Jules Verne was born in Nantes in 1828, the eldest of five children of a prosperous family claiming French, Celtic, and Scottish ancestry. His early years were happy apart from an unfulfilled passion for his cousin Caroline. Literature always attracted him and while taking a law degree in Paris he wrote a large number of plays. His first book, however, about a journey to Scotland, was not published during his lifetime. But in 1862, *Cinq semaines en ballon* was accepted by the publisher Hetzel, becoming an immediate success worldwide—to be followed by *Journey to the Centre of the Earth*, *Twenty Thousand Leagues under the Sea*, *Around the World in Eighty Days*, and sixty other volumes, covering the whole world (and below and beyond). Verne himself travelled over three continents, but suddenly sold his yacht in 1886, and shortly afterwards was shot at and permanently wounded by an unbalanced nephew. Eight of the books appeared after his death in 1905—but were in fact written partly by his son, Michel.

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THE PRUSSIAN CANTU.

JOURNEY TO THE CENTRE
OF THE EARTH.

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JOURNEY TO THE CENTRE OF THE EARTH 1

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In France, Jules Verne is not the same person as in Britain. South of the Channel, Verne is recognized as an authentic, nineteenth-century writer with a proper set of Collected Works. Since the 1960s, any surprise, condescension, or irony at reading or studying the Voyages extraordinaires has disappeared, even among those who never actually buy any books. Balzac, Stendhal, Verne, Zola: the odd man out, the least integrated into Gallic national culture, is the Italianate Stendhal.

But in the English-speaking countries it is rare to meet adults who will admit to liking Verne. He is a children’s author, a writer of science fiction, a poor stylist, at best responsible for films starring James Mason. His works may be fiction, but certainly don’t count as literature. He is short-trousered, not really French, and has nothing to say about the ‘human condition’.

One reason for such a disparity must be the generally atrocious English ‘translations’. The overwhelming majority of books by ‘Djools’ Verne are leaden or wooden, and possibly infringe the Trade Descriptions Act. They have lost up to half their contents, but have gained instead some wonderful howlers. There is no equivalent here to Baudelaire’s Poe or to Scott Moncrieff’s Proust, with their textual ‘thickness’ and their sense of overall belonging.

Journey to the Centre of the Earth itself has been translated more than ten times, but the most recent dates from the 1960s. The best-known version is still the atrocious 1872 one, which rebaptizes Axel as Harry and Lidenbrock as Hardwigg, makes them both Scottish, and finishes each paragraph with at least one totally invented sentence. But this novel hardly deserves such treatment. It was the first unqualified critical success of Verne’s—and the first to be completed under the close monitoring of his publisher and mentor Hetzel. Journey to the Centre of
the Earth is, above all, a brilliant piece of writing. It is an unparalleled entertainment, but one that also stands comparison with other literary works of the nineteenth century.

The plot can be quickly summarized: Professor Lidenbrock and his nephew Axel discover a document in a twelfth-century Icelandic book which, when deciphered, records the claim of a certain Arne Saknussemm to have gone down into the crater of Snæfells and reached the centre of the Earth. Lidenbrock decides to try this for himself and, dragging Axel away from his fiancée Gräuben, travels to Reykjavik and across Iceland. With the help of the stoical Hans, they find the crater and travel down through the geological layers of the past, experiencing various adventures. A long way down, they discover a huge cavern containing a large sea—plus various biological specimens, some dead and some very much alive. After trying to cross the sea, they discover a path down again, marked with Saknussemm’s runic initials. But it is now blocked. They attempt to blow up the obstacle, while sheltering on their raft, but instead carry part of the sea down with them into the bowels of the Earth. They then start rising again; and end up riding a volcanic eruption, which throws them out on the slopes of Stromboli.

Journey to the Centre of the Earth prefigures many of the ideas of Twenty Thousand Leagues under the Sea, Around the World in Eighty Days, and From the Earth to the Moon. The mood is light-hearted—although hardly optimistic, for it contains tragic, obsessive, and sometimes morbid elements. There is even a love-element, of sorts. In this novel, more than elsewhere, Verne seems to let himself go, while at the same time drawing inspiration from many different sources. Before examining these systematically, it is useful to look at Verne’s life and the Extraordinary Journeys as a whole.

Jules-Gabriel Verne was born in 1828, on an island in central Nantes in western France. His father had a successful law practice, and wrote occasional amateur verses. His mother’s maiden name was Allotte de la Fuÿe, derived
from a Scottish Allott who had emigrated in the fifteenth century to join Louis XI’s Scottish Guard of archers and eventually been ennobled.

There have been over a dozen biographies of Verne, most notably by his niece Marguerite Allotte de la Fuÿe and his grandson Jean Jules-Verne. The former, however, is embellished and bowdlerized; and even the latter is a mixture of family legends and manuscript sources often readily accessible, including over 1,000 letters from Verne to his parents and publisher. About a dozen interviews are also known to exist, mostly with British and American journalists, plus a brief autobiographical piece, ‘Memories of Childhood and Youth’. Lastly there is Backwards into Britain, a lightly fictionalized account of his visit to England and Scotland in 1859 with his friend Hignard.

A no doubt apocryphal story has Jules running away to sea at the age of 11 to fetch coral on the Coralie for his cousin Caroline. Her rejection of him, several years later, certainly seems to have left its mark on him. But otherwise his schooldays were unexceptional—apart from a passion for messing about on makeshift rafts on the River Loire with his brother Paul.

In 1847 Jules arrived in Paris to study law. For the next ten years, he lived in a succession of single rooms, sometimes with barely enough to eat. He devoted himself during this period to writing plays, at which he was moderately successful: of the total of approximately twenty-nine, seven had been performed or published by 1863, at least one of them with the help of Dumas père. In 1856 he met Honorine de Viane, a widow with two daughters, and married her a few months later.

The journey to Britain (his first outside France) had a major impact on him, especially Edinburgh and the Highlands. Although his visit was carefully written up (making it the first book Verne wrote), Voyage en Angleterre et en Écosse was rejected by Hetzel—and lay hidden until 1989, when it was published and hailed as a brilliant piece of travel writing, and a vital document for understanding Verne. It was published in English in 1992.

In 1851–5, Verne published five short stories, in which
many of the themes and structures of his novels are already visible. Each one concerns the difficulty of getting things going (like Verne's own career). All are set in foreign parts, all are influenced by late Romanticism, and all finish more or less tragically.

In 1862, Hetzel accepted a book entitled *Five Weeks in a Balloon*. Within months, it had become a huge success, and led to a series of contracts for the next forty years. The principal aims of the collected works, at least according to Hetzel's immodest announcement, was 'to sum up all the geographical, geological, physical and astronomical knowledge amassed by modern science, and to rewrite the history of the universe'. At the age of 37, Verne acquired some security, even if the contracts were far from generous (the plays adapted from the novels proved much more lucrative). Starting in 1864 with *Journey to the Centre of the Earth*, one or two books duly appeared each year, eventually totalling sixty-three novels and eighteen short stories.

Verne continued to travel. In 1861 he had visited Norway and Denmark, again with Hignard, and in 1867 he sailed to America on the liner the *Great Eastern*. He also bought three yachts of successively greater size, on which he went back to Scotland and Scandinavia and visited North Africa. In 1872 the family moved permanently to Amiens. In 1886, for reasons which remain unknown, Verne sold his yacht and gave up travelling.

In 1861 his only child, Michel, had been born. He proved unruly, and was at one stage forcibly packed off to India as an apprentice pilot. In 1883, he eloped with a 16-year-old girl—but eventually divorced his first wife and re-married. He tried his hand at many careers, including scientific journalism and fiction-writing, one of his short stories being published in 1889 under his father's name.

After Verne's death in 1905, eight novels and three short stories were published in the series of *Extraordinary Journeys*. These works are subtly different from the previous ones; Michel publicly declared that he had prepared
some of them for publication, but denied doing anything more. Only in 1978 was it proved, on the basis of the manuscripts, that he had made considerable changes, including writing whole chapters. Two-thirds of *The Survivors of the 'Jonathan*', for instance, are his, including the many philosophico-political passages; plus perhaps even more of the masterpiece 'The Eternal Adam', set 20,000 years in the future.

The *Journeys* are characterized by simplicity, most evidently in their language, where clarity of thought and a flowing style produce ease of comprehension. Like the Parables or Aesop’s Fables, though, there are layers of implicit meanings that often work against the surface level, making Verne an ‘underground revolutionary’. Again, the subject matter ostensibly avoids what many have thought to be the primary aim of the novel, namely an account of psychological processes, especially relationships between men and women. In the best-known works, the depiction of society at large in its sociological, political, and historical aspects is not very much in evidence either; and nor is the transmission of pure ideas. Verne’s works are concerned with physical, material existence, or, more simply, the interaction between people and things. Virtually all of them are situated in a definite time and place, often far away, with the journey a central element.

Genre fiction has a poor reputation. By placing writer x in genre y, the assumption is sometimes that he or she deals with matters tangential to personal experience and hence to the real aims of literature. But such an assumption would seem to be based on a double misapprehension. Direct personal experience does not exist as such; and there is no simple recounting in literature (or in life). Experience can only be talked about in relation to specific concerns, which normally implies some genre or another. To call Defoe an adventure writer, Swift a travel writer, the Brontës writers of sentimental fiction, or Shakespeare a crime and historical writer, may be true—but will shock, because we are accustomed to viewing
great literature as transcending any particular pigeon-hole. In other words, a mistaken view holds literature to be genre-free and genre fiction to be literature-free.

In Verne’s case, if a genre classification really is necessary, he falls into that of travel and adventure. But in no case can he be considered a science fiction writer. One good reason is that only about a third of the Extraordinary Journeys really involve any science; and another, that despite his futuristic reputation the events recounted nearly always happen just before the present. What is more, the science is not generally innovative or designed to change society. A significant number of the works do depend on a novel form of transport, whether underground, under water, or in the air or beyond. But Verne prefers ‘intermediate technology’. His first vehicle is the balloon, invented long before he was writing, and which he in fact considered too high-tech, but the only way to get across Africa in 1862. His next vehicles are foot- and raft-power in Journey to the Centre of the Earth and sailing-ship and dog-sled in the greatly underestimated Adventures of Captain Hatteras. Even Twenty Thousand Leagues under the Sea is more about the ocean than submarines, more about Nemo than nuclear propulsion. Around the World in Eighty Days goes out of its way to avoid any technological extrapolation, reverting to elephants or wind-sled each time the railway fails.

The real thrust of Verne’s works, their raison d’être, is to explore the globe. All the Extraordinary Journeys in the Known and Unknown Worlds (as Hetzel baptized them in 1866) deal with an ‘elsewhere’. Even Backwards into Britain is a voyage of discovery: Verne describes his excitement at the idea of a myth-laden Caledonia, where every hill and street is redolent with memories—an excitement specifically literary and historical. True, he prefers the ship to Liverpool to be propeller-driven; and the scene where the train hurries along the Scottish crags is most striking. But such enthusiasm at poetry in motion hardly makes him science fiction.
Verne's imagination works instead on an unusual sensitivity to the physical world, with the dimensions of space representing a constant interest (rarely 'outer space', but frequently 'inner'). Modern criticism has found a very wide variety of innovative elements in his treatment of the globe. The 'world-view' conveyed includes, in brief summary: an anthropomorphization of the Earth and a mechanization of the human, with the biological often acting as a go-between; an attempt at sensual 'totalization', an exhaustive knowledge (in the biblical sense) of the world; a constant scepticism; the undermining by juxtaposition, humour, and irony of any dogmatic view of existence; a metaphorization of everyday objects and ideas, which are then often re-metaphorized or even de-metaphorized; a distinctive rhythm, made up of repetitions, silences, minor and major keys, counterpoint, and slow movements leading up to explosive crescendos; and an innovative narrative technique, whether in the use of tense, person, point of view, voice, or structure.

Reading Verne nearly a century after his death, the abiding impression is that of a distinctive voice and a personal vision: of literary works that remain (or have become?) startlingly modern.

One problem for a detailed analysis of Verne is the sheer volume of his production. Nevertheless, his non-posthumous works have often been divided into three periods. The first dozen novels are self-confident in tone and structure. The second period deals with less 'prestigious' territories, and increasingly with social, political, and historical issues, in novels like *Mathias Sandorf* (1885), set in the Mediterranean, or *North against South* (1887), about the American Civil War. The final period often comes back to ideas treated in the first, but in ironic, derisory, or negative fashion: *Le Sphinx des glaces* (1897), for instance, designed to be a sequel to Poe's *Narrative of Arthur Gordon Pym of Nantucket*, or
Introduction

Master of the World (1904), which makes the rebel Robur of The Clipper of the Clouds (1886) into a misanthropic destroyer.

Verne's imagination is fired by 'one-offs', by unique events. The Dark Continent, the poles, the interior of the Earth, the dark side of the moon, and the bottom of the ocean were unexplored when he began writing. In each case a central point then represented a maximum of exoticism, an ultima Thule, further-than-which-it-was-not-possible-to-go. But each could only be done once. Even from the beginning, as a consequence, Verne's travellers seem torn between a hasty extravagance and a thrifty reluctance: one eye on the efforts of real-life explorers and of the author's competitors in the fiction business, the other on spinning the series out for as long as possible. Then, once all the possibilities have been exhausted, all corners of the universe visited, the works 'have nowhere to go'.

Such a view of the plots has more than an element of truth. But it must be conjugated with the real nature of invention in the Journeys. The travelling carries much more weight than the arriving. A constantly expressed fear is that of a 'fiasco' on arrival in port; and hence a perpetual strategy, that of the most roundabout route—the 'heroic' method, as Lidenbrock puts it. Verne's writing is essentially about maximizing the potential of the blank areas on or off the maps, those non-historical, non-geographical, and sometimes non-spatial domains where his imagination can be given full rein. In the later works his inventiveness turns back on itself and becomes in some ways more creative. One's reaction to the different phases of the Journeys is therefore ultimately a matter of individual taste.

But in any case one of the aims of exploring the universe is in reality the search for traces of the past, much more attractive to Verne than any conceivable future. And clearly the exploration of the history of an individual, a species, or a world can be pursued almost indefinitely. Paradoxically, only the past is open-ended.
The three-way division is not therefore clear-cut, and the transitions are particularly evasive. The ‘follow-up’ to *Journey to the Centre of the Earth*, *The Child of the Cavern* (1877), is perhaps the last novel where some ‘transcendent’ discovery seems probable, where access to a life-giving mystery is at stake; but throughout the 1870s a mixture of anguished and good-humoured works appeared, from *Around the World in Eighty Days* (1872) via *The Boy Captain* (1879) to *The Tribulations of a Chinese Gentleman* (1879). The first one is a journey-to-end-all-journeys, an effortless summum of all possible worldly travel—but is itself a repetition, as *Captain Grant’s Children* (1865–7) had already gone round the world. *The Mysterious Island* (1874–5) is another culmination or cul-de-sac, for it is situated in the finite space of a small desert island.

It would be tempting, therefore, to say that 1875 must be approximately when ‘something happened’. However, this would be to ignore the extraordinary *The Chancellor*, probably written in 1870. It was influenced by the notorious events on the Raft of the *Méduse*, when over three-quarters of the people who abandoned ship in shallow waters off the west coast of Africa failed to survive. Perhaps also echoing the Franco-Prussian War of 1870–1, Verne’s novel is a horrific story of man’s inhumanity to man, complete with murder and several varieties of cannibalism. It contains no science whatsoever; and precious little optimism. It is also a landmark in the history of French literature, being the first narrative novel to be written in the present tense—a clear sign of the breaking down of the old order.

Any tidy schema of Verne’s works is thus difficult to sustain. Two of the rare constants are the pessimism, incipient even in the early fiction, and the retreat into the past.

This is where *Journey to the Centre of the Earth* comes in, both as the second of the *Journeys* to be published and because of its theme of descent into the most distant past.
We know very little about its inception. There are no surviving manuscripts or proofs, and virtually the only reference in the contemporary correspondence occurs in a letter of 12 August 1864. Since it is not mentioned in the contract of 1 January 1864, it was probably written between these two dates (the action of the novel itself runs up to March 1864 and beyond). At the time of writing, Verne was probably correcting the proofs of *The Adventures of Captain Hatteras* (hence the similarities: in each a liquid Ariadne's thread leads to an electric, illuminated sea, representing a return to paradise, but one protected by a volcanic fire).

One of the strands common to all the early books is Scotland. Verne's urge to go ever further north, abruptly curtailed after only three days in the Highlands in *Backwards into Britain*, re-emerges in both the *Journey* and *Hatteras*, each expedition being made to pass close to Scotland at least once. All three books confront the untamed wilderness, which for classically educated French people was northern barbarianism. In all three the harshness of life fits in with a reductionism, a *misérabilisme*, even a masochistic streak. All feature protagonists who structure their existence in terms of how far they have travelled. The bare Romantic landscapes in all three are suited to admiring the patterns of nature: an obsessively repeated phrase is 'criss-crossing meanders'. Linearity and networks, sensual curves and brutal straight lines, nature and artifice: this phrase, first used in describing railways in Liverpool, is perhaps emblematic of Verne's view of existence.

The publishing history of the *Journey* indicates another concern, for this novel is unique among Verne's in undergoing changes after publication in book form. Most of chapters 37–9 were added in the first large-octavo edition (1867). The reason for the insertion was undoubtedly developments in 1865 establishing prehistory as a major field of study. If the 1864 edition featured ancient sea-monsters, the new pages go much further. They present the perfectly preserved body of a human being amongst
remains dating from the Quaternary Era—and, what is more, a white human being. But they also feature a living herd of mastodons, together with an equally living herdsman: a 12-foot giant carrying a giant club. Although his existence is subsequently called into doubt, these chapters go well beyond the limits of plausibility Verne normally set himself.

Both in the new section and in the Journey as a whole, Verne drew from a wide range of sources, constructing a veritable meeting-place for the most varied literary and scientific authors.

There may be some slight influence from Dante’s Inferno, the Icelandic legends about Hamlet (one of Shakespeare’s sources), Chateaubriand (for some of the Romantic language), and Baudelaire (‘To plunge to the chasm’s bottom, Heaven or Hell, what difference?’). But the text often indicates more direct influences. Most obvious are Virgil’s *Et quacumque viam dederit fortuna sequamur* (ch. 11), *facilis descensus Averni* (ch. 18), and *Immanis pecoris custos, immanior ipse!* (ch. 39) (see Explanatory Notes for translations). If the ascription is explicit in the first two cases, it may not have been needed in the third for readers brought up on the classics. More generally, the word *Averni* (‘the Underworld’) may indicate a source of inspiration in medieval ideas of an underground Hell.

An explicit reference is made to E. T. A. Hoffmann’s character ‘who lost his shadow’ (ch. 29), an important feature in the underground cavern being the lack of shadows. But Hoffmann’s *Mines of Falun* also enthusiastically describes underground passages walled with mineral riches and sparkling crystals of strange-sounding substances, with striking similarities to Verne’s descriptions.

Verne quotes ‘a British captain’ (ch. 30) who thought that the Earth was ‘a vast hollow sphere, inside which the air was kept luminous by reason of the great pressure, while two heavenly bodies, Pluto and Proserpina, traced their mysterious orbits’. The Captain (of infantry) John
Cleve Symmes was a real-life figure, in fact an American, and almost certainly the author of *Symzonia* (1820, under the pseudonym 'Captain Adam Seaborn'). 'Captain Synnes' is quoted in *Captain Hatteras* (ch. 24) as believing that access to the centre of the Earth was very slightly shorter via the Poles—and as having suggested such an expedition to the equally real-life scientists and explorers Davy, Humboldt, and Arago!

Edgar Allan Poe is perhaps the most important literary influence on the *Journey*. Verne published a long study of his works in April 1864, analysing in particular 'The Gold Bug' and *Arthur Gordon Pym*. The borrowings from Poe in the *Journey* include the word-puzzle and its solution, the leper scene, the mummified body, the fear of cataracts, the vertigo produced by 'high places' and the accompanying suicidal temptation—plus possibly the hurricane, the battle between the sea-monsters, and the 'bone-graveyard'.

The *Journey* also shares material with Dumas's *Isaac Laquédem* (1853). These include a retracing of man's past, an underground descent that leads to gigantic monsters and shady forests, a discovery of animal bones, volcanoes described with a similar vocabulary of 'bowels', 'mouths', and 'strata', the idea of air becoming denser than mercury, a hollow globe with two planets lighting it, lessons in geology and palaeontology, including 'zoophytes', hints at evolution, and so on. Some sort of connection between the two would therefore seem indisputable.

There are also disturbing similarities with George Sand's 'Laura: Voyage dans le cristal' (1864). This tale presents a young mineralogist, Alexis, who is in love with his cousin and dreams that he is visiting the inside of a 'geode'—a hollow stone covered in crystal—then that he is going to the North Pole, from where he explores the interior of the Earth. Significant parallels include a fall into a chasm, an uncle with a speech impediment and a quick temper, the increasing decisiveness of the hero, the lack of heat in the centre, difficult descents, and an encounter with pre-historic animals. Sand subsequently noted in her diary the uncanny resemblance. Both authors were published by
Hetzel, were close friends of his, and had read Figuier, an expert on volcanoes. Both had also read Charles Edmond, a friend of Sand’s and the source of much of the voyage and the travel across Iceland in the Journey. But Verne’s and Sand’s works were published within weeks of each other, so a mystery remains as to how the similarities came about.

Verne was in addition sued for plagiarism by a Léon Delmas. Under the pseudonym René de Pont-Jest, he had published a short story called ‘La Tête de Mimers’ in the Revue contemporaine of September 1863. The hero is similarly German; the document causing the journey is found in an old book; it is written in runic characters; and it is a shadow that indicates where to look. The affair dragged on until a court case in 1877, which Verne won: but the similarities remain disturbing.

Among more scientific works which contributed to the Journey are those of Élie de Beaumont and Charles Sainte-Claire Deville, a friend of Verne’s who had visited the crater of Stromboli as a specialist in seismic phenomena, particularly intermittent volcanoes. Boitard’s Paris avant les hommes (1863) and Louis Figuier’s La Terre avant le déluge (1863) have also been suggested for the prehistoric aspect; plus Ludvig Holberg’s Nicolai Klimii Iter Subterraneum, novam telluris theoriam . . . (Copenhagen, 1741—translated as Nicolas Klimius dans le monde souterrain, 1741). This was subsequently republished in the same series as the anonymous Relation of a Journey from the North Pole to the South Pole via the Centre of the World (1721)—and certainly influenced Poe’s ‘A Descent into the Maelstrom’. Poe also seems to have drawn from it for the cataract ending of Arthur Gordon Pym.

What is common to many of the sources, in sum, is the medieval belief, not entirely dismissed in the nineteenth century, that the centre of the Earth could be reached via huge openings at the poles. Poe acts as a clearing-house for many of them; but Verne also seems to have drawn directly from a wide variety of literary and scientific
sources, although he then reworked them into a coherent tale of his own.

The *Journey* has had in turn an influence on later writers. It has been explicitly borrowed from by the French writers Auguste Villiers de l'Isle Adam, Alfred Jarry, and Boris Vian, but seems also to have influenced Mark Twain (in *Tom Sawyer*), Arthur Conan Doyle (in *The Lost World*), possibly the playwright Paul Claudel—and the surrealist painter André Delvaux, obsessively. Much of the work of the contemporary French writer Michel Tournier is a homage to Verne, with one section of his key novel *The Meteors* constituting a sustained pastiche of the *Journey*—like all good pastiches, a respectful and sophisticated dissection and an exaggeration of some of the absurder sides to the tale.

*Journey to the Centre of the Earth* is unusual in its degree of escape from contemporary (and indeed historical) reality. Verne is here in his element. He delights in the feel of subterranean existence, with imagination, even dreams, playing an important role. His writing is *volcanic.*

But only three-fifths of the *Journey* actually takes place underground. Also, the 'to' of the title is misleading, for it is not clear whether one can even reach the centre. Verne works round the question of whether a great heat exists without ever answering it. Saknussemm claimed to have been there (although not necessarily to have come back); but, as Axel points out, reliable ways of measuring depth underground had not been invented at the time. But, as Lidenbrock had remarked just before, one is weightless at the centre, so . . .

The whole story contains in fact many more mysteries, implausibilities, and ambivalences than Verne's positivistic reputation allows. Quite apart from the doubt attached to the scene of the mastodons and the giant herdsman, riding an eruption on a raft of wood, even if fossilized, can legitimately raise eyebrows. Even the route is not clear: the tunnel discovered in the great cavern probably starts
from the other side of the Lidenbrock Sea, but the narrator repeatedly affirms the opposite.

Again, man’s past is riddled with unsolved problems. Did man arrive relatively late in the scheme of things, as had generally been recognized by mid-nineteenth century? Did the human bodies discovered in the interior actually live there; and does this then re-establish man at the beginnings (a) down there and/or (b) up here? If so, what sort of man: the most highly evolved, comparable to modern Europeans, in the racist views current at the time; or a giant, a relative of the first man; or else some intermediate being?

Verne apparently dislikes all theories of evolution, for mainly humanistic but still partly religious reasons. But this is not the essential point: he raises questions, provides ambiguous signs, and then plays Axel off against Lidenbrock, modern science against old-fashioned natural philosophy. Ultimately he argues in this book that any overall conception can be destroyed by a single new find. It is things that count, not theories.

If the Journey itself leaves any certainties, they may not last. Probably at about this time, Verne wrote ‘Humbug’, in which a giant human skeleton is dug up in the United States, thus radically transforming evolutionary theories—but is then shown to be a hoax. Another short story, ‘The Eternal Adam’ (1910), suggests that civilizations inevitably expand and then go into terminal decline, so that any number have perhaps lived and died. Consequently man may have simply ‘evolved’ from his own degenerate forefathers—he may always have existed. But then again, what the story shows, as distinct from tells, is perhaps the opposite, that humanity may transmit wisdom down through the generations, so that it is not necessarily stuck in an eternal cycle after all. But in any case most or all of the story was written by Michel Verne. On the other hand, his ideas were very much drawn from his father’s ...

One should not, therefore, seek positive views on evolu-
tion in the *Journeys*. The attention paid to the question covers up gaps in knowledge rather than fills them in. Our interest, over a century on, lies more in *how* it is done than in the answers to the questions themselves.

One method Verne uses to sustain interest is to set Lidenbrock’s erudition against Axel’s *naïveté* and ignorance, providing a role-model for the reader. Dialogue is often employed, with Axel’s simple questions sometimes, however, not having simple answers, thus allowing him to confound his uncle. Verne popularizes knowledge by means of models and comparisons, with frequent appeals to instinct and common sense. The personality clashes of the scholarly world, and particularly the drives of the individual scholars, further reduce the abstraction. In accordance with the contemporary usage—and that of the eighteenth century, which often models Verne’s conceptions—a relatively homely language is used, of ‘elastic’, ‘cracks’, ‘bones’, or ‘monsters’—with, however, learned words like ‘Japhetic’, ‘Devonian’, or ‘subliming’ thrown in for effect.

One apparently scientific example central to the novel is the time–space equivalence: by going down into the Earth, the heroes go back through the layers of past time. They leave the nineteenth century, pass through the successive geological ages, and become ‘prehistoric’ or ‘fossilized’. Even the adverbs like ‘soon’ or ‘after a while’ play the game. The result is phrases like ‘Creation had made obvious progress since the day before’: in other words, Verne is playing on the reversing of time and the absurdity of interpreting Genesis literally. This time–space equivalence is, once again, a literary device: the plot and the narrative voice structure the science, rather than the other way round.

Another learned-looking device in the *Journey* is the large number of figures. Quite often they are erroneous—although not as frequently as the foreign words. Again, lists are frequently in evidence. Mostly composed of nouns, they incorporate material from varied sources,
although Verne invariably adapts them to his own ends. The style is emphasized as much as the content, by means of careful selection, by placing in context, by emphasizing the immediate and dramatic features; but above all by using euphony, alliteration, analogy, and metaphorization. Science thus becomes consistently subordinate to wider conceptions. Any body of organized knowledge is ultimately for Verne just a sub-genre of creative writing: the only all-embracing discourse that he allows. A few of the early reviewers misread Verne and assumed he was a scientist—but the more perceptive emphasized the plausibility and the quality of the writing. His science and knowledge are really just vehicles for highly personal conceptions of the world. As a literary endeavour, the work contains human truth: it examines all conventional wisdoms, producing more problems than solutions. It is made up of myths, metaphors, and a fair amount of mayhem.

Most of the ideas are mediated via the characters. Although the characterization is hardly conventional, it is quite sophisticated. The verbal and other foibles of the contrasting but complementary couple Lidenbrock–Axel make for a more complex relationship than many in Verne's works. Both characters employ the full resources of plays on words, repartee, interchange of position, understatement, exaggeration, and the taking of logical positions to absurd extremes.

The opening description of Lidenbrock in terms of his tics and eccentricities reveals the volcanic forces within him. He is an obsessive, a driven man, so much in a hurry that he crams double helpings into his mouth and pulls at plants and pushes at trains to make them go faster. The linear drive of his watchword 'Forward!' compels him on and then down, refusing all deviations or retreats, making him into 'the man of the perpendiculars'. Not that the portrait is entirely unsympathetic: the professor's heart is in the right place, if slightly difficult to find. He is
energetic, courageous, competent, knowledgeable, and bears no malice—he is simply a little excitable, absent-minded, and narrow-sighted.

We often view his nephew from the outside, from an ironical distance, for Axel-the-narrator knows things that Axel-the-character does not. He is at first passive, lacking in character. His main impulse is to stay at home with Gräuben, and his main virtues are scepticism and self-knowledge, those of an unimpassioned observer. From the beginning, however, he also embodies spontaneity and hence true discovery and creativity. With time, a role-reversal occurs and many of the professor’s characteristics and functions are transferred to him, including the passionate subjectivity. He is thus initiated into the adult world, making the partnership more or less equal. It is significant that Lidenbrock writes relatively dry scientific works, but Axel, even if he writes at his uncle’s bidding, produces the more creative book that we end up holding in our hands.

Hans provides the perfect foil, governed by phlegm, rationality, cerebrality, and efficiency. The main barrier to understanding him is that he has no common language with Axel, so communication is virtually limited to nouns. Although an admirable and generous person, he demonstrates few human feelings; and although highly ingenious, he is uncreative. As a northerner and a hunter (and therefore a destroyer, albeit a pacific one), he lacks that vital spark: even direct application of ball-lightning cannot bring this perfect being to life. In sum, he is one of Verne’s psychological limiting cases, an experiment in extremes. The great ancestor Saknussemm, in contrast, seems to embody many different traits: a northerner but achieving more than the nineteenth-century heroes combined; a writer of sorts; a misunderstood genius; and the explorer who unfairly benefits from getting there first, destroying the patch for ever after.

Verne’s humour is applied to any pretension or artificiality in the characters, most simply by means of a juxtaposition with the hard facts—and with the hidden
intentions of the person concerned. Networks of desire are thus revealed, particularly where the libido is involved. From the correspondence, we know that Verne had an unbridled sexual imagination. But since it cannot operate openly here, it is clothed in humour.

There is also a striking recurrent vocabulary of phrases like ‘instinctive’, ‘automatic’, and ‘without thinking’. Even though the noun itself ‘the unconscious’ (l’inconscient) does not seem to have been used before the 1890s, Verne is clearly demonstrating an awareness of the underlying concept. In the chapters added in 1867, he mentions a William Carpenter, an expert on dredging the ocean depths and author of Zoology... and Chief Forms of Fossil Remains (1857, reissued 1866) and The Unconscious Action of the Brain (1866–71). A man of such varied, and Vernian, interests may easily be the source of the innovative psychological terminology of the depths in the Journey.

Considerable energy is in fact both repressed and displayed by Axel and Lidenbrock—and by the author. The whole book is charged. Electricity acts as a convenient metaphor for sexual energy; horses have a field day; and hands play an important role throughout the book. So do reinforced staves, pens, knives, telescopes, trees, giant mushrooms, thick pillars, verticality in general, tubes, pockets, leather wallets, purses, and the goatskin bottle (‘outre’ from ‘uterus’). The Earth itself is a blatant sexual object, with a rich vocabulary to describe the twin firm white peaks, pointed waves seething with fire, mouths wide open, gaping orifices, cavities, bays, fjords, gashes, and slits; but also the thrusting (and blocking) of the most varied penetrations, glows, eruptions, effusions, and discharges, as well as repeated instances of falling and sinking.

But Verne’s originality may lie equally in his linking of these fixations with others: most bodily functions are also obsessively present in the Earth’s bowels, including sweating, trembling, eating, digesting, elimination of waste matter, and pregnancy and childbirth. The sex is only part
of a general view of the world as a reflection of the observer's own consciousness—and unconscious. Freud himself said that writers had most of the ideas before the scientists; whatever the truth of this, in the Journey we can certainly detect pre-Freudian views on the role of dreams and the libido in the subconscious mind.

How does the Journey to the Centre of the Earth fit in with the literary movements of the period? The question has not really been answered to date. One reason is the very variety of his production, extending over seventy years, making him the contemporary of both Charlotte Brontë and James Joyce. Equally important, Verne is sui generis.

One influence on the Journeys is undoubtedly the contemporary theatre, Verne's lifelong love. His attention to dialogue and care for timing and suspense, especially in the 'set scenes' and the ending, doubtless derive from this. But the novel is also under the spell of the Romantic literary movement. A brief list of features might include: a sense of melancholy, personal angst, or existential doubt; a tendency to flee society and search for consolation in nature; a 'poetic' use of language, particularly the use of adjectives, the imperfect tense, and long sentences; a search for the transcendent or absolute, values outside 'this world'; a fixation on time and the transitory nature of existence, producing an obsession with decay and death; and a retreat into the past, a search for the origins of the individual and the species. The sum of these tendencies means that the Journey cannot be excluded from the general orbit of late Romanticism.

But Verne is simultaneously a Realist. The Journey encompasses scepticism and reductionism, but also shares with Realism a preference for male characters (and virtues), a reluctance to indulge in unsubstantiated psychologism, a tendency to short, sharp, sometimes verbless sentences. The paradox, though, is that so much Realism in the externals leads to the opposite of realism in the mood: Verne's positivistic aspects culminate in the wildest
longings and imaginings. The short sentences then highlight the long ones; the nouns, the adjectives. Opposites not only attract in Verne, but produce a pole-reversal, an inversion of signs—as most of the conditions of surface existence are inverted underground. The *Journey* proves that the most down-to-earth Realism can, despite the labels in the histories of literature, lead to the most high-blown Romanticism.

In a chronological course on literature, *Journey to the Centre of the Earth* falls between Stendhal’s *Charterhouse of Parma* and Flaubert’s *Sentimental Education*, between Dickens and Disraeli—and yet somehow appears more modern than these works. To describe it, the most appropriate terms may be those associated with the twentieth century. Verne participates in the Modernist movement, if by Modernism we mean an obsession with speed, with machines, a de-humanization, and an abstraction. In purely literary terms, the *Journey* must be considered modern because of its anticipation of the twentieth century’s use of self-awareness or ‘self-consciousness’ at all levels: the creation of self-reflecting structures, devices turned back on themselves, symbols that symbolize their own existence, a text that exposes itself, lays bare its own innards.

The word ‘Averni’, as one example, contains the letters *v, e, r, n*. ‘Might he not have inserted his name at some point in the manuscript?’ (ch. 3). The novel is generated by the personal anagram, not once but repeatedly. Thus the text-within-the-text word-puzzle that starts everything off is ‘à l’ENVERSs’ (‘backwards’); the compass that determines all movements underground is ‘RENVÉrsée’ (‘reversed’); at the centre is a vast ‘caVERNE’; within it movements are governed by the helm (‘gouVERNNail’); and the girl at the centre of the quest is ‘ViRlaNdaisE’ (‘from Virland’). The author lays bare his own building-blocks, which in turn refer to their own reversal of the letters constituting the novel. Verne plays hide-and-seek, blatantly concealing himself at the centre of his text.

Another example of the textual self-reference is the
change of narration in chapters 32–5, where Axel’s ‘ship’s log’ replaces the after-the-event narration. One of the functions of this ‘journal’ is to transcribe indications of time and weather, and so to convey the monotony of a sea-journey, where there is no landscape to observe (a paradox in the interior of the Earth). Another is to add to the suspense, for by definition the narrator-character cannot know what is going to happen. The ‘ship’s log’ also enables convenient gaps to be inserted in the story when Axel is unconscious. But it is above all a stylistic experiment.

Axel’s account is in the present tense: despite appearances, however, it is not really a ‘log-book’, ‘journal’, or ‘diary’, but a complex narration. In fact Axel gives no general indication when he is writing, except the contradictory ‘daily...as it were at the dictation of events’ (ch. 32). French commentators have assumed that the events are meant to be transcribed instantaneously—and so have argued that writing notes in a darkening storm is implausible. In fact the lengthy dream and the extended conversations can much less easily have been written down at the time. But in any case Axel sometimes self-referentially reports his own writing, whether of a note to Hans or of his own ‘ship’s log’—and the writing must precede the writing of the writing! The present tense, then, is very far from indicating either an authentic diary or a simultaneity of events and narration.

One consequence is on the description of the sea-monsters. By using the present tense, the problem of whether we are in past or present time is avoided. The nineteenth century has become authentically prehistoric. There are also further surprising consequences on notions of self-reference and intentionality. Thus in the traditional mode of narration there is a distinction between j’allais (‘I was going to’) and j’allai (‘I moved to...’), between subjective intention and objective action. But in Verne’s present, the two are collapsed down to je vais (both ‘I am going to’ and ‘I move to...’). In sum, the pretence of a naive transcription cannot be sustained. There is a tem-
poral distance between the events and the text. The transparency and self-referentiality of the present tense, the equivalence between doing and reporting, the short-circuiting of the normal process of narration, are only apparent. There is a narrator lurking in the shadows. The keeper of the ‘log-book’ is just a character in his own story after all.

The reader who expects Journey to the Centre of the Earth to be simple is therefore in for a surprise. This novel might be described as a virtuoso exercise in ‘eversion’: the complex topological process of turning a body inside out. Things are not what they seem. Verne takes a perverse pleasure in creating as many trails as possible—and diversions to throw the pursuants off. It is almost as if he foresaw a scholarly edition of the Journey, with the full apparatus of introduction and endnotes attempting to explain what is going on. Not bad for a short-trousered writer without style or substance!

I would like to thank Angela Brown and Katy Randle for their help with the preparation of the manuscript.
than the even of those occupied in non-food industries. This is partly due to the fact that the demand for food is more inelastic than the demand for non-food goods. It is also due to the fact that the production of food is more subject to fluctuations in the weather and to other factors beyond the control of the people who consume it. The demand for food is therefore more responsive to changes in income than the demand for non-food goods. This is why the demand for food is more inelastic than the demand for non-food goods.

The demand for non-food goods is more inelastic than the demand for food, but it is still more inelastic than the demand for non-food goods. This is partly due to the fact that the production of non-food goods is more subject to fluctuations in the weather and to other factors beyond the control of the people who consume it. It is also due to the fact that the demand for non-food goods is more responsive to changes in income than the demand for non-food goods. This is why the demand for non-food goods is more inelastic than the demand for non-food goods.

The demand for non-food goods is therefore more inelastic than the demand for non-food goods. This is partly due to the fact that the production of non-food goods is more subject to fluctuations in the weather and to other factors beyond the control of the people who consume it. It is also due to the fact that the demand for non-food goods is more responsive to changes in income than the demand for non-food goods. This is why the demand for non-food goods is more inelastic than the demand for non-food goods.
NOTE ON THE TRANSLATION

The text used for the present edition is based on the 1867 one used in modern French editions (Livre de Poche, Garnier-Flammarion, Rencontre, Hachette). The first edition (18mo) appeared on 25 November 1864, and was unillustrated. As was usual, the illustrations were added only with the first large-octavo edition (1867) (the seventh edition). But Journey to the Centre of the Earth is unique in that Verne used this opportunity to add a new section, chapters 37–9 (pp. 175–90 in the present text). What is also very unusual is that the novel was not published first in serial form (Hetzel only launched the Magasin d'éducation et de récréation in 1864).

The present translation is an entirely new one, benefiting from the most recent scholarship on Verne. It aims to be faithful to the original (including the absence of chapter titles and the retention of the mock-learned footnotes). The use of phrases like 'he said' and 'he replied', of exclamation marks, and of semicolons in ternary sentences has, however, been slightly reduced.

In the early works Verne uses pre-Revolutionary measures like pieds, lignes (one-twelfth of an inch), lieues, and toises ('fathoms'). Throughout this edition, British feet (about 7 per cent smaller than the French ones), miles (about 10 per cent larger), and so on will be used. A few of Verne's figures have consequently had to be slightly adjusted.

Foreign-language words and names are erratic in the Voyages extraordinaires, sometimes even internally inconsistent. These have normally been corrected (for instance 'Snaefells' for 'Sneffels'). Some of Verne's learned terms do not seem authentic, whether through error or deliberate mystification. In such cases an Anglicized equivalent is given, but usually an endnote indicates its absence from the dictionaries.
A recurrent problem in translating Verne is his delight in reactivating fixed expressions, by subtly altering them or by implying a literal meaning. In such cases, the aim has been to retain the ambiguity or else find a happy medium between the two possible senses.

In this edition, unlike previous English translations, the present tense has been retained throughout the ‘log-book’ section (chs. 32–5).
SELECT BIBLIOGRAPHY

Amongst the modern French editions, Livre de Poche, with forty-four of the seventy-odd volumes, has been the usual reference edition. In 1988, however, Hachette completed publication of the Voyages extraordinaires at a very reasonable price. Michel de l'Ormeraie and Rencontre (reprinted by Edito-Service) are the only other complete editions since the original Hetzel one.


Among the French critics, François Raymond and Daniel Compère's Le Développement des études sur Jules Verne (Minard (Archives des Lettres Modernes), 1976) is still the most readable introduction to 'Vernian Studies'. There are many stimulating collections of articles, notably: L'Herne: Jules Verne, ed. P. A. Touttain (L'Herne, 1974), Colloque de Cerisy: Jules Verne et les sciences humaines, ed. François Raymond and Simone Vierne (Union générale d'éditions, 1979), the six volumes of the Minard (Lettres Modernes) series on Verne, especially Machines et imaginaire (1980) and Texte, image, spectacle (1983), and Modernités de Jules Verne, ed. Jean Bessière (Presses Universitaires de France, 1988).

The following volumes are also useful: Jean Chesneaux, Une Lecture politique de Jules Verne (Maspero, 1971, 1982), translated as The Political and Social Ideas of Jules Verne (Thames and Hudson, 1972), Simone Vierne, Jules Verne (Balland (Phares), 1986), Alain Froidefond, Voyages au centre de l'horloge: Essai sur un texte-genèse, 'Maître Zacharius' (Minard, 1988), and Olivier Dumas, Jules Verne (Lyon, La Manufacture, 1988).

The best biography is Jean Jules-Verne, Jules Verne (Hachette, 1973), translated and adapted by Roger Greaves as Jules Verne: A Biography (MacDonald and Jane's, 1976). But there are also Charles-Noël Martin, La vie et l'œuvre de Jules Verne (Michel...
Select Bibliography

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Studies specifically on Journey to the Centre of the Earth (and which provided some of the material on which the Introduction to this volume is based) include the well-organized Daniel Compère, Un Voyage imaginaire de Jules Verne: Voyage au centre de la Terre (Minard (Archives Jules Verne), 1977), Christian Chelebourg, ‘Le Paradis des fossiles’, pp. 213–27, in Modernités de Jules Verne, and Andrew Martin, The Knowledge of Ignorance: From Genesis to Jules Verne (Cambridge University Press, 1985), pp. 137–41 and passim plus the relevant sections of Butcher, Jules-Verne, Vierne and of the L’Herne, Minard (Lettres Modernes), and Presses Universitaires de France volumes.

[All places of publication are London or Paris unless otherwise indicated.]
A CHRONOLOGY OF JULES VERNE

1828 8 February: birth of Jules Verne, on the Ile Feydeau in Nantes, to Pierre Verne, a lawyer and son and grandson of lawyers, and Sophie, née Allotte de la Fuýe, from a military line.

1829 Birth of brother, Paul, later a naval officer, but who retired in 1859 and became a stockbroker; followed by those of sisters Anna (1836), Mathilde (1839), and Marie (1842).

1834–8 Goes to school: the teacher, Mme Sambain, is the widow of a sea-captain, whose return she is still waiting for.


1841–6 Goes to Petit Séminaire, then to Lycée Royal de Nantes. Above average; probably won a prize in geography. Passes baccalauréat without difficulty. Writes short pieces in prose.

1847 Studies law in Paris: at this time his cousin, Caroline Tronson, with whom he has been unhappily in love for several years, is getting engaged. Writes a play called Alexandre VI.

1848 June: revolution in Paris. Verne is present at the July disturbances. He continues his law studies, sharing a room at 24 Rue de l'Ancienne-Comédie. His uncle Châteaubourg introduces him into literary salons. Meets writers Alexandre Dumas père and fils. Writes plays probably including La Conspiration des poudres.

1849 Passes law degree. Father allows him to stay on in Paris. Writes more plays.

1850 12 June: his one-act comedy Les Pailles rompues runs for twelve nights at Dumas's Théâtre Historique, and is published.
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1851</td>
<td>Publishes short stories ‘Les Premiers navires de la Marine mexicaine’ and ‘Un Voyage en ballon’.</td>
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<tr>
<td>1856</td>
<td>20 May: goes to a wedding in Amiens, and meets a young widow with two children, Honorine de Viane.</td>
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<tr>
<td>1857</td>
<td>10 January: marries Honorine, becomes a stockbroker in Paris, and moves house several times.</td>
</tr>
<tr>
<td>1859-60</td>
<td>Visits Scotland with Hignard. Writes Voyage en Angleterre et en Ecosse.</td>
</tr>
<tr>
<td>1861</td>
<td>Goes to Norway and Denmark with Hignard. 3 August: birth of only child, Michel.</td>
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<tr>
<td>1863</td>
<td>31 January: Cing semaines en ballon appears, three months after first submission to publisher Jules Hetzel, and is immediate success.</td>
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<tr>
<td>1864</td>
<td>Publication of ‘Edgar Poe et ses œuvres’, Voyages et aventures du capitaine Hatteras and Voyage au centre de la Terre. (All dates are those of beginning of first publication, usually in serial form.) Gives up his unsuccessful stockbroker practice, and moves to Auteuil.</td>
</tr>
<tr>
<td>1865</td>
<td>De la Terre à la Lune and Les Enfants du capitaine Grant. Death of Mme Estelle Duchène of Asnières, close friend of Verne’s.</td>
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<tr>
<td>1867</td>
<td>16 March: goes with brother Paul to Liverpool, thence on Great Eastern to United States.</td>
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<tr>
<td>1868</td>
<td>Buys a boat, Saint-Michel. Visits London.</td>
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<tr>
<td>1869</td>
<td>Rents a house in Amiens. Vingt mille lieues sous les mers and Autour de la Lune.</td>
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<tr>
<td>1870</td>
<td>Outbreak of Franco-Prussian War: Verne is coastguard at Le Crotoy (Somme).</td>
</tr>
<tr>
<td>1871</td>
<td>3 November: father dies.</td>
</tr>
<tr>
<td>1872</td>
<td>Moves to 44 Boulevard Longueville, Amiens; becomes member of Académie d’Amiens. Le Tour du monde en quatre-vingts jours.</td>
</tr>
</tbody>
</table>
1874  

1876-7  
*Michel Strogoff*, *Hector Servadac* and *Les Indes noires*. Buys second, then third boat, *Saint-Michel II* and *III*. Gives huge fancy-dress ball. Wife very seriously ill, but recovers.

1878  
June–August: sails to Lisbon and Algiers.

1879–80  
*Les Cinq cents millions de la Bégum*, *Les Tribulations d’un Chinois en Chine*, and *La Maison à vapeur*. Michel, who had caused problems throughout his childhood, marries an actress, despite the opposition of his father. Verne sails to Norway, Ireland, and Scotland, including Edinburgh and probably the Hebrides.

1881  
*La Jangada*. Sails to Rotterdam and Copenhagen.

1882  
October: moves to a larger house at 2 Rue Charles-Dubois, Amiens. *Le Rayon vert*.

1883–4  
Michel abducts a minor, Jeanne. Has two children by her within eleven months. Divorces, and marries her. *Kéraban-le-têtu*.

Verne leaves with wife for grand tour of Mediterranean, but cuts it short. On the way back, is probably received in private audience by Pope Leon XIII.

1885  

1886  
*Robur-le-conquérant*.

15 February: sells *Saint-Michel III*.


17 March: Hetzel dies.

1887  
15 February: mother dies.

1888  
Is elected local councillor on a Republican list. For next fifteen years attends council meetings, administers theatre and fairs, opens Municipal Circus (1889), and gives public talks.
1889  Sans *dessus dessous* and 'In the Year 2889' (published in New York: signed Jules Verne but written by Michel, and then either translated or revised by an English-speaker).

1890  Stomach problems.

1892  *Le Château des Carpathes*. Pays debts for Michel.

1895  *L’Île à hélice*, apparently the first novel written in a European language in the present tense and the third person.

27 August: brother dies.

1899  Dreyfus Affair: Verne is anti-Dreyfusard, but approves of the case being reviewed.

1900  Moves back into 44 Boulevard Longueville. Sight weakens (cataract).

1901  *Le Village aérien*.

1904  *Maître du monde*.

1905  17 March: falls seriously ill with diabetes.
   24 March: dies, and is subsequently buried in Amiens.

1905–14  On his death, *L’Invasion de la mer* and *Le Phare du bout du monde* are in the process of publication. Michel takes responsibility for the remaining manuscripts, and publishes *Le Volcan d’or* (1906), *L’Agence Thompson and Co.* (1907), *La Chasse au météore* (1908), *Le Pilote du Danube* (1908), *Les Naufragés du ‘Jonathan’* (1909), *Le Secret de Wilhelm Storitz* (1910), *Hier et demain* (short stories, including ‘L’Éternel Adam’) (1910), and *L’Étonnante aventure de la mission Barsac* (1914). In 1978, it is proved that Michel in fact wrote considerable sections of these works, and in 1985–9 the original (i.e. Jules’s) versions of most of them are published.
Journey to the Centre of the Earth

The Mariana Trench, a place where the ocean floor descends to the deepest point known on Earth, is a destination that has fascinated scientists and explorers for centuries. The trench is located in the Pacific Ocean, off the coast of the Mariana Islands.

The Mariana Trench is not only the deepest point on Earth but also one of the least explored areas of our planet. Scientists have only recently begun to understand the unique ecosystem that exists at its depths.

One of the greatest challenges in exploring the Mariana Trench is the extreme pressure and darkness. The water pressure at the trench's deepest point is equivalent to the weight of a 10-ton car per square inch.

Despite these challenges, scientists continue to make new discoveries in the Mariana Trench. In 2012, a deep-sea vehicle called the Deepsea Challenger descended to the trench's bottom and returned with stunning images and samples of marine life.

As we continue to explore the Mariana Trench, we are discovering more about the history and diversity of life on our planet. This knowledge will help us better understand our place in the universe and inspire us to protect the fragile ecosystems that exist at the bottom of the ocean.
On 24 May 1863, a Sunday, my uncle, Professor Lidenbrock,* came rushing back towards his little house at No. 19 Königstrasse, one of the oldest streets in the historic part of Hamburg.

Martha the maid must have thought she was running very late, for dinner had hardly begun to simmer on the kitchen range.

‘H’m,’ I said to myself. ‘If my uncle is hungry, he’ll shout out his annoyance, for he is the most impatient of men.’

‘Professor Lidenbrock here already!’ Martha exclaimed in amazement, slightly opening the dining-room door.

‘Yes, indeed. But dinner has every right not to be cooked, for it’s not two o’clock yet. It’s only just struck the half-hour on St Michael’s.’

‘Then why has Professor Lidenbrock come back?’

‘Presumably he will tell us.’

‘Here he is: I’m off, Master Axel.* You will make him see reason, won’t you?’

And the good Martha disappeared back into her culinary laboratory.

I remained alone. But to make the worst-tempered of professors see reason did not seem possible, given my slightly indecisive character. So I was getting ready for a prudent retreat to my little bedroom at the top of the house, when the front-door groaned on its hinges. Large feet made the wooden staircase creak, and the master of the house came through the dining-room and burst into his study.

On his hurried way through, though, he had thrown his nutcracker-head cane in the corner, his broad hat brushed up the wrong way on the table, and the ringing words to his nephew:

‘Axel, I’m here!’
I hadn’t had time to move before the professor shouted again, in a most impatient voice:

‘We-ell? Are you not here yet?’

I rushed into my formidable master’s study.

Otto Lidenbrock was not a bad man, I will gladly concede. But unless changes happen to him, which is highly unlikely, he will die a terrible eccentric.

He was a professor at the Johanneum,* and gave a course on mineralogy, during which he normally got angry at least once or twice. Not that he was worried whether his students were assiduous at his lectures, or whether they paid attention, or whether they were successful later: he hardly bothered about these details. He lectured ‘subjectively’, to use the expression from German philosophy, for himself and not for others. He was a learned egoist and a selfish scholar, a well of science whose handle groaned whenever someone wanted to draw something out of it: in a word, a miser.

In Germany there are one or two professors like this.

Unfortunately my uncle suffered from a slight pronunciation problem, if not in private at least when speaking in public: a regrettable handicap for an orator. Thus, during his demonstrations at the Johanneum, often the professor would stop short. He would struggle with a recalcitrant word which his mouth refused to pronounce, one of those words which resist, swell up, and end up coming out in the unscientific form of a swear-word. Then he would get very angry.

Now, in mineralogy, there are many learned words, half-Greek, half-Latin, and always difficult to pronounce, many unpolished terms that would scorch a poet’s lips. I do not wish to criticize this science. Far from it. But when one is in the presence of rhombohedral crystallizations, retinasphalt resins, ghelenites, fangasites,* lead molybdates, manganese tungstates, zircon titanites, the most agile tongue is allowed to get tied in knots.

The townspeople knew about this pardonable disability of my uncle’s, and took unfair advantage. They watched out for the difficult sections, and he got furious, and they
laughed; which is not in good taste, even for Germans. And if there was always a healthy attendance at Lidenbrock’s lectures, how many followed them regularly simply in order to enjoy the professor’s terrible outbursts!

But despite all this, my uncle was an authentic scholar—I cannot emphasize this too much. Although he sometimes broke his samples by handling them too roughly, he combined the geologist’s talent with the mineralogist’s eye. With his mallet, his steel spike, his magnetic needle, his blowlamp, and his flask of nitric acid, he was highly gifted. From the fracture, appearance, resistance, melting point, sound, smell, and taste of any given mineral, he could put it without hesitation into any one of the 600 classifications recognized by modern science.

Lidenbrock’s name was accordingly very much honoured in the gymnasia and learned societies. Sir Humphry Davy, Humboldt, and Captains Franklin and Sabine* made sure they visited him on their way through Hamburg. Messrs Becquerel, Ebelman, Brewster, Dumas, Milne-Edwards, and Sainte-Claire Deville* liked to consult him on the most stimulating questions in chemistry. That science owed him some wonderful discoveries. In 1853 there had appeared in Leipzig a Treatise on Transcendental Crystallography by Professor O. Lidenbrock, printed in large-folio pages with plates—but without covering its costs.

Add to that that my uncle was the curator of the mineralogical museum of Mr Struve, the Russian ambassador, which was a valuable collection much esteemed throughout Europe.

Such was the character calling for me so impatiently. Imagine a tall, thin man, with an iron constitution and youthful blond hair that made him look a good ten years younger than his fifty. His big eyes darted incessantly around behind imposing glasses; his nose, long and thin, was like a sharpened blade; unkind people even claimed it was magnetized, and picked up iron filings. Absolute slander: it only picked up snuff, but in rather large quantities to tell the truth.
If I add that my uncle took mathematical strides of exactly three feet, and that, while walking, he firmly clenched his fists—the sign of an impetuous tempera-
ment—then you will know him well enough not to wish to spend too much time in his company.

He lived in his little house on Königstrasse, a half-
wood, half-brick construction with a crenellated gable-
end. It looked out on to one of the winding canals that criss-cross in the centre of the oldest part of Hamburg, fortunately unharmed by the fire of 1842.

The old house leaned a little, it is true, it pushed its stomach out at the passers-by, and it wore its roof over one ear, like the cap of a Tugendbund* student. The harmony of its lines could have been better, then; but, all things considered, it held up well thanks to an old elm, vigorously embedded in the façade, and which, each springtime, used to push its flowering blossoms through the latticed windows.

My uncle was not poor, not for a German professor. The house was entirely his, both building and contents. The latter consisted of his goddaughter Gräuben, a seventeen-year-old girl from Virland,* and Martha and myself. In my dual capacity as nephew and orphan, I had become the laboratory assistant for his experiments.

I will admit that I devoured geological science with great relish; I had mineralogist’s blood in my veins, and never felt bored in the company of my precious pebbles.

In sum, life could be happy in this miniature house in Königstrasse, despite its owner’s impatience; for, while setting about it in rather a rough manner, he did not love me any the less. But the man had never learned to wait, he was permanently in a hurry.

When, in April, he planted heads of mignonette or morning glory in the china pots in his living-room, he would go and pull their leaves each morning to make them grow faster.

With such an eccentric, the only thing to do was to obey. I accordingly hurried into his study.
This study was a real museum. Specimens of the whole mineral order could be found here, labelled with the most perfect care, following the three great divisions into inflammable, metallic, and lithoidal minerals.

How well I knew them, these trinkets of mineralogical science; how many times, instead of wasting my time with boys of my own age, I had enjoyed dusting these graphites, these anthracites, these coals, these lignites, and these peats. The bitumens, the resins, the organic salts which had to be preserved from the least speck of dust. The metals, from iron to gold, whose relative value didn’t count beside the absolute equality of scientific specimens. And all those stones, which would have been enough to rebuild the whole house in Königstrasse, even with a fine extra room, which would have suited me down to a T.

But when I went into the study, I was scarcely thinking about such wonders. My uncle formed the sole focus of my thoughts. He was buried in his large armchair covered with Utrecht velvet, holding a tome in both hands and studying it with the deepest admiration.


This exclamation reminded me that Professor Lidenbrock was a fanatical book collector in his spare time. But a volume had no value in his eyes unless it was unfindable or, at the very least, unreadable.

‘Well?’ he said. ‘Do you not see? It’s a priceless gem I discovered this morning while poking around in the shop of Hevelius the Jew.’

‘Magnificent,’ I replied, with forced enthusiasm.

What was the point of making such a fuss about an old quarto book whose spine and covers seemed to be made out of coarse vellum, a yellowish book from which hung a faded tassel?

The professor’s exclamations of admiration didn’t stop, however.
'Look,' he said, addressing both the questions and the replies to himself, 'isn't it beautiful? Yes, it's wonderful, and what a binding! Does the book open easily? Yes, it stays open at any page whatsoever. But does it close well? Yes, because the cover and leaves form a unified whole, without separating or gaping anywhere. And this spine, which does not have a single break after seven hundred years of existence. Oh, it's a binding to have made Bozérían,* Closs, or Purgold proud!'

While speaking, my uncle alternately opened and closed the old book. The only thing I could do was ask him about its contents, though they didn't interest me a single bit.

'And what's the title of this marvellous volume?' I asked with too eager an enthusiasm to be genuine.

'This work', replied my uncle getting excited, 'is the Heimskringla of Snorre Turleson,* the famous twelfth-century Icelandic author. It is the chronicle of the Norwegian princes who ruled over Iceland.'

'Really,' I exclaimed as well as I could. 'It's presumably a German translation?'

'What!' the professor replied animatedly. 'A translation! What would I be doing with your translation? Who's bothered about your translation? This is the original work, in Icelandic: that magnificent language, both simple and rich, containing the most diverse grammatical combinations as well as numerous variations in the words.'

'Like German?' I slipped in, fortuitously.

'Yes,' replied my uncle shrugging his shoulders, 'not to mention that Icelandic has three genders, like Greek, and declensions of proper nouns, like Latin.'

'Ah,' I said, my indifference a little shaken, 'and are the characters in this book handsome?'

'Characters? Who's speaking of characters, benighted Axel! You did say "characters", did you not? Oh, so you are taking this for a printed book. Ignoramus, this is a manuscript, and a runic* manuscript at that.'

'Runic?'

'Yes. Are you now going to ask me to explain this word as well?'
‘There is certainly no need,’ I replied in the tone of a man wounded in his pride.

But my uncle continued all the more, and told me things, despite my opposition, that I wasn’t specially interested in knowing.

‘Runes’, he said, ‘were handwritten characters formerly used in Iceland and, according to the tradition, were invented by Odin himself. But look, irreverent boy, admire these forms which sprang from a god’s imagination.’

I swear that, having no other reply to give, I was going to prostrate myself, the sort of response that necessarily pleases gods and kings, because it has the advantage of never embarrassing them—when an incident happened to set the course of the conversation off on a different path.

This was the appearance of a filthy parchment, which slid out of the book and fell to earth.

My uncle rushed to pick up this knick-knack with an eagerness easy to understand. An old document locked up in an old book since time immemorial could not fail to have a signal value in his eyes.

‘But what is it?’ he exclaimed.

At the same time he carefully spread the parchment out on his desk. It was five inches long and three inches wide, with horizontal lines of mumbo-jumbo-style characters written on it.

The following is the exact facsimile. It is important that these bizarre forms be known, because they were to lead Professor Lidenbrock and his nephew to undertake the strangest expedition the nineteenth century has ever known:
The professor examined the series of characters for a few moments. Then he said, lifting up his glasses:

‘They’re runes—the forms are absolutely identical to those in Snorre Turleson’s manuscript. But what can it all mean?’

As runes seemed to me to be an invention by scholars to mystify the poor rest-of-the-world, I wasn’t displeased to see that my uncle didn’t understand anything. At least, that seemed to be the case from his hands, which had begun to shake terribly.

‘And yet it is Old Icelandic!’ he muttered through clenched teeth.

And Professor Lidenbrock surely knew what he was talking about, for he was reputed to be a genuine polyglot: not that he spoke fluently the 2,000 languages and 4,000 dialects employed on the surface of this globe, but he did know his fair share.

Faced with such a difficulty, he was just about to give in to all the impulsiveness of his character, and I could foresee a violent scene, when two o’clock sounded on the wall-clock over the mantelpiece.

Martha immediately opened the study door.

‘The soup is served.’

‘The devil take your soup,’ shouted my uncle. ‘And the person who made it. And those who will drink it.’

Martha fled. I followed close behind and, without knowing quite how, found myself sitting at my usual place in the dining-room.

I waited for a few moments: the professor didn’t come. It was the first time, to my knowledge, that he was missing the ceremony of luncheon. And what a lunch, moreover! Parsley soup, ham omelette with sorrel and nutmeg, loin of veal with plum sauce; with, for pudding, prawns in sugar;* the whole lot being washed down with a good Moselle.

That was what an old bit of paper was going to cost my uncle. By George, in my capacity as devoted nephew, I considered it my duty to eat for both him and me; which I did, very conscientiously.
‘I’ve never known such a thing,’ said Martha. ‘Professor Lidenbrock not at table.’
‘It’s unbelievable.’
‘It portends some serious happening,’ said the old servant, shaking her head.

In my opinion, it portended nothing at all, except for a terrible scene when my uncle found his lunch already eaten.

I was just on the last prawn when a resounding voice called me from the delights of pudding. I was in the study in a single bound.

3

‘It’s quite obviously runic,’ said the professor, knitting his brows. ‘But there is a secret and I am going to discover it. If not . . .’

A violent gesture completed his thought.

‘Sit down’, he added, indicating the table with his fist, ‘and write.’

In a moment I was ready.

‘Now I’m going to dictate the letter in our alphabet corresponding to each of the Icelandic characters. We will see what that gives. But, by God, be careful not to make a mistake.’

The dictation began. I concentrated as hard as I could. Each letter was spelled out one after the other, to form the incomprehensible succession of words that follows:

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mm.rnls  esreuel  seeCJde
sgtssmf  unteief  niedrke
kt,samn  atrateS  Saodrrn
emtnael  nuaect  rrilSa
Atvaar  .nscre  ieaabs
ccdrmi  eeutul  frantu
dt,iac  oseibo  KediIY
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When this work was finished, my uncle eagerly snatched up the sheet on which I had been writing, and examined it for a long time with great care.
'What does it mean?' he kept automatically repeating.
I swear I couldn’t have told him anything. In any case he wasn’t asking me and continued speaking to himself:
‘This is what we call a cipher, in which the meaning is hidden in letters which have deliberately been mixed up, and which, if properly laid out, would form an intelligible sentence. When I think that there is perhaps here the explanation or indication of a great discovery!'
For my part, I thought there was absolutely nothing here, but kept my opinions carefully to myself.
The professor then took the book and the parchment and compared them with each other.
‘The two documents are not in the same hand. The cipher is posterior to the book for I can see an immediate and irrefutable proof: the first letter is a double m* that would be sought in vain in Turleson’s book, for it was added to the Icelandic alphabet only in the fourteenth century. So therefore, at least two hundred years elapsed between the manuscript and the document.’
That, I must admit, seemed quite logical.
‘I am therefore led to think’, said my uncle, ‘that one of the owners of the book must have written out the mysterious characters. But who the devil was this owner? Might he not have inserted his name at some point in the manuscript?’
My uncle lifted his glasses up, took a strong magnifying glass, and carefully worked his way over the first few pages of the book. On the back of the second one, the half-title page, he discovered a sort of stain,* which to the naked eye looked like an ink-blot. However, looking closer, it was possible to distinguish a few half-erased characters. My uncle realized that this was the interesting part, so he concentrated on the blemish, and with the help of his big magnifying glass he ended up distinguishing the following symbols, runic characters which he spelled out without hesitation:
'Arne Saknussemm!' he cried in a triumphant voice. 'But that is a name to conjure with, and an Icelandic one at that: the name of a scholar of the sixteenth century, a celebrated alchemist.'

I looked at my uncle with a certain admiration. 'Those alchemists, Avicenna, Bacon, Lull, Paracelsus,* were the veritable, nay the only, scholars of their time. They made discoveries at which we can reasonably be astonished. Why might this Saknussemm not have hidden some surprising invention in the incomprehensible cryptogram? That must be the case—that is the case.'

The professor's imagination caught fire at his assumption. 'Perhaps it is,' I dared to reply. 'But what would be the point of a scholar hiding a marvellous discovery in such a way?'

'Why? Why? How should I know? Galileo—did he not act in this way for Saturn? In any case, we shall soon see. I shall have the secret of this document, and will neither eat nor sleep until I have discovered it.'

'Uh-oh,' I thought. 'Nor will you, Axel!'

'My God,' I thought to myself. 'What luck I ate for two!'

'First of all, we must find out the language of this cipher: it cannot be difficult.'

At his words, I looked up quickly. My uncle continued his soliloquy:

'Nothing could be easier. There are 132 letters in the document, of which 79 are consonants and 53 vowels. Now the southern languages conform approximately to this ratio, while the northern tongues are infinitely richer in consonants: it is therefore a language of the south.'

These conclusions were highly convincing. 'But what language is it?'

It was there that I expected to find a scholar, but discovered instead a deep analyst. 'This Saknussemm', he said, 'was an educated man.
Now, when he was not writing in his mother tongue, he must naturally have chosen the language customarily used amongst educated people of the sixteenth century—I refer to Latin. If I am proved wrong, I can try Spanish, French, Italian, Greek, or Hebrew. But the scholars of the sixteenth century generally wrote in Latin. I have therefore the right to say, a priori, that this is Latin.'

I almost jumped off my chair. My memories as a Latinist protested at the claim that this baroque series of words could belong to the sweet language of Virgil.

'Yes, Latin,' repeated my uncle, 'but Latin scrambled up.'

What relief, I thought. If you can unscramble it again, you're a genius, Uncle.

'Let's have a proper look at it,' he said, again picking up the sheet on which I had written. 'This is a series of 132 letters, presented in apparent disorder. There are words where the consonants are encountered on their own, like the first one, "mm.rnlls"; others in contrast where the vowels are abundant, for example the fifth word, "unteief", or the second-but-last one, "oseibo". Now the arrangement is clearly not deliberate. It is given mathematically by the unknown formula governing the succession of the letters. It seems certain to me that the original sentence must have been written normally, then jumbled up following a rule we have yet to discover. The person who got access to the key of the cipher would be able to read it fluently: but what is this key? Axel, do you have the key?'

To his question I replied nothing, and for a good reason. I was gazing at a charming portrait on the wall: one of Gräuben. My uncle's ward was then in Altona,* staying at one of her relatives'. Her absence made me very sad, because, I can admit it now, the pretty little Virland girl and the professor's nephew loved each other with all Germanic patience and calm. We had got engaged without my uncle knowing—he was too much of a geologist to understand such feelings. Gräuben was a charming girl, blonde with blue eyes, of a slightly serious character; but
she did not love me any the less for all that. For my part, I adored her—if, that is, the word exists in the Teutonic language. As a result of all this, the picture of my little Virland girl immediately switched me from the world of reality to that of daydreams, that of memories.

I was watching the faithful companion of my work and pleasure. Each day she helped me organize my uncle's precious stones, and labelled them with me. Miss Gräuben was a very fine mineralogist. She would have borne comparison with more than one scholar, for she loved getting to the bottom of the driest scientific questions. How many charming hours we had spent studying together; and how often I had been jealous of the fate of the unfeeling stones that she had manipulated with her graceful hands!

Then, when the time for recreation had come, the two of us would go out. We used to walk through the bushy paths of the Alster* and head together for the old tar-covered mill which looked so fine at the far end of the lake. On the way we would chat while holding hands. I would tell her things and she would laugh heartily at them. In this way we would arrive on the banks of the Elbe; then, having said goodnight to the swans gliding around amongst the great white water-lilies, we would come back by steam-ferry to the quayside.

I was just at this point in my daydream when my uncle, hitting the table with his fist, brought me violently back to reality.

'Let's see,' he said. 'In order to mix up the letters of a sentence, it seems to me that the first idea to come into one's mind ought to be to write the words vertically instead of horizontally.'

'Clever . . .' I thought.

'We must see what it produces. Axel, write any sentence at all on this scrap of paper; but, instead of writing the letters one after the other, put them in vertical columns made up of groups of fives or sixes.'

I understood what was required and immediately wrote from top to bottom:
'Good,' said the professor without reading it. 'Now write these words in a horizontal line.'

I did so and obtained the following sentence:

Iyylu lol eb ouiGe v, trn emtä.

'Perfect,' said my uncle, tearing the paper out of my hands. 'This is beginning to look like the old document: the vowels and the consonants are both grouped together in the same confusion. There are even capitals in the middle of the words, and commas as well, just as in Saknussemm's parchment.'

I couldn't help thinking that these remarks were highly ingenious.

'Now,' said my uncle again, addressing me directly, 'in order to read the sentence that you have just written and which I do not know, all I have to do is take the first letter of each successive word, then the second letter, then the third, and so on.'

And my uncle, to his great amazement and even more to mine, read out:

I love you, my little Gräuben.

'H'm,' said the professor.

Yes, without being aware of it, awkwardly in love, I had written out this compromising sentence.

'Oh, so you're in love with Gräuben, are you?' said my uncle in an authentic guardian's tone.

'Yes... No...,' I spluttered.

'So you do love Gräuben,' he said mechanically. 'Well, let's apply my procedure to the document in question.'

My uncle had returned to his engrossing ideas and had already forgotten my risky words: I say 'risky' because the scholar's mind could never understand the matters of the
heart. But fortunately, the vital question of the document took precedence.

Just before performing his critical experiment, Professor Lidenbrock’s eyes were throwing sparks out through his glasses. His hands trembled as he picked the old parchment up again. He was profoundly excited. Finally he coughed loudly, and in a solemn voice, calling out successively the first letter of each word, then the second, he dictated the following series to me:

mmessunkaSenrA.icefdoK.segnittamurtneceertserrette,rotaivsadua,ednecsedsadne
lacartmiilujsiratracSarbmutabiledmek
meretarcilucoYsleffenSnl

When he had finished I will admit that I was excited. These letters, called out one after another, had not produced any meaning in my mind. I was therefore waiting for the professor to produce pompously from his mouth a sentence of Latin majesty.

But who could have foreseen it?—a violent blow from his fist shook the table. The ink spurted; the pen jumped from my hands.

‘That’s not it!’ shouted my uncle. ‘It makes no sense.’

Then, crossing the study like a cannonball and going downstairs like an avalanche, he threw himself into Königstrasse and shot off at a rate of knots.

‘Has he gone out?’ shouted Martha, running up at the slam of the front door, which had just shaken the house to its very foundations.

‘Yes, completely gone!’

‘But what about his lunch?’

‘He’s not having any!’

‘And his dinner?’

‘No dinner either!’

Clasping her hands: ‘Pardon?’