



Jules Verne
Twenty Thousand Leagues
under the Seas

A new translation by William Butcher

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TWENTY THOUSAND LEAGUES UNDER THE SEAS

JULES VERNE was born in Nantes in 1828, the eldest of five children in a prosperous family of French, Breton, and Scottish extraction. His early years were happy apart from the drowning of his cousins and an unrequited passion for his cousin Caroline. Literature always attracted him and while taking a law degree in Paris he wrote a number of plays. His books, *Journey to England and Scotland* and *Paris in the Twentieth Century*, were not published in his lifetime. However, the publisher Hetzel accepted *Five Weeks in a Balloon* in 1862, to be followed by sixty other novels covering the whole world and beyond. Verne travelled over three continents, before selling his yacht in 1886. Eight of the books appeared after his death in 1905—although in fact partly written by his son Michel.

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JULES VERNE

The Extraordinary Journeys

*Twenty Thousand Leagues
under the Seas*



Translated with an Introduction and Notes by

WILLIAM BUTCHER



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LIST OF ABBREVIATIONS

- MÉR* *Magasin d'éducation et de récréation*: without other reference, *MÉR* refers to the serial publication of *20T* (1869–70)
- MS₁ the earlier of the two manuscripts kept in the French National Library
- MS₂ the second of the two manuscripts in the French National Library
- 20T* *Twenty Thousand Leagues under the Seas*; references are of the form II 7 (Part Two, ch. 7)

'1869' refers to the first book edition of *20T* (1869–70).

'1871' refers to the first illustrated book publication of *20T*, the basis for this edition.





INTRODUCTION

IF you ask people for the name of probably the world's most translated writer,¹ the popular writer to have increased in reputation the most over more than a century, you will get some surprising answers. If you further enquire as to the identity of the only Frenchman apart from Napoleon to have achieved universal renown, some odd looks may be forthcoming.

Verne, Nemo, and the *Nautilus* have entered the world's collective unconscious; but the only visible signs of their existence, dragged up from the murky depths, are invariably confused. These apologies for a reputation need to be put out of their misery. Thus Verne cannot be considered a science-fiction writer; he did not wish to write for children; the poor style often associated with him is not his. And Captain Nemo does not speak with a mid-Atlantic drawl.

In order to understand how such ideas came to life, primarily in America and Britain, we should start by briefly examining the author's life and the publishing history of *Twenty Thousand Leagues under the Seas*.

Jules Verne was born and brought up in Nantes, studied and worked in Paris, and spent the rest of his life in Amiens. His first known foreign visits were to Scotland in 1859 and Norway in 1861, experiences which deeply marked him. From about 1870 Verne displayed an increasing pessimism about many of his early enthusiasms, with the admiration for technology replaced by apprehension on social and political issues, and with the 'Anglo-Saxons', the heroes of his first novels, sometimes now the villains. The Franco-Prussian War may have been one of the catalysts for the change. *The Chancellor* (written in about 1870, but published in 1873) was the clear turning-point; but signs of uneasiness are already visible in *Twenty Thousand Leagues*.

At the beginning, recognition for the series of the *Extraordinary Journeys* was slow in the English-speaking countries. The first novels to be translated appeared after Verne had already written most of his best work. It must have been disappointing for the author of *The British*

¹ On a cumulative basis since 1850; Unesco's *Index Translationum* lists the number of new translations appearing worldwide each year.

at the North Pole to see this book unavailable in Britain itself. But when the works did begin to appear, it might have been better if they had not.

The books were sometimes radically altered. The translators, frequently anonymous, were not always fully competent in French. In the process, they produced some wonderful howlers: the hero visits the 'disagreeable territories of Nebraska' or 'jumps over' part of an island; reference is made to 'prunes' or 'Galilee'; and Napoleon dies broken-hearted in 'St Helen's'. Verne himself wrote of 'the Badlands', 'blowing up', 'plums', 'Galileo', and 'St Helena'. If we examine in particular *Twenty Thousand Leagues* (written in 1868–9, published in 1869–70), there have been thousands of editions of this work, possibly making the English version the most frequently published novel of all time. Lewis Mercier's 1872 translation was typical of the time: adequate on 'style' but extremely weak on details. Also, about 22 per cent of the novel was missing! Since then, the majority of editions have reproduced Mercier, many of them making further minor changes, unfortunately without referring back to the French.

There has also traditionally been a low level of critical commentary on the *Extraordinary Journeys* in the English-speaking world, sometimes the result of monolinguals studying these inaccurate translations. Nor has the basic textual work been done, in either English or French. The different original editions of *Vingt mille lieues sous les mers* have hardly been compared; to date no one has studied the manuscripts in detail; and there is no established text, meaning that we should be wary even of modern French editions.

Twenty Thousand Leagues is Verne's most ambitious work in terms of themes and psychology. (Readers who do not wish to learn details of the plot are advised to omit the rest of the Introduction.) It recounts a circumnavigation of the globe by submarine, with Nemo ('nobody' in Latin) as the sombre hero. It includes many dramatic episodes: the underwater burial of a dead crewman, an attack by Papuan natives, a battle with giant squid, a passage under the Antarctic ice-cap, a farewell to the sun at the South Pole, and a vision among the underwater ruins of Atlantis. But much of the interest comes from the intense if distant relationship between Nemo and his passengers, Dr Aronnax, Conseil, and Ned Land, and from the anguish gripping the captain. Nemo seems to have an unhealthy interest in shipping lanes and vessels in distress. On one occasion he imprisons Aronnax in a cell. Further

mysteries are the portraits in his room of nationalist figures and of a woman and children, later revealed to be his murdered family. At the end of the novel the captain is attacked by an unidentified ship, and responds by sinking it. The three guests escape as the *Nautilus* fights the Maelstrom.

Verne's mastery of the genre is demonstrated by the interlocking and superimposing literary devices and the many vibrant episodes presenting new settings. The number of themes is also impressive: technology of course, biology, the study of the seas, exploration of unknown areas, life on desert islands, history, biblical themes, mythical ideas, even international politics. The characters, too, are more complex than in many of Verne's works.

Inspiration

Much of the inspiration for *Twenty Thousand Leagues* came from Verne's own experience. He was born on an island in a major slave port; and while preparing the book he consulted his brother Paul, a retired naval officer. In the late spring of 1868 he bought a fishing-boat of 8 or 10 tons, which he claimed to use as a study while sailing along the Normandy and Brittany coasts. In September he sailed to Gravesend, where he wrote: 'How beautiful [the scenery] is and what fuel for the imagination!' [19 August 1868].²

For two scenes, Nemo's elevated surveying of the ruins of Atlantis and his claiming of the new continent of Antarctica, the author may be drawing inspiration from the King's Park in Edinburgh. On Verne's second day outside France, the volcanic Arthur's Seat dominating the park was the first mountain he had visited. Imbued as he was with Scott and Romanticism, in love with this exotic land, he generated a sublime vision from the classical and marine view. Equally surprisingly, Nemo's plumbing, furnishings, and general life-style in the heart of the raging depths may be drawn from Verne's visit a couple of days later to a rain-swept but luxurious 'château' in Oakley, Fife. Verne seems indeed to be hinting at the Scottish source when he shows Nemo at

² The correspondence cited—in abbreviated form—follows Olivier Dumas, Piero Gondolo della Riva, and Volker Dehs, eds, *Correspondance inédite de Jules Verne et de Pierre-Jules Hetzel, 1863–1886*, vol. 1 (Geneva: Slatkine, 1999); the dates they attribute are sometimes subject to caution.

the organ, ‘only us[ing] the black keys, giving his melodies an essentially Scottish tonality’—in *Journey to England and Scotland* (1859–60), Verne’s friend ‘Amelia’, a young hostess who guides and enchants him, had similarly recommended ‘play[ing] using only the black keys’ (ch. 24).

Verne’s other sources are wide-ranging, taken from literature, science, geography, and history, and are often openly acknowledged. In 1865 the novelist George Sand suggested to Verne that the sea was the one area of the globe where his ‘scientific knowledge and imagination’ had not yet been put to use. There is clear influence from the Bible, Hugo, Michelet, Scott, and Poe. *Moby-Dick* presents many affinities in details and plot (see Appendix 2: Sources, which includes full references).

The most important non-literary sources are the scientists and popularizers Maury, Figuier, Mangin, Agassiz, and Renard. Many of the naturalists *Twenty Thousand Leagues* quotes, including Buffon, Gratiolet, Lacépède, Milne-Edwards, d’Orbigny, Quatrefages, and Tournefort, were researchers at the Museum of Natural History in Paris, like Dr Aronnax. Although the novel cites one contemporary encounter with a giant squid (at the time dismissed by science), an unquoted source, Denys de Montfort, is probably the main origin of the captain’s epic battle. The life of Nemo himself may be based partly on Gustave Flourens, a French scientist and international freedom-fighter.

Many commentaries have concentrated on the originality of the *Nautilus*, but it should be emphasized that Verne’s technology was not innovative. The captain’s presentation of his vessel provides more than enough information about its length and girth, but his only explanation of its motive power is in terms of an electricity which is ‘not the commonly used sort’, multiplied by ‘a system of levers’! Submarine craft had in any case been used in the American War of Independence and Civil War; and there were even submarine vessels named *Nautilus*, including one the author must have seen on his visit to the Paris Universal Exposition of 1867. At least three books with titles like *Journey to the Bottom of the Sea* and *The Submarine World* were published in France in 1867–9 alone. So crowded indeed were the deeps that Verne feared being accused of plagiarism.

The novelist himself was categorical: ‘I am not in any way the inventor of submarine navigation.’ He even claimed he was ‘never particularly interested in science’, only in creating dramatic stories

in exotic parts. Amongst the tales of submarines, only Verne's has survived—undoubtedly because of the living nature of his text. His originality lies in his unbridled *literary* imagination.

Inception

The book seems to have been planned over a considerable period. The correspondence, predominantly with his lifelong publisher, Jules Hetzel, shows what Verne considers the novel to be about, and reveals his mounting excitement:

I'm also preparing our *Journey under the Waters*, and my brother and I are arranging all the mechanics needed for the expedition. I think we'll use electricity, but it's still not completely decided. (10 August [1866])

After 15 months of abstinence [while writing *Geography of France* (1867)], my brain greatly needs to burst: so much the better for the *Journey under the Waters*, there will be abundance, and I promise to have myself a great time. [29 July 1867]

In about March 1868, Verne began writing his most ambitious book. Over the next few months, his excitement continues to grow at the idea of what he called the 'unknown man' and the 'perfect' subject:

I'm deep in *Journey under the Waters*. | I'm working on it with tremendous pleasure . . . I very much want this machine to be as perfect as possible. [10 March 1868, to his father]

This unknown man must no longer have any contact with humanity . . . He's not on *earth* any more . . . the sea must provide him with everything, *clothing and food* . . . Were the continents and islands to vanish in a new Flood, he'd live the same way, and I beg you to believe that his ark will be a bit better equipped than Noah's . . . I've never held a better thing in my hands. [28 March 1868]

What is difficult is to make things that are highly implausible seem very plausible. [23 July 1868]

Oh the perfect subject, my dear Hetzel, the perfect subject! [11 August 1868]

It is certainly serious, very unexpected, and no one has ever done anything like it before. [14 August 1868]

In addition to the novel as 'machine', we may note the metaphor of what Verne heatedly holds in his hands and the 'abundance' of his textual production. But we can also observe the emphasis on sea-based self-sufficiency and the biblical reference.

In the autumn of that year, Verne submitted the first volume to Hetzel, with the proofs ready at year's end. From the end of April until mid-June 1869, however, the publisher sent a series of harrowing letters about the second volume, very critical especially of the ending.³

The number and severity of the changes the publisher proposed or imposed can be seen by reading the second of the two manuscripts. These complex questions, which go to the very heart of the novel, and which mean that the published version must be considered fundamentally flawed, are studied in the Explanatory Notes and Appendix 1.

The Nautilus

One initial way of coping with the complexity of the novel is simply to study the behaviour of the submarine. Its very freedom and power mean that, to create tension, it must encounter dangers of some sort. Most of the threats to its shiny self-containment fall into four categories: perforation, invasion, immobilization, or suffocation. (Mechanical problems are out of the question. That the hatch might let in water never seems to cross anybody's mind, either.)

Thus it risks rupture by man's most advanced ballistic technology or by massed sperm whales and intrusion by giant squid. The most frequent problem, however, is that the 'cigar-shape' has an uncontrollable desire to slip into passages for which 'it's too big', as Farragut's sailors put it. This enables it to reach its home base via an underwater tunnel and to find the passage connecting the Red Sea to the Mediterranean, and hence to visit the seven seas without retracing its steps. But under the ice-cap its bold thrusting creates dangers, as the submarine manages to get into a tunnel which is not only closed at both ends but shrinking by the hour. In another episode, potentially involving all four dangers, it chooses to pass through the 'most dangerous strait on the globe', duly gets stuck on the rocks, and attracts hundreds of natives.

³ Another irritation was that, after Verne had finished the book, Hetzel casually suggested adding a new volume to increase its length by half, rather like a butcher measuring out sausage. To achieve this, he wrote on 25 April 1869, episodes could easily be added, such as the escape, capture, and reconciliation of one of the guests, an episode involving John Brown (the abolitionist murdered in 1859), or a scene where Nemo could save a few Chinese boys from Chinese pirates and keep one on the *Nautilus*, thus 'cheering things up on board'! Fortunately, the ideas were not implemented.

Getting into so many scrapes does imply that something is going on. At the beginning, when the *Nautilus* keeps exposing itself to ships, rubbing up against them, or even penetrating them, the captain may indeed be drawing attention to his marvellous equipment. But Nemo also has a secret agenda that will become slightly clearer only at the end.

The *Nautilus* conditions the whole structure of the novel. Because of its hothouse atmosphere and Nemo's aversion to setting foot on land, those occasions when he does leave the submarine are all the more heightened. During such episodes, Aronnax has to be there as well, to tell the tale; but Conseil and Ned are often excluded. Typical is Nemo's sudden night-time invitation to visit the underwater realm in diving suits. This poetic adventure is worth studying in detail.

Atlantis

Aronnax is fidgety from the start. He jumps when he hears rain pattering on the surface and feels acutely conscious of his leaden feet crunching a 'bed of bones'. He wonders at the giant furrows on the ocean floor, the distant glow, and the clearings in the petrified forest. His over-excited mind starts imagining castles and cities—even seabed friends for the captain. His photographic vision sees everything in fine black-and-white silhouette and his movements are light: leaping tree trunks, snapping creepers, flying over chasms. Aronnax's exaltation, Nemo's pace, and the imperfect tense produce a strange mood. A metaphor converts the sea back into land, the living into the man-made, tentacles into brush, and crabs and lobsters into suits of armour. After a climb up a volcano, after the vegetable and animal kingdoms have led the way up the Great Chain of Beings, Aronnax again imagines human works.

But an eruption suddenly steals the scene—revealing a glowing sunken city. In an elegiac vision and the longest sentence of the book, teasing glimpses appear of technology and religion, Greece and Tuscany, triremes and temples, even a sea within the sea. All this provides an unusual chance for Nemo and Aronnax to communicate in depth, for although they cannot talk, they do touch, speak through their eyes, and even use the intimate second-person singular form; above all, Nemo uses a convenient piece of chalk and rock-wall to write the briefest of messages: 'ATLANTIS'.

Feverish as he is, Aronnax runs through the whole gamut of legends

about the lost continent. He conjures up, pell-mell, biblical and pre-historic scenes, a land bridge to America, the giant contemporaries of the first man. He conflates geological, biblical, and mythological time to return to the origins where, paradoxically, man was at his most evolved. But he is careful to leave his mark on the living past, subtly smudging the backdrop so as to prove to himself that it is not a dream. The transcendental scene closes with the footlights on a rare relaxed Nemo. He is ‘leaning on a mossy stele’, as if on his reading desk, contemplating time past, empathetically ‘turned to stone’ in ‘his’ landscape. ‘Was it here that this strange being came to commune with history and relive ancient life—he who wanted nothing to do with modern times?’

And this is the Verne who has been argued to be a positivist, a scientific apologist, a blind technological anticipator! He is in fact a high Romantic, with his poetic language, nostalgia, and mystical yearning for significance. The grandeur of the novel comes not only from the many ‘privileged’ locations the submarine takes us to but from its reference to a higher destiny.

Lists

The structure of *Twenty Thousand Leagues* is punctuated—punctured?—by many long lists. Even the paroxysm of Atlantis is interrupted at the vital moment by the eruption of names of authors on the lost continent. The lists apocryphally made the poet Apollinaire exclaim, half in admiration: ‘What a style! Nothing but substantives!’ There are indeed a bewildering number of common and proper nouns in the novel.

In the carefully crafted opening chapter about the ‘monster’ terrorizing the seas, ambiguity is already maximized between fact and fiction, persistent legend and documented reports, authorial information and the narrator’s misinformation. The lists are similarly a massive importation of real-world documentation, proof that Verne has done his homework, a guarantee of seriousness or plausibility. On another level, nevertheless, they are devoid of significance. A procession of obscure fish hardly advances the plot. Scientific knowledge does not consist merely of the names of scientists, nor exploration, of those of explorers.

Although Verne’s lists may no longer have the resonances they had for a contemporary French reader, some do provide an archaeology of

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PART ONE

I

A SHIFTING REEF

THE year 1866 was marked by a strange event, an unexplained and inexplicable occurrence that doubtless no one has yet forgotten. Without mentioning the rumours which agitated the denizens of the ports and whipped up the public's imagination on every continent, seafaring men felt particularly alarmed. The businessmen, ship-owners, sea-captains, skippers, and master-mariners of Europe and America, the naval officers from every country, and finally the various national governments on both continents—all became extremely worried about this matter.

For some time already, sea-going ships had been encountering an 'enormous thing': a long spindle-shaped object, sometimes phosphorescent, but infinitely larger and quicker than a whale.

The facts concerning this apparition, as noted in the respective logbooks, agreed quite closely as to the structure of the said object or creature, its extraordinary speed, its surprising ability to get from place to place, and the peculiar vitality it seemed to possess. If it was a cetacean, then it surpassed the size of every whale classified by science until then. Neither Cuvier, nor Lacépède, nor M. Duméril, nor M. de Quatrefages* would have accepted that such a monster existed, unless they had seen it—really seen it, that is, with their own scientific eyes.

Taking the average of the observations made at the various junctures—rejecting both the timid evaluations assigning the object a length of 200 feet and the exaggerated opinions making it three miles long and a mile wide—it could be declared that this phenomenal being greatly exceeded any dimensions the ichthyologists had acknowledged until then—if indeed it existed at all.

But it did exist, there was now no denying it; and given the inclination of the human mind to seek the fantastic, it is easy to understand the worldwide sensation this supernatural apparition created. As for dismissing it as a myth, such a position was no longer tenable.

The reason was that on 20 July 1866 the steamship the *Governor Higginson*, of the Calcutta and Burmah Steam Navigation Company, had encountered this thing, moving five miles east of the Australian coastline.* At first Captain Baker thought he was facing an unknown reef; and he was even getting ready to calculate its precise position, when two columns of water,* projected from the baffling object, shot 150 feet into the air, whistling. Hence, unless the reef was subject to the intermittent jet of a geyser, the *Governor Higginson* was well and truly dealing with some hitherto unknown aquatic mammal, whose blowholes were blowing columns of water mixed with air and vapour.

A similar phenomenon was observed in the Pacific on 23 July of the same year by the *Cristóbal Colon* of the West India and Pacific Steamship Company.* This extraordinary cetacean was thus able to move from place to place at surprising speed, for within three days the *Governor Higginson* and *Cristóbal Colon* had observed it on two charted spots at more than 700 leagues' distance.

A fortnight later and 2,000 leagues away, the *Helvetia* of the French Line and the *Shannon* of the Royal Mail,* sailing on opposite tacks of the Atlantic between the United States and Europe, signalled to each other their sightings of the monster at 42° 15' N and 60° 35' W of the Greenwich meridian. From these simultaneous observations, it was claimed that the mammal could be evaluated as at least 350 British feet long,¹ since the *Shannon* and the *Helvetia* were both smaller, although measuring 100 metres from stem to stern. Now the biggest whales, the *culammak* and the *umgullick** frequenting the waters around the Aleutians, have never exceeded 56 metres—if indeed they have ever reached that.

These reports arriving hot on the heels of one another, fresh observations made on board the transatlantic liner the *Pereire*, a collision between the monster and the *Etna* of the Inman Line, an official memorandum drawn up by officers of the French frigate the *Normandie*, a very solemn statement by Commodore Fitzjames's senior staff on board the *Lord Clyde**—all this greatly thrilled public opinion. In countries of a light-hearted mentality the phenomenon was joked about; in the serious, practical countries of Britain, America, and Germany, it became a matter for grave concern.

¹ About 106 metres. The British foot is only 30.40 centimetres long. [JV]

The monster came into fashion in all the big cities: it was sung about in the cafés, made fun of in the newspapers, acted out in the theatres. The *canards* had a golden opportunity to lay whoppers of every hue. Each gigantic imaginary creature resurfaced in the newspapers, admittedly short of good copy, from the white whale, that awe-inspiring 'Moby Dick' of the polar regions, to the enormous kraken,* whose tentacles can strangle a 500 ton ship and drag it down into the depths. The formally attested reports of olden times were even reproduced, the views of Aristotle and Pliny conceding the existence of such monsters, the Norwegian tales of Bishop Pontoppidan, and the account of Paul Egede.* So, lastly, were the reports of Captain Harrington, whose good faith could not be questioned when in 1857 he declared that, while on board the *Castilian*, he had seen that enormous serpent which until then had frequented the seas only in the pages of the old *Constitutionnel*.*

There soon broke out in the learned societies and scientific journals an interminable argument between the credulous and the incredulous. The 'monster question' inflamed people's minds. Those journalists who professed science battled with those who professed wit, spilling oceans of ink during this memorable campaign; some of them even two or three drops of blood, for from the sea serpent they moved on to the most offensive personal remarks.

For six months the war raged back and forth. The weighty articles of the Geographical Institute of Brazil, the Berlin Royal Academy of Sciences, the British Association, and the Smithsonian Institution in Washington, the discussions in the *Indian Archipelago*, Abbe Moigno's *Cosmos*, *Petermanns Mitteilungen*,* and the scientific sections of the quality press in France and abroad—all were driven back with untiring repartee by the popular press. These facetious journalists, punning on a saying of Linnaeus's quoted by the monster's opponents, argued that 'nature does not proceed by the lips of bounders',* and so adjured their contemporaries not to give the lie to nature by admitting the existence of krakens, sea serpents, Moby Dicks, or other lucubrations of crazed sailors. The last straw was an article written for a much-feared satirical newspaper by its most popular writer, who pushed his spurs in like Hippolytus* and delivered a fatal blow to the monster, putting it out of its misery amidst universal laughter. Wit had proved mightier than science.

In the first few months of 1867 the question did indeed seem dead and buried, without hope of rising from the ashes, when fresh

information reached the general public. There was now in fact a genuine and serious danger to circumvent, rather than simply a scientific question to resolve. The problem took on a different complexion. The monster became an islet, a rock, a reef once more; but a reef that was shifting, elusive, and slippery.

On the night of 5 March 1867 the *Moravian* of the Montreal Ocean Company was sailing at $27^{\circ} 30' \text{ N}$, $72^{\circ} 15' \text{ W}^*$ when her starboard quarter struck a rock unmarked on any chart. She was making 13 knots under the combined effect of the wind and her 400 horsepower. Doubtless, had it not been for the quality of her hull, the *Moravian* would have sunk from the hole produced by the collision, together with the 237 passengers she was bringing back from Canada.

The accident happened at about 5 a.m., just as dawn was breaking. The officers of the watch rushed to the stern of the vessel. They examined the sea with the closest attention. They saw nothing but a powerful eddy breaking at about three cables' distance, as if the waters were being violently thrashed. The position was carefully calculated and recorded, and the *Moravian* continued on her way without visible damage. Had she hit a submerged rock, or else the enormous wreck of some half-sunken ship? There was no way of finding out; but when the hull was inspected in dry dock,* it was realized that part of the keel had been broken.

This collision, extremely serious on its own, would perhaps have been forgotten like so many others, had it not happened again in identical circumstances three weeks later. This time the event had a tremendous impact because of the nationality of the ship involved and the reputation of the company operating the vessel.

The name of the celebrated British ship-owner Cunard* is known to all. In 1840 this far-sighted industrialist set up a postal service from Liverpool to Halifax using three wooden paddle-steamers of 400 horsepower and a burden of 1,162 tons. Eight years later the company added to its fleet four ships of 650 horsepower and 1,820 tons, and two years after that, two further vessels of still greater power and tonnage. In 1853 the Cunard Line, which had just had its mail-carrying monopoly renewed, successively added the *Arabia*, the *Persia*, the *China*, the *Scotia*, the *Java*, and the *Russia*, all amongst the fastest and the largest ships, after the *Great Eastern*,* ever to have sailed the high seas. In 1867 the company owned twelve vessels, eight being paddle- and four propeller-driven.

If I give these succinct details, it is so that everyone realizes the importance of this shipping line, known worldwide for its intelligent management. No ocean-going company has been run with greater skill; no business crowned with greater success. During the past twenty-six years, Cunard ships have crossed the Atlantic two thousand times, and not once cancelled a journey, arrived behind schedule, or lost a letter, man, or vessel. This is why, in spite of the strong competition from France, passengers still choose the Cunard Line more than any other, as is apparent from reading the official registers of recent years. Consequently no one will be surprised at the uproar produced by the accident involving one of its finest steamships.

On 13 April 1867, in a fine sea and moderate wind, the *Scotia* was at 45° 37' N, 15° 12' W. Under the thrust of its 1,000 horsepower, it was moving at 13.43 knots. Its paddlewheels were striking the sea with perfect regularity. Its draught was 6.7 metres and its displacement 6,624 cubic metres.

At 4.17 in the afternoon, while the passengers were in the main saloon taking their lunch, a blow, hardly perceptible in fact, was felt on the hull of the *Scotia*, at the section just behind the port wheel.

The *Scotia* had not run into something: something had run into it, and a cutting or perforating implement rather than a blunt one. The blow seemed so slight that nobody on board would have worried, but for the shout of the hold-workers, who rushed up on deck shouting:

'We're sinking! We're sinking!'

At first the passengers were terrified—but Captain Anderson* quickly reassured them. In actual fact the danger could not be imminent. The *Scotia*, divided into seven compartments by watertight bulkheads, was guaranteed to resist any single leak with impunity.

Captain Anderson headed immediately for the hold. He observed that the fifth compartment had flooded; and the speed of the flooding proved that the hole was a large one. Very fortunately, the boilers were not in this compartment, for the fires would have been instantly extinguished.

Captain Anderson had the engines stopped at once, while one of the sailors dived to assess the damage. Shortly afterwards, the existence of a 2-metre hole in the hull was confirmed. Such damage could not be repaired and the *Scotia*, its wheels half underwater, had to continue its journey in the same condition. It lay 300 miles off Cape Clear,*

and was three days late sailing into the company docks, having greatly worried Liverpool.

The engineers then carried out a dry-dock inspection of the *Scotia*. They couldn't believe their eyes. Two-and-a-half metres below the waterline appeared a neat incision in the form of an isosceles triangle.* The break in the plate was perfectly clean, and could not have been cut with greater precision by a punch. The perforating implement in question had therefore to be of uncommon temper—and, having in this way been propelled with prodigious strength through the 4-centimetre-thick metal plate, it must then have withdrawn in a reverse movement that was truly inexplicable.

Such was the most recent event, which resulted in public opinion being stirred up once more. Starting from that moment, maritime losses from unknown causes were simply attributed to the monster. The fantastic animal shouldered the blame for all such shipwrecks, which unfortunately occur in considerable numbers; for, out of the three thousand ships whose losses are recorded each year by the Bureau Veritas,* the number of steam or sailing ships presumed lost with all hands through lack of news reaches two hundred!

It was now 'the monster' that was being blamed, rightly or wrongly, for their disappearance. Because of this, and because travel between the various continents was getting more and more dangerous, the public spoke its mind and categorically demanded that the oceans be finally rid of this formidable cetacean, whatever the cost.

2

PROS AND CONS

AT the time of these events, I was returning from a scientific exploration of the Badlands of Nebraska, in the United States. The French government had attached me to this expedition in my capacity as a part-time lecturer* at the Museum of Natural History in Paris. After six months in Nebraska, I had arrived in New York towards the end of March, laden down with my precious collections. My departure for France was scheduled for the beginning of May. In the meantime, I was attending to the classification of my mineralogical, botanical, and zoological treasures—when the *Scotia* incident happened.

I was perfectly aware of the topic in the news, for how could it have been otherwise? I had read and reread the European and American newspapers without getting any closer to a solution. This mystery fascinated me. Unable to form an opinion about it, I had drifted from one extreme to the other. That there was *something*, there could be no question, for doubting Thomases could be invited to touch the wound in the *Scotia*'s side.*

When I reached New York the question was a hot one. The theory of a floating island or elusive reef, put forward by a few unqualified individuals, had been totally discredited. And in truth, unless the reef had an engine in its belly, how could it move around with such awesome speed?

In the same way, the idea of a floating hulk, an enormous wreck, was rejected, and again because of the speed at which it moved.

This left two possible answers to the problem, which in turn produced two very distinct groups of supporters: on the one hand, those who swore by a monster of colossal strength; and on the other, those who argued for a 'submarine' vessel* of immense locomotive power.

Now the latter theory, admissible after all, failed to survive the research carried out in the Old and New Worlds. That a private individual had at his disposal a mechanical contrivance of this sort was improbable. When and where could he have had it built, and how could he have kept its construction secret?

Only a government might have possessed such a weapon of destruction, and in these disastrous times, when humanity endeavours to increase the power of its weapons of war, it could not be thought impossible that a country had tested this formidable device unbeknownst to the others. After the chassepot rifles came floating mines; after floating mines, underwater rams;* then . . . a reaction. At least, I hope there will be one.

But all the same the idea of a war machine had to be abandoned, in the light of what the governments declared. As it was a matter of public interest, since intercontinental communications were suffering, the governments' truthfulness could not be doubted for one moment. In any case, how could it be imagined that this submarine vessel's construction had escaped public notice? Keeping a secret under such circumstances is very difficult for a private individual, and certainly impossible for states, whose every act is continually observed by rival powers.

Consequently, after research had been carried out in Great Britain, France, Russia, Prussia, Spain, Italy, America, and even Turkey, the hypothesis of a submarine *Monitor** was rejected once and for all.

The monster therefore surfaced once more, despite the constant witticisms that the popular press showered on it; and people's imaginations soon followed this path and allowed themselves to culminate in the absurdest dreams of fantastic ichthyology.

At my arrival in New York, several people had done me the honour of consulting me on the phenomenon in question. In France I had published a two-volume in-quarto work entitled *The Mysteries of the Ocean Deep*s. This book, particularly relished in scholarly circles, had made of me a specialist in that relatively obscure field of natural history. My views were sought. So long as I was able to deny the reality of the fact, I cloaked myself in total denial. But soon, with my back against the wall, I was forced to explain unequivocally. The *New York Herald* even challenged 'the honourable Pierre Aronnax,* lecturer at the Paris Museum', to express a view of some sort.

I complied. I spoke, since I was unable to remain silent. I analysed the question from every angle, whether political or scientific; and will provide here an extract from a very comprehensive study that I published in the newspaper on 30 April:

As a result of the above, and having successively examined the various hypotheses, and since every other supposition is precluded, we are necessarily obliged to accept the existence of a marine animal of immense power.

The great depths of the ocean are totally unknown to us. Sounding lines have been unable to reach them. What transpires in those remote abysses? What beings live or can live 12 or 15 miles below the surface?* What is the constitution of these animals? We can scarcely even guess.

Nevertheless, the solution to the problem which has been submitted to me can be formulated in terms of a two-pronged alternative.

Either we know every variety of beings which inhabit our planet, or we do not.

If we do not know them all, if nature still holds ichthyologic secrets for us, it is quite acceptable to recognize the existence of fish or cetaceans of unknown species or even genera, of an essentially 'deep-based' composition, which inhabit the depths inaccessible to the sounding line and which some event, a whim, a caprice as it were, brings to the top of the sea at infrequent intervals.

If, on the contrary, we know all living species, we are necessarily compelled to seek the said animal amongst marine beings that are already

catalogued, and, in this case, I should be disposed to accept the existence of a Giant Narwhal.*

The common narwhal or sea-unicorn often attains a length of 60 feet. Multiply this dimension by five, by ten even, endow this cetacean with a strength proportional to its size, enlarge its offensive weapon, and you will obtain the required animal. It will have the dimensions ascertained by the officers of the *Shannon*, the instrument required to pierce the *Scotia*, and the force necessary to breach the hull of a steamship.

The narwhal is armed with a kind of ivory sword, a halberd in the terminology of certain naturalists. This is a principal tooth with the hardness of steel. Some of these teeth have been found embedded in the bodies of whales, which the narwhal attacks with unvarying success. Others have been removed, not without difficulty, from the hulls of vessels that have been pierced through and through, like a drill through a barrel. The museum of the Faculty of Medicine in Paris possesses one of these tusks that is 2.25 metres long and 48 centimetres wide at its base!

Now imagine a weapon ten times as great and a creature ten times as strong, launch it at a speed of 20 knots, multiply its mass by its velocity, and you obtain a shock capable of producing the required catastrophe.

Accordingly, until further information becomes available, I shall vote for a sea-unicorn of colossal dimension, armed not with a halberd, but with a genuine spur, like the armoured frigates called 'war rams', whose weight and motive power it would also have.

Thus the inexplicable phenomenon would be explained—unless there is nothing there at all, which is always possible, in spite of what has been glimpsed, seen, felt, and experienced!

These last words were an equivocation on my part; but I wished to a certain extent to protect my dignity as a scholar and avert the danger of becoming a laughing-stock for the Americans, for they laugh wholeheartedly when they do laugh. I left myself a way out, but, in the final analysis, I admitted that 'the monster' did exist.

My article was hotly debated, and produced quite a stir. It won over a number of supporters. But in any case, my proposed solution left full scope for the imagination. The human mind enjoys grandiose conceptions of supernatural beings. Now the sea is their best medium, for it is the only environment that can produce and develop such giants: beside them the land animals, the elephants or rhinoceroses, are mere dwarves. The liquid masses support the biggest known species of mammals, and perhaps harbour molluscs of extraordinary size, crustaceans terrible to contemplate, lobsters 100 metres long,

crabs weighing 200 tons! Why ever not? The land animals of long-gone geological eras, the quadrupeds, quadrumanes, reptiles, and birds, used to be built on a gigantic template. The Creator cast them in a colossal mould which slowly reduced with time. Why could the unknown depths of the sea not have conserved these vast specimens from another age, that sea which never changes, unlike the terrestrial core which is almost continuously being modified? Why should she not conceal in her bosom the last varieties of those titanic species, whose years are as centuries and centuries as millennia?

However, I am allowing myself to be carried away by these musings which I no longer have the right to entertain! Enough of these chimeras which time has changed for me into terrible realities! I repeat: at that time people made up their minds on the nature of the phenomenon, and the public accepted without question the existence of a prodigious being that had nothing in common with the sea serpents of legend.

But if some saw a purely scientific problem to be solved, others of a more positive nature, especially in America and Britain, agreed to purge the seas of this redoubtable monster, in order to safeguard cross-ocean communications once more. The industrial and commercial journals treated the question chiefly from this point of view. The *Shipping & Mercantile Gazette and Lloyd's List*, the *Paquebot*, and the *Revue maritime et coloniale*,* together with every newsletter devoted to the insurance companies, who were threatening to raise their premiums—all were in agreement on this point.

Since public opinion had come to a decision, the States of the Union were the first to speak out. Preparations were made in New York for an expedition to hunt down the narwhal. A fast frigate, the *Abraham Lincoln*, made ready to sail at a moment's notice. The arsenals were opened up for Captain Farragut,* who spared no effort to arm his frigate.

But as it happened, as it always happens, once it had been decided to hunt for the monster, it disappeared from sight. For two months it was not heard of at all. No ship came upon it. It seemed as if the unicorn knew about the plots being hatched against it. It had been discussed so often, even over the transatlantic cable! The wags claimed that this sharp customer had intercepted some telegram in transit and was now turning it to its own advantage.

As a result, although the frigate was armed for a distant campaign and equipped with formidable fishing tackle, nobody knew where to

send it to. Impatience was building up to a bigger and bigger head, when, on 3 July, it was learned that a steamer of the San Francisco—Shanghai line* had again sighted the animal, three weeks previously in the seas of the north Pacific.

This news caused tremendous excitement. Captain Farragut received less than twenty-four hours' notice. His provisions were on board. His bunkers overflowed with coal. Not a crew man was missing from his roll-call. He only had to light his fires, stoke up, and cast off! Even twelve hours' delay wouldn't have been forgiven! To get going was all Captain Farragut wanted in any case.

Three hours before the *Abraham Lincoln* left its Brooklyn pier,¹ I received a letter couched in these terms:

Dr Aronnax
Lecturer at the Paris Museum of Natural History
Fifth Avenue Hotel*
NEW YORK

Dear Sir,

If you would like to join the expedition on board the *Abraham Lincoln*, the government of the Union would greatly appreciate having you represent France in this enterprise. Captain Farragut has a cabin at your disposal.

Very cordially yours
J. B. Hobson*
Secretary to the Navy

3

AS MONSIEUR PLEASES

THREE seconds before J. B. Hobson's letter arrived, I no more dreamed of hunting the unicorn than of attempting the Northwest Passage.* Three seconds after reading the letter from the honourable Secretary to the Navy, I realized that my real vocation, my only aim in life, was to pursue this disturbing monster and to save the world from its clutches.

However, I was returning from a difficult journey, tired and longing for rest. I pined only to see my country again, my friends, my small

¹ A sort of individual quay for each vessel. [JV]

APPENDIX 1

INCEPTION

IN a letter to Verne dated 25 July 1865 the writer George Sand suggested that he should write an under-sea novel. Verne may have written an outline in August 1866, but stopped work until 1868 to finish the *Illustrated Geography of France and its Colonies*.

The novel often changed title: *Journey under the Waters*, *Twenty Thousand Leagues under the Waters*, *Twenty-Five Thousand Leagues under the Waters*, *Twenty-Five Thousand Leagues under the Seas*, and *Twenty Thousand Leagues under the Oceans*. The definitive title may have been Hetzel's idea.

Two manuscript versions ('MS1' and 'MS2') are known to exist of *Twenty Thousand Leagues*, both written in 1868–9 and now kept in the French National Library, with an online version freely available.¹ MS1 I (i.e. vol. 1, dating from the second quarter of 1868) corresponds to chapters 11 onwards of Part One, and MS1 II (first and second quarters of 1869) to Part Two. MS2 I (third quarter 1868), headed 'Twenty Thousand Leagues under the Oceans', and MS2 II (third and fourth quarters of 1868) again correspond to the two parts of the book.

In MS1, chapters 12 and 13 form a single unit; and 14–16, only two chapters. Some of the titles are different: 'The Coalmines of Tenerife' instead of the published 'Underwater Coalmines' (II 10), 'An Attack' for 'A Massacre' (II 21), and 'Maelstrom' for 'Captain Nemo's Last Words' (II 22).

The second document, used to prepare the proofs, is more legible than the first, but contains, naturally, much less unpublished text. These vital documents, apparently in Verne's hand, remain almost completely unknown. Scores of exegetes have pored over the intensive, sometimes bad-tempered, epistolary exchanges with the publisher about the closing chapters. But the manuscripts, which constitute the primary evidence of most of the changes, have scarcely been read since the 1860s: apart from my own publications, only one article, written forty years ago, has been published.²

¹ A letter written by Verne's son, Michel, to Prince Roland Bonaparte in 1906 says that the manuscripts being sent to him 'seem' to include a third version of Part Two, although no trace of this has been found. C.-N. Martin states that Verne gave another manuscript to the Comte de Paris in 1878, but this has never been confirmed. In addition, to facilitate Hetzel's revision work, a Mme Lachaise recopied the second volume of Verne's fair copy [8 June 1869].

² As noted above, Destombes's study of 1975 (see Select Bibliography), which is excellent, examines only short sections of the manuscripts and the transcriptions contain a few mistakes.

It should be noted immediately that these earlier drafts of the novel are often classic Verne, sometimes preferable to the familiar version, so that one can regret many of the alterations—and suspect that they were introduced on Hetzel's initiative. Indeed the publisher's involvement is shown by the many partly-erased pencil marks and comments in the margins of MS2, usually beside changes in the text: some are even initialled 'H'. On occasion Verne retraces the pencil amendments in ink, meaning that it is Hetzel's contribution which is published.³

In a few pages, these precious documents cannot be explored in any great detail. The notes at the end of the volume cite some of the important variants in the successive versions of the book. Here, a few significant facets and themes will be studied, looking specifically at how *Twenty Thousand Leagues* could have been—was—different from the published version.

In both manuscripts, we see a different Nemo, more independent and more intransigent. In addition to being an engineer, naturalist, writer, and freedom-fighter, 'Juan Nemo'—perhaps an allusion to his Hispanic pride or grandiloquence or his anti-Don Juan lifestyle—is a composer. The music he prefers to 'all the ancient and modern' is his own: a striking image of a solipsistic artist short-circuited by his isolation. The incongruous Christian element in the published text is generally absent, including Nemo's cry of 'God almighty!' When scores of Papuans invade his ship, the captain simply electrocutes them, without remorse.

The sentence uttered every day by the crew is at this stage 'Nautron restoll loni virch', even harder to decrypt. The location of Nemo's home port, which Verne takes pains to hide, is given away as near 'Tenerife'. There is an allusion to Walter Scott; and a debt to Alexandre Dumas *fils*, Verne's friend, mentor, and collaborator, is also acknowledged.

MS2 contains a different agreement between Nemo and Aronnax concerning life on board: it has three conditions rather than one and makes the passengers 'prisoners' rather than 'guests', with the doctor formally undertaking never to escape. But in a final dialogue, Aronnax throws in Nemo's face his moral right to leave, who throws back: well, go then!

Whereas in the closing words of the published work Aronnax suggests that the captain should change his ways ('may hatred die down in that wild heart', etc.), in the first manuscript he is resoundingly praised as 'impregnable' and as 'the man of the waters, in his final homeland. The free man!'

In the Margin

As in Verne's other drafts, the margin of MS1 contains a treasure trove of information about the inception of the novel and the author's

³ Additional information about the manuscripts of *20T* can be found in my *Jules Verne inédit*.

private, even intimate life, as well as Hetzel's and Verne's doodles and drawings.

Beside the main text appears an intriguing note: 'photographic prints so as to see using a magnifying lens. See savages Robinson' (I 22 fo. 56).⁴ Although examining photographs with a magnifying glass could in theory be used to identify the ships harassing Nemo, in practice the idea does not appear in any version of *Twenty Thousand Leagues*. Nevertheless, scrutinizing a print in search of clues will be crucial in *The Mysterious Island* (1874)—making this apparently the first reference to the manuscript which will evolve into that novel.

Also in the margin of MS1, there appears a list of chapters, written in June or July 1868, a unique summary amongst the well-known *Extraordinary Voyages*. It begins with the title of a chapter already written, before setting out half of the chapters still to be composed:

198 Torres Str. | 19 A Few Days on Land | 20 Universal Thunder | 21 The Indian Ocean | 22 A Pearl Worth 10 million | 23 Œgri [*sic*] Somnia | 24 The Coral World || Volume 2 | 1 The Red Sea | 2 Santorini | 3 Lighthouse | 4 Mediterranean (I 19 fo. 43).⁵

The book does not contain a description of a 'lighthouse' in the Mediterranean—is this perhaps that of Alexandria, the last of the Seven Wonders of the World, whose underwater remains were discovered in the eighteenth century? Moreover, given that '4 Mediterranean' will become '7 | The Mediterranean in ~~24~~48 Hours' (MS1 II 7 fo. 27), it is possible that Verne, while aiming for a second volume of twenty-four chapters, planned to write about four more chapters set in European waters than were actually published.

The order is also surprising. In this summary, chapter '22 A Pearl Worth 10 million', set off the coast of Ceylon, is placed before '24 The Coral World', whereas in the manuscript text itself (II 3 fo. 8) and in the published book, it will be placed three chapters *after* 'The Coral Cemetery'⁶ (MS1 I 22 fo. 57). In other words, chapters '23 Œgri Somnia' and '24 The Coral World' were planned at this early stage to take place between Ceylon and the Red Sea—waters that were partly French, and formed a cul-de-sac in 1868–9, just before the Suez Canal was opened. These two chapters are largely devoid of geographical clues—facilitating the transfer—but in the

⁴ References to the manuscripts appear in this form (volume 1, chapter 22, page 56, following Verne's chapter and page numbering); in the Explanatory Notes, such references are generally omitted.

⁵ I would like to thank the French National Library for its kind permission to publish extracts from documents in its possession.

⁶ The innocuous title 'The Coral World' in the summary seems to correspond to 'The Coral Cemetery', which describes the underwater burial.

EXPLANATORY NOTES

5 *Cuvier* . . . *Quatrefages*: naturalists, specializing in ichthyology, amongst Verne's sources, often via intermediaries. *Cuvier*: Georges (1769–1832), a founder of comparative anatomy and palaeontology, and the creationist author of *De l'histoire naturelle des cétacés* (1804) and *Histoire naturelle des poissons* (1828–48), from which more than a third of Verne's fish names are drawn, but with the adjectives added. *Lacépède*: Bernard-Germain de (1756–1825), a disciple of Buffon, author of *Histoire naturelle des poissons* (1793–1803) and *Histoire des cétacés* (1804). *Duméril*: Henri-André (1812–70), doctor and author, or perhaps his father André-Marie-Constant (1774–1860), specialists in reptiles. *Quatrefages*: Jean-Louis-Armand de Quatrefages de Bréau (1810–92), naturalist and anthropologist, author of *Histoire de l'homme* (1867). He appears in the prehistoric section added to the 1867 edition of *Journey to the Centre of the Earth*. Quatrefages sent Verne a signed copy of this work ('Remembrance of the author'); who wrote back on 6 February 1868 to announce the underwater novel for that September.

6 *the Calcutta and Burmah Steam Navigation Company* . . . *five miles east of the Australian coastline*: (Verne: 'the Calcutta and Burnach'—this shorthand is adopted for quotations across most or all of the original editions, although it was sometimes Hetzel who introduced the errors), founded in 1856, it became the British India Steam Navigation Company in 1869. MS2 has a more logical '500 miles'. The ships mentioned in this chapter are authentic, unlike the encounters.

two columns of water: MS2 has the water rising only '50 feet' into the air; at the time whales were believed to have two nostrils.

the 'Cristóbal Colon' of the West India and Pacific Steamship Company: (1854), 1,100 tons (Flachat, p. 174—for further information about this author, see Appendix 2: Sources). This company was founded in 1838; 'West India' was part of the Caribbean.

the Helvetia of the French Line and the Shannon of the Royal Mail: the French Line (1861), or Compagnie Générale Transatlantique. However, a *Helvetia* (1864), of 3,319 tons and 350 horsepower (HP), belonged to the British National Steam Navigation Company (1863); the *Shannon* (1859), an iron paddleboat of 900 HP (Flachat, pp. 86 and 88); the *Royal Mail* (1840), or British and North American Royal Mail Steam Packet Company, or Cunard Line.

the culammak and the umgullick: (1871 edition: 'Kulammak' here, and, later: 'Hullamock . . . Umgallick' (I 12); MS2 here: 'Hullamack'). Although this information about the two species of whales appears in Arthur Mangin, *Les Mystères de l'océan* (1863, 1864—p. 330), Mangin seems to

have borrowed it from the *Dictionnaire illustré* (see Appendix 2: Sources), which in turn cites the German naturalist Peter Simon Pallas (1741–1811).

- 6 *the Pereire . . . the Lord Clyde*: (Verne: ‘Iseman’; *Magasin d’éducation et de récréation* (henceforth: *MÉR*): ‘Inman’), the *Pereire*, 800 HP, propeller-driven; the *Etna*: 2,120 tons, 450 HP; the *Inman* line, or Liverpool and Philadelphia Steamship Company (1850), founded by William Inman (1825–81). Verne saw the 1,000-HP *Lord Clyde*, subject to rolling, on 20 or 21 March 1867, apparently at Birkenhead.
- 7 *the white whale, that awe-inspiring ‘Moby Dick’ . . . to the enormous kraken*: (*MÉR*: ‘Maby Dick’; MS2: ‘Mæoby Dick’), probable allusion to *Moby-Dick*; or, *the Whale* (1850), by Herman Melville (1819–91). A possible source reads: ‘Maby Dick’ (Mangin, p. 297). Verne’s *The Yarns of Jean-Marie Cabidoulin* (1901) echoes Mangin: ‘the great white whale of the Greenland coast, the famous Moby Dick, which the Scottish whalers hunted for more than two centuries, without managing to reach it, for the good reason that they had never seen it’ (ch. 4). But before Mangin and Melville, there was Mocha Dick—whose name fitted his appearance—living in the South Pacific at the turn of the century. The water column of this white whale was exceptionally continuous and perpendicular. The animal swam in convoy with ships, but like the *Nautilus*, Nemo and Ahab, turned ferocious if attacked. Mocha Dick influenced Poe’s *The Adventures of Arthur Gordon Pym* (1838, French translation by Baudelaire, 1858), which in turn inspired not only *Moby-Dick* but also *20T. kraken*: sea monsters that lived off the coast of Norway and crushed ships with their tentacles, possibly based on giant squid (which can grow up to 50 feet and weigh 2 tons). *Cabidoulin* prominently features kraken (with some of its monsters curiously resembling . . . the *Nautilus*).

Aristotle . . . Egede: published works on sea monsters. Aristotle: (384–322 BC), philosopher and author of ‘Auscultationes mirabiles’, about Atlantis, and a *History of Animals* containing a biological classification which includes cephalopods and squid. *Pliny*: the Elder, Gaius Plinius Secundus (23–79); author of a *Natural History*, including whales covering four acres and a 700-pound ‘polyp’ which climbed over a fence in Spain. *Bishop Pontoppidan*: Erik Pontoppidan (1698–1764), bishop of Bergen, theologian, and author of a *Natural History of Norway* (1752). He describes a monster ‘a mile and a half in circumference . . . like a number of small islands’, with arms reaching out of the sea, a strong smell, and a discharge of muddy fluid. *Paul Egede*: (Verne: ‘Heggede’) (1708–89), Danish–Norwegian missionary and specialist in Greenlandic, author of *Efterretninger Om Grønland* (1789), which describes a monster ‘as tall as a mainmast . . . [with] a long pointed snout . . . great broad paws’.

Harrington . . . the old Constitutionnel: what George Henry Harrington and 20 others sighted about 10 miles from St Helena on 12 or 13 December 1857, a 200-foot serpent-like creature with a wrinkled crest, was recorded in a formal report to the Admiralty; *the ‘Castilian’*: (Verne: ‘Castillan’),

about 1,100 tons, described in *Cabidoulin* (ch. 4); the old 'Constitutionnel': a liberal newspaper (1815–1914) which serialized George Sand, Eugène Sue, and Dumas père, and was suppressed and revived five times. Verne is 'de-metaphorizing' the cliché for any dubious story, 'the sea serpent of the *Constitutionnel*'.

the *Geographical Institute of Brazil* . . . *Petermanns Mitteilungen*: the Geographical and Historical Institute (1838). *The Berlin Royal Academy of Sciences*: founded in 1700; the *British Association*: for the Progress of Science (1831); the *Smithsonian Institution*: centre for scientific research (1846), financed by the bequest of James Smithson (1765–1829); the *Indian Archipelago: Journal of the Indian Archipelago* [East Indies, modern Indonesia] and *Eastern Asia* (1847–63). Abbé Moigno's 'Cosmos': François-Napoléon Moigno (1804–84), mathematician and former Jesuit, who edited *Le Cosmos* from 1852 to 1862, when it was renamed *Les Mondes*; *Petermanns Mitteilungen*: (Verne: 'Petermann's *Mittheilungen*') or *Petermanns geographische Mitteilungen* (1860–1915), founded by the cartographer and geographer, August Petermann (1822–78).

punning on a saying of Linnaeus's . . . 'nature does not proceed by the lips of bounders': Carolus Linnaeus (1707–78), Swedish botanist who devised the binomial method of animal and plant classification based on evolutionary relationships, and who believed in kraken; 'nature does not proceed by the lips of bounders': 'la nature ne fait pas de sots', a pun on 'la nature ne fait pas de sauts' ('Nature does not proceed by leaps and bounds'—Linnaeus's *Philosophia Botanica* (1751), sec. 77), an expression that has become proverbial since Aristotle and is visible in the alchemists, Leibniz's *New Essays on Human Understanding* (1765, IV, 16), Mangin, Frédel, and Figuier. It was often quoted by Darwin to support his evolutionary thesis.

a much-feared satirical newspaper . . . like *Hippolytus*: MS2: 'an article in the *Figaro*', showing that Verne's acerbic comments are directed at the French press. The *Figaro* is a conservative newspaper (1826–present); the author in question may be the acerbic journalist, Henri Rochefort (1831–1913); like *Hippolytus*: Hippolytus was the son of Theseus in Greek mythology. Theseus calls on Poseidon, the god of the sea, who sends a sea monster to frighten Hippolytus's horses, causing him to be dragged to his death. Racine writes: 'Hippolytus . . . lunges at the monster, and with a spear . . . makes a large wound in his side' (*Phèdre*, Act V, scene 6). Verne's mixed metaphor ingeniously reverses the monster and Hippolytus's roles; but it is also an allusion to Hippolyte de Villemessant (1810–79), editor-in-chief of the *Figaro* from 1854. His message is that the journalist is being too bold.

- 8 the *Moravian of the Montreal Ocean Company* was sailing at 27° 30' N, 72° 15' W: the *Moravian* (1864), 2,246 tons, 400 HP; the *Montreal Ocean Steamship Company*: founded in 1854. MS2 has 'the *Lafayette* of the French Line, responsible for the postal service between Saint-Nazaire and Veracruz', and adds, 'Its laden displacement was 5,800 tons'. It was forgotten to

change the coordinates: a ship coming from Canada would not sail at 27° 30' N.

- 8 *dry dock*: MS2 adds 'of Saint-Nazaire'. The deletion of the French references is due to Hetzel's sensitivity about anything that might be deemed remotely controversial.

Cunard: Sir Samuel (1787–1865), Canadian founder of the British and North American Royal Mail Steam Packet Company (1840), officially renamed the Cunard Line in 1878.

In 1853 . . . the Great Eastern: in fact the date only applies to the first ship; *the 'Arabia'*: Cunard's last wooden paddleship (1853); *the 'Persia'*: one of his first iron ships (1856); *the 'China'*: (which Phileas Fogg narrowly misses in New York), launched in 1862; *the 'Scotia'*: (1861), his last paddleship, which held the transatlantic record until 1869, at 8 days 22 hours; *the 'Java'*: built in 1865; *the 'Russia'*: (MS2: 'the *Prussia*'), built in 1867; *the 'Great Eastern'*: Verne saw Brunel's ship (then called the *Leviathan*) under construction in Greenwich in September 1859. By far the largest ship in the world, it was equipped with a single screw propeller, paddlewheels, and a full set of sails. In 1867 it was chartered to carry passengers to the Paris Universal Exposition; Verne was on board for both legs of the voyage (14 March–30 April 1867), describing it in a letter to Hetzel ([9 April 1867])—references in this abbreviated form indicate the letters of Verne and Hetzel, square brackets meaning interpolated dates) as 'an eighth wonder of the world', and, at great length, in the semi-fictional *A Floating City* (1871), whose title refers to the ship. Verne's unpublished manuscript, 'Carnet de voyage en Amérique', notes every detail of the voyage.

In addition, in 1867 Verne wrote an untitled two-page fragment of a novel or short story, which begins 'A Briton of great distinction . . .'. It contains the names of most of Cunard's ships mentioned in *20T*, together with similar remarks about their regularity and punctuality, derived from Flachet (pp. 90 and 117).

- 9 *Captain Anderson*: this dynamic fictional figure is presumably based on the forceful real-life Captain Anderson of the *Great Eastern* described in Part Two (ch. 20).

300 miles off Cape Clear: this position does not correspond to the coordinates above.

- 10 *an isosceles triangle*: this hole is very strange, since not motivated; Nemo's only depicted attack, much later in the novel, is launched horizontally towards a much lower point on the vessel. The ram, located half-way up the *Nautilus*, cannot climb to a depth of less than four metres—unless launched obliquely. Is it merely a coincidence that the hole proposed by Hetzel in the fabric of the balloon in *The Mysterious Island* is also triangular? (The idea is rejected by Verne, who emphasizes its uselessness and implausibility (for details, see my *Jules Verne inédit*, ch. 14).)

Bureau Veritas: 1828–present, rival to the *International Lloyd's Register*.

part-time lecturer: Aronnax is an occasional teacher ('professeur suppléant'), and not a professor, as has been the usual translation to date.

- 11 *doubting Thomases . . . in the Scotia's side*: reference to 'Except I . . . put my finger into the print of the nails, and thrust my hand into [the resurrected Jesus's] side, I will not believe' (John 20: 25).

'submarine' vessel: ('bateau "sous-marin"'), the first use of 'submarine' as a noun meaning 'vessel' was about in the 1890s in both French and English.

chassepot rifles . . . underwater rams: contemporary armaments: breech-loading rifles, improved by gunsmith Antoine Chassepot (1833–1905), used in the French armed forces from 1866. In a letter of 'Monday, 30 [December 1867]', highly critical of Napoleon III and the Empire, Verne writes: '. . . chassepots the only reasoning, a war in perspective . . . for 1848! [*sic*]'; Verne's 'floating mines' ('torpilles') may mean stationary ones, not 'torpedoes' in the modern sense; the term 'underwater rams' was first used about the *Merrimack* (cf. following note); Verne's 'béliers sous-marins' is unattested: it denotes male sheep!

- 12 *Monitor*: the *Monitor* (1861–2) and the *Virginia* (ex-*Merrimack*, 1855–62) fought the first battle between ironclads, in the American Civil War. The *Monitor*'s turret allowed its cannon to fire in different directions. In general, a 'monitor' was a heavily armoured warship with a flat deck and watertight hatches, operating nearly submerged. On 20 or 21 March 1867, Verne saw an 'ironclad' at Laird's of Birkenhead, the company that made the metal plates for the *Nautilus* (I 13).

New York Herald . . . the honourable Pierre Aronnax: the *New York Herald* (1835), perhaps the best-selling newspaper worldwide, was run in 1868 by James Gordon Bennett Jr; in 1866 it had sent Stanley in search of Livingstone. The epithet 'honourable' is normally reserved for elected officials or government delegates; Pierre was the name of Jules Verne's father.

'Aronnax' was not attested before 1869: the hard 'ax' is also visible in 'Axel', the hero of *Journey to the Centre of the Earth*. The illustration of Aronnax in the French edition, with arms folded, was based on a photograph of Verne himself. In MS1 his name is 'Oyonnax'; and in MS2, it is written 'Arronnax' or 'Arronnax', except on the first occurrence—'Aronnax'—which may have caused this unconventional form to be retained. Oyonnax is a village in the Ain, near Lyon, cited for its peat in Verne's *Geography of France*.

12 or 15 miles below the surface: in I 20 the maximum depth is implied to be about 15 or 16 kilometres.

- 13 *a Giant Narwhal*: Verne constructs his mystery by mixing legend (the unicorn's horn, often brought back to Europe, was the narwhal's) and exaggeration (the maximum size of the narwhal, which lives only near the Arctic, is about 16 feet).
- 14 *that sea which never changes, unlike the terrestrial core which is almost continually being modified*: Verne delights in inverting opposites, in describing the sea in terrestrial terms and vice versa.

- 14 *The Shipping & Mercantile Gazette and Lloyd's List, the Paquebot, and the Revue maritime et coloniale*: (Verne: 'Shipping and Mercantile Gazette and Lloyd's'), respectively: 1836–1916; 'Journal of Navigation and Sea Voyages', 1866–July 1869; and an official publication, 1861–present.

Captain Farragut: the name must come from David G. Farragut (1801–70), the forceful Unionist admiral who said 'Damn the torpedoes—full speed ahead!' (1864); he visited France in 1867.

- 15 *on 3 July, it was learned that a steamer of the San Francisco–Shanghai line*: this date in 1867 marks the beginning of the main chronology, which will continue until a date fifteen or twenty days after 2 June 1868 (II 21). The novel opened with the encounters with the mysterious object, on 20 and 23 July 1866, followed by the debate lasting six months, then new encounters on 5 March and 13 April 1867.

MS2 and the 18mo edition of 1900 (henceforth: '1900') have the date as '2 July'. The *MÉR* edition and 1900, but not MS2, have 'the *Tampico*, a steamer': in *From the Earth to the Moon*, the *Tampico* is an 'aviso of the Federal Navy' (ch. 13).

Fifth Avenue Hotel: Verne stayed there on 9–10 and 15–16 April 1867 (*A Floating City*, ch. 34 and 39). Other American autobiographical details shared with *20T* include the *Great Eastern*, the hotel lift, the 20-franc cab ride to the 'pier' (in English), the Hudson, the East River, Broadway, Brooklyn, Sandy Hook, Napoleon, Agassiz, and George Sand.

J. B. Hobson: a J. B. Hobson occurs in the records of the American Bible Society in 1860–1 and Yale University in 1865. In 1867 the Navy Secretary was Gideon Welles.

the Northwest Passage: linking the Atlantic to the Pacific, discovered in the 1840s, navigated at the end of the century.

- 16 *Conseil*: this surname may be taken from Jacques-François Conseil (born in 1814), who tested a three-ton ellipsoid submarine at Le Tréport and on the Seine in Paris in 1858–9. It had a hatch, a viewing chamber, automatic aeration valves, a screw, and diving fins, as recorded in his pamphlet entitled *Bateau de sauvetage, dit 'Pilote'* (1863).
- 17 *archaeotheria . . . chaeropotami*: extinct mammals. *Archaeotheria*: (Verne: 'les archiotherium') huge warthog-like animals (N. America); *hyracotheria*: or *Eohippi*: genus of very small horse, found in Wyoming and Utah; *oreodons*: genus intermediate between pig, deer, and camel that lived near the Rockies; *chaeropotami*: genus close to hyracotherium.
- monsieur's live babirusa*: why is Aronnax travelling with a wild pig found only in the East Indies? (The word 'live' is omitted in some editions.)
- 18 *The hotel lift*: the lift in the Fifth Avenue Hotel, installed in 1859, was innovative, being raised and lowered by a vertical screw.
- 19 'Go 'head!': naval form of the command (some Hetzel editions 'correct' it to 'Go ahead!').

the 39 stars: the American flag had 37 stars in 1867, reaching 39 only in 1889.

- 20 *Leviathan*: a monstrous sea creature in the Old Testament, later identified with the whale, described as ‘piercing’, ‘crooked’, and a ‘sea-dragon’ (Isaiah 27: 1; cf. Job 41: 1 and Psalms 104: 26).

Knight of Rhodes: a member of a military religious order, expelled from the Holy Land in about 1291, which settled in Rhodes in 1309 or 1310, then in Malta in 1530.

Dieudonné of Gozo: (d. 1353), a Provençal squire, a knight of Rhodes (1346–53), or member, more precisely Grand Master, of the Order of the Hospitallers of St John of Jerusalem; it was in about 1342 that he is reputed to have delivered Rhodes from a dragon.

- 21 *the Argus*: Argus was a giant with a hundred eyes, allowing him to keep watch while asleep, hence a watchful person.

due to be exhibited at the 1867 Universal Exposition: from 1 April to 3 November, on the Champ-de-Mars, with 52,000 exhibits and several million visitors. Aronnax is speaking in July 1867, when the Universal Exposition had already opened. Verne went to it, probably in June, and may have seen such important inspirations as: the Rouquayrol–Denayrouze diving apparatus, which won a gold medal for its innovative accessories, including a portable air tank; clothing made from byssus; and a giant aquarium with 800 fish, which gave visitors the impression of strolling on the seabed. He could also have seen Samuel Hallett’s American submarine *Nautilus* (1857), with its riveted sheet-metal and magnifying panes; and section and complete models of Siméon Bourgeois and Charles-Marie Brun’s *Plongeur*, an 80-HIP submarine tested in Rochefort in 1863 and relaunched in 1867. It measured a slender 6 × 42 metres, weighed 410 tons, had a flat deck, a recessed lifeboat, a spur, inclined planes, and observation windows, and used compressed air for breathing and to expel the water from its ballast tanks.

Ned Land: he has an English surname common in Nova Scotia, and an English first name; he is Québécois, celebrates Christmas like a Protestant (I 19), and is simultaneously ‘Anglo-Saxon’ (I 7), ‘half-French’ (I 11), and ‘American’ (I 9). He served in the United States Navy; he swears in both languages, but his culture is largely French, as his ancestors seem to be.

Rabelais: François (c. 1494–1553), author of *Gargantua* (1532) and *Pantagruel* (1534), present in Nemo’s library.

- 22 *Homer*: writer (late 8th century BC), included in Nemo’s library, author of the *Iliad* and the *Odyssey*.

three weeks after our departure: in fact closer to four weeks.

whose depths are still hidden from human eyes: the present tense implies that even at the end of the story, no one will have seen the depths.

- 23 *incredible . . . such fantasies*: Verne is ironic at the expense of his own *Journey to the Centre of the Earth* (1864, 1867).

- 23 *resist the pressure*: it is now known that certain primitive organisms live in the deepest parts of the ocean.
- 25 *unwittingly echoing a celebrated riposte of Arago's*: François Arago (1786–1853), astronomer, physicist, and politician. The answer ‘Maybe because it isn’t true’ is attributed to Plutarch in his *Astronomie populaire* (vol. 3 (1856), book 15, ch. 24, p. 510), on the subject of links between the moon and mental perturbations.
- On 30 June*: they were off Patagonia on 30 July. This ‘30 June’ and the following ‘3 July’ and ‘6 July’ should be in about the second week of August.
- 26 *the Monroe*: the name is perhaps taken from the *James Monroe*, an Antarctic exploration vessel of the 1820s.
- 28 *in a state of permanent erythrism*: erythrism is the ‘abnormal sensitivity of an organ to stimulation’!
- 29 *three more days, like Columbus before him*: Christopher (1451–1506), the first to cross the Atlantic in the modern era; his request was made on 10 October 1492, two days before sighting land.
- 36 *that unfortunate 6 November*: in fact the 5th; this date marks the end of a four-month pursuit.
- 37 *Two enormous columns of water*: why does the submarine eject them? The tanks are normally emptied by ‘injection’ into the surrounding water (II 16); although the propeller sends water to a great height (II 1), this is unlikely to be as ‘two . . . columns’; is the object trying to imitate a whale?
- AN UNKNOWN SPECIES OF WHALE*: the title in the second manuscript is the ironic ‘A Whale Made of Galvanized Metal’.
- Byron or Poe, who are masters*: the present tense is unusual (some editions have ‘were’). George Gordon Byron (1788–1824), militant Hellenist and Romantic author of the poems *Childe Harold* (1812–18), *The Corsair* (1814), and *Don Juan* (1819); he swam the Hellespont (now the Dardanelles) in 1810. The American Edgar Allan Poe (1809–49) claimed to have swum from Richmond to Warwick in 1823, although the current was four kilometres an hour.
- 40 *in the bellies of whales*: ‘Jonah was in the belly of the whale three days and three nights’ (Jonah 1: 17).
- 42 *‘The boat hasn’t moved?’*: if Conseil and Aronnax fell into the sea at the same spot as Land, and have been swimming for three hours, why do they finish up in the same place?
- nearly a metre out of the water*: if its height is eight metres and a tenth of its cylindrical form emerges (by volume, I 13), the *Nautilus* would come out of the water about twice as much—unless carrying a heavy cargo or ballast. In any case, the waves generated by the prow would cover the platform.
- 43 *MOBILIS IN MOBILI*: in Latin ‘Mobilis’ means ‘nimble, mobile, lively; shifting, varying, changeable; inconstant, or fickle’; ‘Mobilis in mobili’ can be translated as ‘Mobile in the mobile element’ or ‘Changing within change’.