evening, the 30th July (that is to say, three weeks after our departure), the frigate w abreast of Cape Blanc, thirty miles to leeward of the coast of Patagonia. We had crossed the tropic Capricorn, and the Straits of Magellan opened less than seven hundred miles to the south. Before eig days were over the *Abraham Lincoln* would be ploughing the waters of the Pacific.

Seated on the poop, Ned Land and I were chatting of one thing and another as we looked at th mysterious sea, whose great depths had up to this time been inaccessible to the eye of man. I natural led up the conversation to the giant unicorn, and examined the various chances of success or failure the expedition. But, seeing that Ned Land let me speak without saying too much himself, I presse him more closely.

"Well, Ned," said I, "is it possible that you are not convinced of the existence of this cetacean th we are following? Have you any particular reason for being so incredulous?"

The harpooner looked at me fixedly for some moments before answering, struck his broad forehea with his hand (a habit of his), as if to collect himself, and said at last, "Perhaps I have, Mr. Aronnax."

"But, Ned, you, a whaler by profession, familiarised with all the great marine mammalia—*yo* ought to be the last to doubt under such circumstances!"

"That is just what deceives you, Professor," replied Ned. "As a whaler I have followed many cetacean, harpooned a great number, and killed several; but, however strong or well-armed they ma have been, neither their tails nor their weapons would have been able even to scratch the iron plates a steamer."

"But, Ned, they tell of ships which the teeth of the narwhal have pierced through and through."

"Wooden ships—that is possible," replied the Canadian, "but I have never seen it done; and, unt further proof, I deny that whales, cetaceans, or sea-unicorns could ever produce the effect yo describe."

"Well, Ned, I repeat it with a conviction resting on the logic of facts. I believe in the existence of mammal powerfully organised, belonging to the branch of vertebrata, like the whales, the cachalots, the dolphins, and furnished with a horn of defence of great penetrating power."

"Hum!" said the harpooner, shaking his head with the air of a man who would not be convinced.

"Notice one thing, my worthy Canadian," I resumed. "If such an animal is in existence, if it inhabi the depths of the ocean, if it frequents the strata lying miles below the surface of the water, it mu necessarily possess an organisation the strength of which would defy all comparison."

"And why this powerful organisation?" demanded Ned.

"Because it requires incalculable strength to keep one's self in these strata and resist their pressur Listen to me. Let us admit that the pressure of the atmosphere is represented by the weight of column of water thirty-two feet high. In reality the column of water would be shorter, as we a speaking of sea water, the density of which is greater than that of fresh water. Very well, when yo dive, Ned, as many times 32 feet of water as there are above you, so many times does your body bear

pressure equal to that of the atmosphere, that is to say, 15 lb. for each square inch of its surface. follows, then, that at 320 feet this pressure equals that of 10 atmospheres, of 100 atmospheres at 3,20 feet, and of 1,000 atmospheres at 32,000 feet, that is, about 6 miles; which is equivalent to saying th if you could attain this depth in the ocean, each square three-eighths of an inch of the surface of yo body would bear a pressure of 5,600 lb. Ah! my brave Ned, do you know how many square inches yo carry on the surface of your body?"

"I have no idea, Mr. Aronnax."

"About 6,500; and as in reality the atmospheric pressure is about 15 lb. to the square inch, yo 6,500 square inches bear at this moment a pressure of 97,500 lb."

"Without my perceiving it?"

"Without your perceiving it. And if you are not crushed by such a pressure, it is because the a penetrates the interior of your body with equal pressure. Hence perfect equilibrium between th interior and exterior pressure, which thus neutralise each other, and which allows you to bear without inconvenience. But in the water it is another thing."

"Yes, I understand," replied Ned, becoming more attentive; "because the water surrounds me, b does not penetrate."

"Precisely, Ned: so that at 32 feet beneath the surface of the sea you would undergo a pressure 97,500 lb.; at 320 feet, ten times that pressure; at 3,200 feet, a hundred times that pressure; lastly, 32,000 feet, a thousand times that pressure would be 97,500,000 lb.—that is to say, that you would b flattened as if you had been drawn from the plates of a hydraulic machine!"

"The devil!" exclaimed Ned.

"Very well, my worthy harpooner, if some vertebrate, several hundred yards long, and large i proportion, can maintain itself in such depths—of those whose surface is represented by millions square inches, that is by tens of millions of pounds, we must estimate the pressure they underg Consider, then, what must be the resistance of their bony structure, and the strength of the organisation to withstand such pressure!"

"Why!" exclaimed Ned Land, "they must be made of iron plates eight inches thick, like th armoured frigates."

"As you say, Ned. And think what destruction such a mass would cause, if hurled with the speed an express train against the hull of a vessel."

"Yes—certainly—perhaps," replied the Canadian, shaken by these figures, but not yet willing t give in.

"Well, have I convinced you?"

"You have convinced me of one thing, sir, which is that, if such animals do exist at the bottom of th seas, they must necessarily be as strong as you say."

"But if they do not exist, mine obstinate harpooner, how explain the accident to the *Scotia?*"

CHAPTER V

At a Venture

THE VOYAGE OF the *Abraham Lincoln* was for a long time marked by no special incident. But on circumstance happened which showed the wonderful dexterity of Ned Land, and proved wh confidence we might place in him.

The 30th of June, the frigate spoke some American whalers, from whom we learned that they kne nothing about the narwhal. But one of them, the captain of the *Monroe,* knowing that Ned Land ha shipped on board the *Abraham Lincoln,* begged for his help in chasing a whale they had in sigh Commander Farragut, desirous of seeing Ned Land at work, gave him permission to go on board th *Monroe*. And fate served our Canadian so well that, instead of one whale, he harpooned two with double blow, striking one straight to the heart, and catching the other after some minutes' pursuit.

Decidedly, if the monster ever had to do with Ned Land's harpoon, I would not bet in its favour.

The frigate skirted the south-east coast of America with great rapidity. The 3rd of July we were the opening of the Straits of Magellan, level with Cape Vierges. But Commander Farragut would n take a tortuous passage, but doubled Cape Horn.

The ship's crew agreed with him. And certainly it was possible that they might meet the narwhal this narrow pass. Many of the sailors affirmed that the monster could not pass there, "that he was to big for that!"

The 6th of July, about three o'clock in the afternoon, the *Abraham Lincoln,* at fifteen miles to th south, doubled the solitary island, this lost rock at the extremity of the American continent, to whic some Dutch sailors gave the name of their native town, Cape Horn. The course was taken towards th north-west, and the next day the screw of the frigate was at last beating the waters of the Pacific.

"Keep your eyes open!" called out the sailors.

And they were opened widely. Both eyes and glasses, a little dazzled, it is true, by the prospect two thousand dollars, had not an instant's repose.

I myself, for whom money had no charms, was not the least attentive on board. Giving but fe minutes to my meals, but a few hours to sleep, indifferent to either rain or sunshine, I did not leave th poop of the vessel. Now leaning on the netting of the forecastle, now on the taffrail, I devoured wi eagerness the soft foam which whitened the sea as far as the eye could reach; and how often have shared the emotion of the majority of the crew, when some capricious whale raised its black bac above the waves! The poop of the vessel was crowded on a moment. The cabins poured forth a torre of sailors and officers, each with heaving breast and troubled eye watching the course of the cetacea I looked and looked till I was nearly blind, whilst Conseil kept repeating in a calm voice:

"If, sir, you would not squint so much, you would see better!"

But vain excitement! The *Abraham Lincoln* checked its speed and made for the animal signalled, simple whale, or common cachalot, which soon disappeared amidst a storm of abuse.

But the weather was good. The voyage was being accomplished under the most favourable auspice It was then the bad season in Australia, the July of that zone corresponding to our January in Europ but the sea was beautiful and easily scanned round a vast circumference.

The 20th of July, the tropic of Capricorn was cut by 105° of longitude, and the 27th of the sam month we crossed the Equator on the 110th meridian. This passed, the frigate took a more decide westerly direction, and scoured the central waters of the Pacific. Commander Farragut thought, an with reason, that it was better to remain in deep water, and keep clear of continents or islands, whic

the beast itself seemed to shun (perhaps because there was not enough water for him! suggested th
greater part of the crew). The frigate passed at some distance from the Marquesas and the Sandwic
Islands, crossed the tropic of Cancer, and made for the China Seas. We were on the theatre of the la
diversions of the monster: and, to say truth, we no longer *lived* on board. The entire ship's crew wer
undergoing a nervous excitement, of which I can give no idea: they could not eat, they could not slee
—twenty times a day, a misconception or an optical illusion of some sailor seated on the taffra
would cause dreadful perspirations, and these emotions, twenty times repeated, kept us in a state
excitement so violent that a reaction was unavoidable.

And truly, reaction soon showed itself. For three months, during which a day seemed an age, th
Abraham Lincoln furrowed all the waters of the Northern Pacific, running at whales, making sha
deviations from her course, veering suddenly from one tack to another, stopping suddenly, putting o
steam, and backing ever and anon at the risk of deranging her machinery, and not one point of th
Japanese or American coast was left unexplored.

The warmest partisans of the enterprise now became its most ardent detractors. Reaction mounte
from the crew to the captain himself, and certainly, had it not been for the resolute determination o
the part of Captain Farragut, the frigate would have headed due southward. This useless search cou
not last much longer. The *Abraham Lincoln* had nothing to reproach herself with, she had done h
best to succeed. Never had an American ship's crew shown more zeal or patience; its failure could no
be placed to their charge—there remained nothing but to return.

This was represented to the commander. The sailors could not hide their discontent, and the servic
suffered. I will not say there was a mutiny on board, but after a reasonable period of obstinac
Captain Farragut (as Columbus did) asked for three days' patience. If in three days the monster did n
appear, the man at the helm should give three turns of the wheel, and the *Abraham Lincoln* wou
make for the European seas.

This promise was made on the 2nd of November. It had the effect of rallying the ship's crew. Th
ocean was watched with renewed attention. Each one wished for a last glance in which to sum up h
remembrance. Glasses were used with feverish activity. It was a grand defiance given to the gia
narwhal, and he could scarcely fail to answer the summons and "appear."

Two days passed, the steam was at half pressure; a thousand schemes were tried to attract th
attention and stimulate the apathy of the animal in case it should be met in those parts. Larg
quantities of bacon were trailed in the wake of the ship, to the great satisfaction (I must say) of th
sharks. Small craft radiated in all directions round the *Abraham Lincoln* as she lay to, and did n
leave a spot of the sea unexplored. But the night of the 4th of November arrived without the unveilin
of this submarine mystery.

The next day, the 5th of November, at twelve, the delay would (morally speaking) expire; after th
time, Commander Farragut, faithful to his promise, was to turn the course to the south-east an
abandon for ever the northern regions of the Pacific.

The frigate was then in 31° 15' N. lat. and 136° 42' E. long. The coast of Japan still remained les
than two hundred miles to leeward. Night was approaching. They had just struck eight bells; larg
clouds veiled the face of the moon, then in its first quarter. The sea undulated peaceably under th
stern of the vessel.

At that moment I was leaning forward on the starboard netting. Conseil, standing near me, w
looking straight before him. The crew, perched in the ratlines, examined the horizon would contracte
and darkened by degrees. Officers with their night glasses scoured the growing darkness: sometim
the ocean sparkled under the rays of the moon, which darted between two clouds, then all trace of lig
was lost in the darkness.

In looking at Conseil, I could see he was undergoing a little of the general influence. At least

thought so. Perhaps for the first time his nerves vibrated to a sentiment of curiosity.

"Come, Conseil," said I, "this is the last chance of pocketing the two thousand dollars."

"May I be permitted to say, sir," replied Conseil, "that I never reckoned on getting the prize; an had the government of the Union offered a hundred thousand dollars, it would have been none th poorer."

"You are right, Conseil. It is a foolish affair after all, and one upon which we entered too lightl What time lost, what useless emotions! We should have been back in France six months ago."

"In your little room, sir," replied Conseil, "and in your museum, sir; and I should have alread classed all your fossils, sir. And the Babiroussa would have been installed in its cage in the Jardin de Plantes, and have drawn all the curious people of the capital!"

"As you say, Conseil. I fancy we shall run a fair chance of being laughed at for our pains."

"That's tolerably certain," replied Conseil, quietly; "I think they will make fun of you, sir. And must I say it—?"

"Go on, my good friend."

"Well, sir, you will only get your deserts."

"Indeed!"

"When one has the honour of being a savant as you are, sir, one should not expose one's self to—"

Conseil had not time to finish his compliment. In the midst of general silence a voice had just bee heard. It was the voice of Ned Land shouting:

"Look out there! The very thing we are looking for—on our weather beam!"

CHAPTER VI

At Full Steam

AT THIS CRY the whole ship's crew hurried towards the harpooner—commander, officers, master sailors, cabin-boys; even the engineers left their engines, and the stokers their furnaces.

The order to stop her had been given, and the frigate now simply went on by her own momentu The darkness was then profound, and, however good the Canadian's eyes were, I asked myself how h had managed to see, and what he had been able to see. My heart beat as if it would break. But Ne Land was not mistaken, and we all perceived the object he pointed to. At two cables' length from th *Abraham Lincoln,* on the starboard quarter, the sea seemed to be illuminated all over. It was not mere phosphoric phenomenon. The monster emerged some fathoms from the water, and then thre out that very intense but mysterious light mentioned in the report of several captains. Th magnificent irradiation must have been produced by an agent of great *shining* power. The luminou part traced on the sea an immense oval, much elongated, the centre of which condensed a burnin heat, whose overpowering brilliancy died out by successive gradations.

"It is only a massing of phosphoric particles," cried one of the officers.

"No, sir, certainly not," I replied. "That brightness is of an essentially electrical nature. Besides, se see! it moves; it is moving forwards, backwards; it is darting towards us!"

A general cry arose from the frigate.

"*Silence!*" said the captain. "Up with the helm, reverse the engines."

The steam was shut off, and the *Abraham Lincoln,* beating to port, described a semicircle.

"Right the helm, go ahead," cried the captain.

These orders were executed, and the frigate moved rapidly from the burning light.

I was mistaken. She tried to sheer off, but the supernatural animal approached with a velocity doub her own.

We gasped for breath. Stupefaction more than fear made us dumb and motionless. The anim gained on us, sporting with the waves. It made the round of the frigate, which was then makin fourteen knots, and enveloped it with its electric rings like luminous dust.

Then it moved away two or three miles, leaving a phosphorescent track, like those volumes of stea that the express trains leave behind. All at once from the dark line of the horizon whither it retired gain its momentum, the monster rushed suddenly towards the *Abraham Lincoln* with alarmin rapidity, stopped suddenly about twenty feet from the hull, and died out—not diving under the wate for its brilliancy did not abate—but suddenly, and as if the source of this brilliant emanation wa exhausted. Then it reappeared on the other side of the vessel, as if it had turned and slid under the hu Any moment a collision might have occurred which would have been fatal to us. However, I wa astonished at the manœuvres of the frigate. She fled and did not attack.

On the captain's face, generally so impassive, was an expression of unaccountable astonishment.

"Mr. Aronnax," he said, "I do not know with what formidable being I have to deal, and I will n imprudently risk my frigate in the midst of this darkness. Besides, how attack this unknown thin how defend one's self from it? Wait for daylight, and the scene will change."

"You have no further doubt, captain, of the nature of the animal?"

"No, sir; it is evidently a gigantic narwhal, and an electric one."

"Perhaps," added I, "one can only approach it with a torpedo."

"Undoubtedly," replied the captain, "if it possesses such dreadful power, it is the most terrib

animal that ever was created. That is why, sir, I must be on my guard."

The crew were on their feet all night. No one thought of sleep. The *Abraham Lincoln,* not being ab to struggle with such velocity, had moderated its pace, and sailed at half speed. For its part, th narwhal, imitating the frigate, let the waves rock it at will, and seemed decided not to leave the scen of the struggle. Towards midnight, however, it disappeared, or, to use a more appropriate term, "died out" like a large glow-worm. Had it fled? One could only fear, not hope it. But at seven minute to one o'clock in the morning a deafening whistling was heard, like that produced by a body of wat rushing with great violence.

The captain, Ned Land, and I were then on the poop, eagerly peering through the profound darkness

"Ned Land," asked the commander, "you have often heard the roaring of whales?"

"Often, sir; but never such whales the sight of which brought me in two thousand dollars. If I ca only approach within four harpoons' length of it!"

"But to approach it," said the commander, "I ought to put a whaler at your disposal?"

"Certainly, sir."

"That will be trifling with the lives of my men."

"And mine too," simply said the harpooner.

Towards two o'clock in the morning, the burning light reappeared, not less intense, about five mile to windward of the *Abraham Lincoln.* Notwithstanding the distance, and the noise of the wind and se one heard distinctly the loud strokes of the animal's tail, and even its panting breath. It seemed that, the moment that the enormous narwhal had come to take breath at the surface of the water, the air wa engulfed in its lungs, like the steam in the vast cylinders of a machine of two thousand horse-power.

"Hum!" thought I, "a whale with the strength of a cavalry regiment would be a pretty whale!"

We were on the *qui vive* till daylight, and prepared for the combat. The fishing implements were la along the hammock nettings. The second lieutenant loaded the blunderbusses, which could thro harpoons to the distance of a mile, and long duck-guns, with explosive bullets, which inflicted mort wounds even to the most terrible animals. Ned Land contented himself with sharpening his harpoon- a terrible weapon in his hands.

At six o'clock day began to break; and, with the first glimmer of light, the electric light of th narwhal disappeared. At seven o'clock the day was sufficiently advanced, but a very thick sea fo obscured our view, and the best spyglasses could not pierce it. That caused disappointment and anger

I climbed the mizen-mast. Some officers were already perched on the mast-heads. At eight o'cloc the fog lay heavily on the waves, and its thick scrolls rose little by little. The horizon grew wider an clearer at the same time. Suddenly, just as on the day before, Ned Land's voice was heard:

"The thing itself on the port quarter!" cried the harpooner.

Every eye was turned towards the point indicated. There, a mile and a half from the frigate, a lon blackish body emerged a yard above the waves. Its tail, violently agitated, produced a considerab eddy. Never did a tail beat the sea with such violence. An immense track, of dazzling whitenes marked the passage of the animal, and described a long curve.

The frigate approached the cetacean. I examined it thoroughly.

The reports of the *Shannon* and of the *Helvetia* had rather exaggerated its size, and I estimated i length at only two hundred and fifty feet. As to its dimensions, I could only conjecture them to b admirably proportioned. While I watched this phenomenon, two jets of steam and water were ejecte from its vents, and rose to the height of 120 feet; thus I ascertained its way of breathing. I conclude definitely that it belonged to the vertebrate branch, class mammalia:

The crew waited impatiently for their chief's orders. The latter, after having observed the anim attentively, called the engineer. The engineer ran to him.

"Sir," said the commander, "you have steam up?"

“Yes, sir,” answered the engineer.

“Well, make up your fires and put on all steam.”

Three hurrahs greeted this order. The time for the struggle had arrived. Some moments after, the tw funnels of the frigate vomited torrents of black smoke, and the bridge quaked under the trembling the boilers.

The *Abraham Lincoln,* propelled by her wonderful screw, went straight at the animal. The latt allowed it to come within half a cable’s length; then, as if disdaining to dive, it took a little turn, ar stopped a short distance off.

This pursuit lasted nearly three-quarters of an hour, without the frigate gaining two yards on th cetacean. It was quite evident that at that rate we should never come up with it.

“Well, Mr. Land,” asked the captain, “do you advise me to put the boats out to sea?”

“No, sir,” replied Ned Land; ‘because we shall not take that beast easily.”

“What shall we do then?”

“Put on more steam if you can, sir. With your leave, I mean to post myself under the bowsprit, an if we get within harpooning distance, I shall throw my harpoon.”

“Go, Ned,” said the captain. “Engineer, put on more pressure.”

Ned Land went to his post. The fires were increased, the screw revolved forty-three times a minut and the steam poured out of the valves. We heaved the log, and calculated that the *Abraham Linco* was going at the rate of 18 1/2 miles an hour.

But the accursed animal swam at the same speed.

For a whole hour the frigate kept up this pace, without gaining six feet. It was humiliating for one the swiftest sailers in the American navy. A stubborn anger seized the crew; the sailors abused th monster, who, as before, disdained to answer them; the captain no longer contented himself wi twisting his beard—he gnawed it.

The engineer was called again.

“You have turned full steam on?”

“Yes, sir,” replied the engineer.

The speed of the *Abraham Lincoln* increased. Its masts trembled down to their stepping holes, ar the clouds of smoke could hardly find way out of the narrow funnels.

They heaved the log a second time.

“Well?” asked the captain of the man at the wheel.

“Nineteen miles and three-tenths, sir.”

“Clap on more steam.”

The engineer obeyed. The manometer showed ten degrees. But the cetacean grew warm itself, n doubt; for without straining itself, it made 19 3/10 miles.

What a pursuit! No, I cannot describe the emotion that vibrated through me. Ned Land kept his pos harpoon in hand. Several times the animal let us gain upon it.—“We shall catch it! we shall catch it cried the Canadian. But just as he was going to strike, the cetacean stole away with a rapidity th could not be estimated at less then thirty miles an hour, and even during our maximum of speed, bullied the frigate, going round and round it. A cry of fury broke from everyone!

At noon we were no further advanced than at eight o’clock in the morning.

The captain then decided to take more direct means.

“Ah!” said he, “that animal goes quicker than the *Abraham Lincoln.* Very well! we will see whethe it will escape these conical bullets. Send your men to the forecastle, sir.”

The forecastle gun was immediately loaded and slewed round. But the shot passed some feet abov the cetacean, which was half a mile off.

“Another, more to the right,” cried the commander, “and five dollars to whoever will hit th

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