

THE WHALE

*In Search of the
Giants of the Sea*

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III

The Sperm Whale

I know him not, and never will.

The Tail, *Moby-Dick*

In some medieval past, someone pierced the head of the whale, releasing the waxy oil that filled it. As it hit the cool northern air, this hot, precious liquid became cloudy, looking for all the world like semen. Thus men came to believe that the leviathan carried its seed in its head. It may be saddled with an inelegant, even improper name, but it is also an entirely apt title, for the sperm whale is the seminal whale: the whale before all others, the emperor of whales, his imperial cetacean majesty, a whale of inherent, regal power. It fulfils our every expectation of the whale. Think of a whale, and a sperm whale swims into your head. Ask a child to draw a whale, and he will trace out a sperm whale, riding high on the sea.

But the sperm whale also bears the legacy of our sins; an animal whose life came to be written only because it was taken; a whale so wreathed in superlatives and impossibilities that if no one had ever seen it, we would hardly believe that it existed –

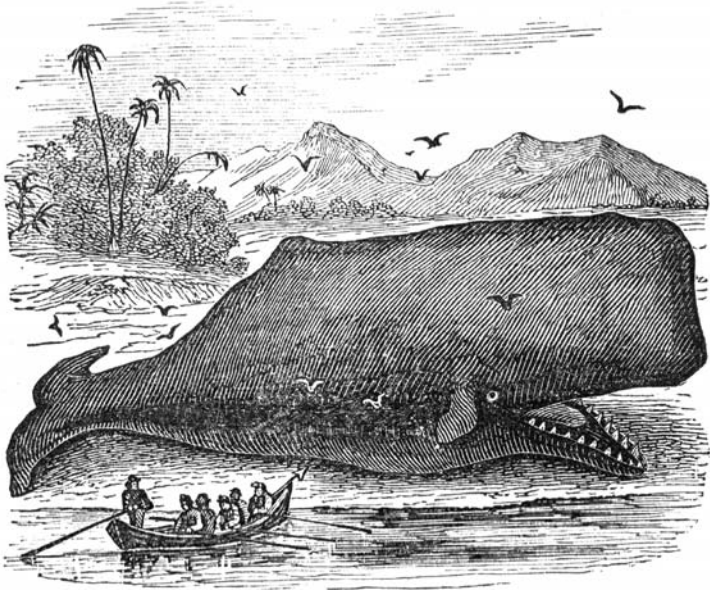
and even then, we might not be too sure. Only such a creature could lend Melville's book its power: after all, *Moby-Dick* could hardly have been written about a butterfly.

Scientifically, it is in a family of its own. Sperm whales – classified *Physeter macrocephalus* or 'big-headed blower' by Linnæus, the father of taxonomy, in 1758, but commonly called cachalots – are the most ancient whales, the only remaining members of the *Physeteridæ* which evolved twenty-three million years ago and numbered twenty genera in the Pliocene and Miocene. (In fact, Linnæus at first identified four species: *Physeter macrocephalus*, *P. catodon*, *P. microps* and *P. tursio*, but all are now known as one, with the pygmy and dwarf sperms – *Kogia breviceps* and *K. sima* – recognized as a separate family, *Kogiidæ*.) Relics of prehistory, they are, in one scientist's words, 'victims of geologic time . . . held in the rubbery bindings of [their] own gigantic skin'. Their nearest relation on land is the hippopotamus, although with their grey wrinkledness, small eyes and ivory teeth, they remind me more of elephants.

The sperm whale remains a class apart. Its shape itself seems somehow unformed, inchoate, as though something were missing – a pair of flippers or a fin. It is an unlikely outline for any animal, still less for the world's largest predator. To Ishmael, the whale was the ominous embodiment of 'half-formed foetal suggestions of supernatural agencies'. Now it is seen as a 'generally benign and vulnerable creature'; from a fearful foe it has become a placid, gentle giant of the seas. The distance between these two notions is the distance between myth and reality, between legend and science, between human history and natural history. It is a mark of its magical nature – and a symbol of the fate of all cetaceans – that the sperm whale has achieved such a transformation, from wilful dæmon to fragile survivor.

Physeter macrocephalus may have been around for millennia, but we have really only known it for two hundred years; only with the advent of modern whaling, at the beginning of the eighteenth century, did man come to comprehend even an inkling of the animal. It continues to confound us. The sperm whale is a greater carnivore than any dinosaur – a fact that threatens to turn its fearsome jaws into those of an aquatic tyrannosaur – although its body is ninety-seven per cent water, just as humans are mostly made of the same liquid; we all contain oceans within us. Like other whales, the sperm whale never drinks. It has been described as a desert animal; like a camel living off its hump, its thick layer of blubber allows the whale to weather the vicissitudes of the ocean, from feast to famine. In an environment in which food stocks alter drastically, there is an advantage in being able to live for three months without having to eat, and to be able to range over huge distances in temperatures ranging from tropical to Arctic.

Truly, these are global animals. Sperm whales live in every latitude and every ocean, from the North Atlantic to the South Pacific, even in the Mediterranean. Visual surveys from planes and ships have calculated that 360,000 of them still swim the world's seas, although that is barely a quarter of the population that flourished before the age of the iron harpoon. Their love of deep water, foraging off steep continental shelves, meant that until recently only whalers – who described their quarry as travelling in *veins*, as if guided 'by some infallible instinct' ('say, rather, secret intelligence from the Deity', adds Ishmael) – saw sperm whales alive. As a result their study is still in embryo. It is as though we have hardly advanced since nineteenth-century illustrators depicted overweight whales lying on palm-fringed tropical beaches.



A SPERM WHALE.

What facts we do know cluster together like the whales themselves, defying interpretation. What colour are they? Underwater, they appear ghostly grey filtered through the ocean's blue, but in sunlight they appear brown or even sleekly black, depending on their age and sex. They may even verge on a dandified purple or lavender, with pale freckles scattered on their underbellies, leading to the pearly whiteness of the 'beautiful and chaste looking mouth! from floor to ceiling lined, or rather papered with a glistening white membrane, glossy as bridal satins'. From the side and below, this whiteness glows like a half-open fridge; an invitation, and a warning. The huge head is patchy and mottled where the tissue-thin skin is constantly peeling like old paint; it is relatively smooth, but behind, the rest of the body is furrowed and creased like a prune. This mutability gives the animal a metamorphic dimension.

From a hydrodynamic point of view, the sperm whale looks as though it were designed by an eccentric engineer. There are no concessions in its shape. Its sharp-angled flukes are not those of the sinuous and feminine humpback. It is a blunt blunderbuss of an animal; abrupt, no-nonsense. Its squareness appears to confront the water, to defy, rather than comply with the sea. Yet seen from above, its block-like head is quite narrow, wedge-shaped: this is an animal built to spend most of its life in the depths, so much so that one scientist considers it more apt to call the sperm whale a surfacer rather than a diver. Its very size allows the whale to spend long periods of time in the depths, its body being one huge oxygen tank.

Slung beneath its signature snout is the sperm whale's other most formidable feature: its lower jaw, studded with forty or more teeth which fit into its toothless upper mandible like pins in an electrical socket. These ivory canines range in size from hen's egg to massive foot-long cones too broad for me to encircle in my fingers. Sliced in half, a tooth can reveal its owner's age by counting the layers of growth like the annular rings in a tree. In the most elderly whales, the teeth are 'much worn down, but undecayed; nor filled after our artificial fashion', Ishmael observes, although, in truth, sperm whales often suffer caries. In rare instances, they also possess unerupted upper teeth, relics of ancestors who boasted a full dentition. Natural selection has left their descendants with only a lower row, as if they had misplaced their dentures during the night. That fact makes the sperm whale seem more benign; only half a monster.

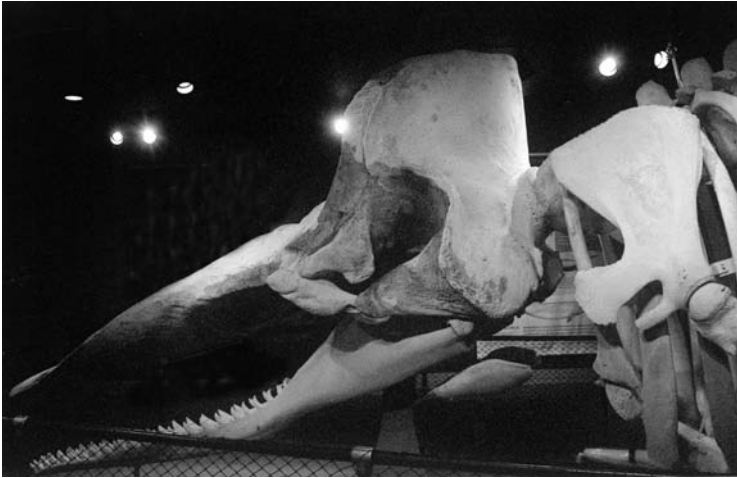
The teeth are yellow in colour; only when polished do they acquire their bright creamy whiteness, like the little ivory tusks in the carved ebony elephants my grandfather brought back from India after the First World War. Heavy in the hand, they are

tactile, smooth, weighty with their benthic provenance. For all their prominence, their function is oddly obscure. One nineteenth-century writer observed that the teeth were marked with oblique scratches, 'as though made with a coarse rasp', the result, he thought, of 'corals, crushed shells, or sand' and frequent contact with the ocean floor. However, food found in the bellies of sperm whales seldom shows any tooth marks. Juveniles are eating squid and fish long before they develop teeth, and females do not produce any until late in maturity, if at all. Evidently, teeth are not necessary for sustenance. (In some cetaceans they are a positive hindrance: strap-toothed beaked whales, *Mesoplodon layardi*, have tusks which gradually grow over their jaws, creating a muzzle through which they still manage to feed.)

In his *Natural History of the Sperm Whale*, published in 1839, Thomas Beale noted that three hunted whales, one of which was blind, and the other two with deformed jaws, were in otherwise good condition, proving that not only did they not need their teeth to feed, they had no need of eyesight, either. This great predator does not chew its prey; rather, it sucks it in like a giant vacuum cleaner, as the presence of ventral pleats on its throat indicates. Some commentators have proposed that sperm whales use their jaws as giant lures, dangling them like an angler's rod and baited with bioluminescence from previous meals of squid. Beale believed that the whale hung passively in the water, waiting for its food, while squid 'actually throng around the mouth and throat', attracted as much by the 'peculiar and very strong odour of the sperm whale' as by the 'white dazzling appearance' of its jaw. However, modern science has discovered otherwise.

Addressing the conundrum of the sperm whale's head, Ishmael points out to his otherwise ignorant readers that its true

shape is in no way reflected by its skull; no one who saw its bones could ever guess that the living animal possessed such a snout. To him, this is further evidence of deception on a massive scale, and in a phrenological diagnosis – all but feeling the whale’s bumps – he declares that the huge forehead which lends the animal a semblance of wisdom ‘is an entire delusion’. But Ishmael was himself misled, for the sperm whale boasts the biggest brain of any creature ever alive, weighing as much as nineteen pounds (as opposed to the human’s seven). Quite what it does with such an organ is another matter.



Straddling a gallery to itself in New Bedford’s museum is the skeleton of a sperm whale; merely to walk around it is an intimidating experience. The skull alone is more than twenty feet long and stands higher than my shoulders. It is an essentially asymmetrical structure by virtue of its left-leaning blowhole (odontocetes possess single nostrils, whereas mysticetes have two), literally sinister (and I wonder if whales are cack-handed like me). This same

quality lends an air of abstract sculpture to the complex construction of caverns and sockets created to accommodate vital vessels and nerves. One opening connects its spinal cord to its brain, another to the ears and eyes, themselves protected by the bony mass from which swings its wishbone jaw, a toothed 'portcullis', hanging 'like a ship's jib-boom'. I cannot help but agree with Ishmael: this calcium scaffolding can hardly indicate the true shape of the animal. One might tell the form of a human being from its bones, but who could imagine the reality of this creature?

As in death the enigmatic sperm whale gives few of its secrets away, so in life it sees us from another angle. Its eyes are so positioned as to prevent the animal from seeing straight ahead (although their siting on its wedge-shaped head, at the point where it narrows down to the jaw, is such that a whale can see below itself in stereoscope – presumably a useful tactic in hunting – and will swim upside-down to scrutinize objects above and, perhaps, to feed on them). For most of its life the whale must regard the world in two halves, Ishmael deduces; its head gets in the way, 'while all between must be profound darkness and nothingness to him'. It seems odd that such a powerful creature should be so benighted. This blindness is also the reason, says Ishmael, for the sperm whale's 'timidity and liability to queer frights'. A 'gallied' animal would sound deep into the ocean, beyond the reach of man and his harpoons.

In such a silent flight, the sperm whale could not be outdistanced. More than any other marine mammal, it is a master of the sea. Using its muscle-bound tail, it can power its way thousands of feet below, its paddle-shaped flippers tucked into its flanks as neatly as an aeroplane's undercarriage. And once below, it can stay down for up to two hours. To achieve this feat, a whale must spend much

of its time breathing at the surface – its ‘spoutings out’, as the sailors called them – taking some sixty to seventy breaths in ten or eleven minutes.

. . . the Sperm Whale only breathes about one seventh or Sunday of his time.

The Fountain, *Moby-Dick*

Whereas humans inefficiently hold their breath to dive, whales supercharge their oxygen-carrying hæmoglobin blood cells before sounding, often in exactly the same spot at which they surfaced, perhaps to be sure of their survey of the food below. On these stately travels into the deep, they are accompanied by remora, sickly grey attendants suckered to their wrinkled flanks like imps; ‘fish, to be sure, but not quite proper fish’, they are parasites lacking individual motion, dependent on their hosts without whom they would flop to the ocean floor. Even more dæmonic are the lampreys, ‘wriggling, yard-long, slimy brown creatures that repel even the zoologist’. These attach themselves to the whales with rasping mouths, leaving love-bite scars on their huge but helpless victims.

Commonly, a sperm whale will dive between three hundred and eight hundred metres, following a U-shaped trajectory. Once it has reached its chosen depth, it will swim horizontally for up to three kilometres, presumably foraging. Occasionally, the whale will dive even deeper. Dead sperm whales have been found entangled in underwater cables 1,134 metres down – although that figure does not measure the drowning agony of the whale, its jaw caught in the insulated wire.

In 1884, a cable-repairing steamship operating off South America pulled up a cable in which a dying whale was trapped,

its entrails spilling out; the wire itself was found to be bitten in six places. In another insight gained at mortal expense, a sperm whale caught south of Durban in South Africa in 1969 was found with the remains of two *Scymodon* sharks in its belly. Since such fish are bottom dwellers feeding at three thousand metres, this was proof of the whales' extraordinary diving abilities. Much of what we know about sperm whales was discovered by those whose primary interest was to kill them. Whales died that men might describe them.

Nor are they easily replenished. The sperm whale has the lowest reproductive rate of any mammal – females produce single calves only once every four to six years. It is also the most sexually dimorphic cetacean: males may be twice the size of females. The sexes live apart for most of their lives, the males growing larger and all the more attractive to their potential, if fleeting, partners. This also has the benefit of maintaining the supremacy of their species: the vast distances they travel ensure that the global population of sperm whales is surprisingly genetically similar.

Moving south to breed, males fight for the females' favours. The distorted jaws – some even tied in knots; Moby Dick's own mandible is described as sickle-shaped as it scythes off Ahab's leg – that Beale saw are evidence of these ferocious but short-lived battles, as are teeth marks on the animals' heads, backs and bellies. Although they have no territory to defend like rutting stags, whales will take bites out of each other's blubber, ramming one another with pugnacious foreheads which in males become almost obscenely extended.

Successful suitors mate belly to belly, with females underneath – *more hominum*, in Ishmael's discreet words. Gestation lasts fifteen months; calves are nursed for at least two years, sometimes communally, and thirteen-year-olds have been known still to

suckle. 'The milk is very sweet and rich,' says Ishmael; 'it has been tasted by man; it might do well with strawberries.' Lacking lips, calves take the milk into the side of their mouths as it is squirted from their mothers' teats, a technique first identified by the surgeon Sir William Wilde, father of Oscar.

Sperm whales have the most complex social structure of any animal other than man. Like other toothed whales, they travel together, separated by sexual maturity into reproductive and bachelor groups. Females and immature whales swim together in groups of twenty to thirty, dispersed over a wide area; they prefer warmer waters, possibly because fewer killer whales – their only natural predators – are found at such latitudes. Communal care confirms these extended bonds: when a mother dives for food, she will leave her calf – which cannot yet follow her – in the care of other females or juvenile males in a cetacean crèche. Large males have been seen gently carrying calves in their mouths, although the fact that they simultaneously exhibit extended penises probably means that this has more to do with mating than nursing.

In their teens and twenties, young males join bachelor groups, as though entering a rite of passage. They attain maturity at nineteen (females become sexually mature as early as seven years old), but do not mate until their twenties. They travel further in search of prey; adult males roam more than forty degrees latitude north or south, forming loose concentrations spread over two hundred miles or more. Eventually these groups reduce in size until, in middle age, the males become solitary, roving as far as sub-polar seas to find new feeding grounds before returning to warmer waters to mate.

In the interests of order, the whalers subdivided their subjects, applying human terms of trade and organization to marine mammals:

Pods, or gams: up to twenty whales

Schools, or shoals: twenty to fifty whales

Herds, or bodies: fifty whales, or more

Single bulls were schoolmasters, groups of females were harems, and young males, bachelor schools of 'forty-barrel bulls'. Ishmael gives us a memorable description of a nursery into which the *Pequod* sails. He looks down through limpid waters, to where

another and still stranger world met our eyes as we gazed over the side. For, suspended in those watery vaults, floated the forms of the nursing mothers of the whales . . . and as human infants while suckling will calmly and fixedly gaze away from the breast . . . even so did the young of these whales seem looking up towards us, but not at us, as if we were but a bit of Gulf-weed in their new-born sight.

None of this, however, prevents the crew from laying into the innocent scene. It is one of the cruellest aspects of its historical fate that this most hunted of whales is built for a long life, a longevity indicated by the slow beating of its huge heart at ten times a minute; a shrew, whose heart beats one thousand times in a minute, lives for just a year. It is as if the animal's life history had been slowed down by virtue of the millions of years its species has existed. At forty-five, a sperm whale is middle-aged, and has achieved its optimum size; like a human, it enters old age in its seventies. Females live into their eighties and perhaps to one hundred years or more, although none is known to have given birth after their forties. Rather, these matriarchs assist other females 'in ways we do not yet understand', as Hal

Whitehead, one of the great modern experts on sperm whales, says. He calls these older females ‘sages’, raising images of elderly, grey-haired grandmothers, teaching their sons and daughters how to raise their children and passing on memories of good feeding grounds.

Given their slow breeding and the centuries of hunting they have endured, it is a testament to their evolutionary success that the *Physeter* should remain so ubiquitous throughout the world’s oceans; among mammals, only killer whales and humans achieve such a cosmopolitan reach. Although they adhere to deep water, sperm whales have been seen off Long Island, almost within the city limits of New York, while others swim not far from the coast of Cornwall or Norway. These are generally lone bulls, but other whales may travel in schools of hundreds or even more, numbers ‘beyond all reasonable conception’ to Frederick Bennett. Whalers would suddenly come across huge herds of these enormous animals, like buffalo on the plain. Dr Whitehead too compares them to elephants, roaming the ocean’s savannah, with similar social structures and mutual dependencies – even the same highly modified and very useful noses.

And as they roam the oceans, whales observe neither night nor day. Like all whales, they are voluntary breathers, and must keep half their brains awake while they sleep, during which – if dogs are anything to go by – they certainly dream. Sometimes they hang perpendicularly like bats, blowholes to the surface, dozing in a drowsy cluster after feeding. Sperm whales exhibit social skills that go far beyond the herding instinct. They enjoy the contact of their bodies, spending hours slowly rolling around one another just below the surface. ‘They seem to love to touch each other,’ says Jonathan Gordon of this underwater ballet. ‘It is not unusual to see animals gently clasping jaws.’

Such cohesion extends to self-defence. Forever on the move, whales will swim in ranks, 'like soldiers on parade', seeking safety in numbers, diving in clusters to feed, synchronizing their soundings as security against predators. Even such fiercely armed animals are vulnerable to attack from orca – more especially so in the three-dimensional hunting ground of the ocean where there is no place to hide, and where a victim can be approached from any angle. Here their only refuge is each other.

Threatened sperm whales will stop feeding, swim to the surface, and gather to each other in a cluster. Assembled nose to nose around their calves, they form a tactical circle known as a 'marguerite', bodies radiating outwards like the petals of a flower. Thus they present their powerful flukes to any interlopers, protecting their young in a cetacean laager. In an alternate version, they touch flukes, heads out and jaws at the ready. Besieged whales will maintain these positions silently, unmoving. If a whale is separated from the circle, one or two of its companions will leave its safety to escort the animal back to the formation, risking their own lives as the killers take great chunks out of the sperm whales' flesh, foraging like packs of wolves. These are, writes one naturalist, "heroic" acts by almost any definition'.

Ironically, while such techniques are successful in repelling orca, they also made the animals more susceptible to slaughter by man. 'The females are very remarkable for attachment to their young,' Beale observes, 'which they may be frequently seen urging and assisting to escape from danger with the most unceasing care and fondness.' If one were attacked, 'her faithfull companions will remain around her to the last moment, or until they are wounded themselves'. This was known as 'heaving-to' by whalers, who capitalized on their prey's fatal tendency to foregather when endangered, and destroyed entire schools 'by

dextrous management'. 'They did not swim away or dive,' wrote an observer of a twentieth-century hunt. 'The gunner, therefore, took the whales very easily, starting with the largest one.' As Beale adds, poignantly, 'The attachment appears to be reciprocal on the part of the young whales, which have been seen about the ship for hours after their parents have been killed.'



To humanize the whale oversteps boundaries; but when entire families follow a stricken relative to strand on a beach, or when a wounded female, mortally gashed by a ship's propeller, is borne up by the shoulders of her fellow whales, it is difficult to resist the pang of emotion. They are truly gentle giants: as elephants are supposed to bolt at the sight of a mouse, so sperm whales can be faced down by a pod of militant dolphin. The appearance of a seal, or even the click of a camera, may send them scurrying. It is almost as though, as Dr Whitehead remarks, the whale sees its own habitat as a dangerous, even frightening place.

Yet these are carnivorous animals, voracious in their appetites. They eat mostly cephalopods, but also take tuna and

barracuda; entire thirty-foot sharks have been found in their bellies. And they consume in enormous proportions, taking from three to seven hundred squid a day; worldwide, sperm whales eat one hundred million metric tons of fish a year – as much as the annual catch of the entire human marine fishery.

Diving deeper than any other mammal, we simply do not know how sperm whales behave in the ocean's depths. We know what they eat, because we find it in their stomachs; but we don't know how it gets there. Sound is certainly important to their sustenance. Although they lack a voice box – as Thomas Beale noted, 'The sperm whale is one of the most noiseless of marine animals . . . it is well known among the most experienced whalers, that they never produce any nasal or vocal sounds whatever, except a trifling hissing at the time of the exhalation of the spout' – the whale possesses the largest sound system of any animal, using one-third of its body to create the loud clicks that it constantly emits when hunting. The whale's oversized nose is in fact a huge and highly efficient squid-finder.

As bats send out sonar to find flying insects, so sperm whales send out similar, if rather louder, pulses to locate their prey. Their characteristic clicks are produced by the expansion and contraction of 'blisters' on their nasal sacs. It is a remarkably complicated sequence, as Dr Whitehead explains. Two nasal passages run from the external blowhole, the left and the right. The left runs directly to the lungs, but the right passes through a distal air sac via a kind of valve known as the *museau du singe*, or 'monkey's muzzle'.

Sound is initially generated by air being forced through this valve – not unlike the clicks you can make by hitting the roof of your mouth with your tongue – then passes through the animal's upper spermaceti organ or 'case' before bouncing off another, frontal air sac set at the back of the skull – a bony

sound mirror, in effect. This is then redirected and broadcast through a series of acoustic lenses in the 'junk', the lower oil-containing organ in the whale's head. Thus the strange mechanism of the sperm whale's nose acts as a living amplifier. Some sound also bounces back and forth along the case, producing a second pulse. As this inter-pulse interval is equal to the length of the case, the actual sound created by the whale – the pulses between its clicks – may be a measurement of its physical size; one may tell the length of the animal from the inter-pulse interval, just as the bigger the whale and its head, the more powerful its clicks. Breeding males may size each other up from their clicks, and can tell each other's sex by the same sound; they are as much a tribal definer as the click speech of the Xhosa of South Africa.

The clicks, which can be heard for many miles, are important for navigation and communication. They extend the whale's sensory map far beyond its own body, and their speed and variation change from group to group, as an English dialect changes from Yorkshire to Hampshire. This allows individual whales to identify and communicate with members of their family, even as they use the earth's magnetic fields to map out their subaquatic terrain, the peaks and valleys of the oceanic abyss in which they are effortlessly at home. And as they dive – often in an informal group – they use their clicks to locate and scan, with extraordinary

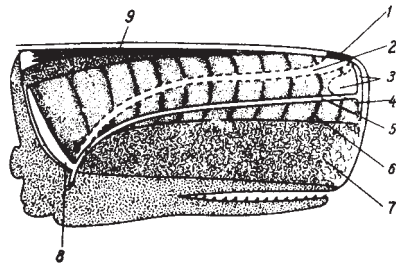


FIGURE 65. Structure of spermaceti organ and system of epicranial nasal passages of the sperm whale:

- 1 – blowhole; 2 – left nasal passage; 3 – distal cavity; 4 – pouchlike evagination of distal cavity;
- 5 – right nasal passage; 6 – upper spermaceti sac;
- 7 – lower spermaceti sac; 8 – frontal cavity;
- 9 – muscular-tendinous layer.

precision, the distance, presence and nature of their prey. It is thought that a whale can 'see' into its prey, diagnosing it – even to the extent that it can tell if it is pregnant. The returning clicks are 'heard' through the dense, hard jaw bone – the same bone from which Ahab's false leg is carved – and which acts as a listening device in its own right, conducting sound through bioacoustical oils directly to its eardrums. The whale's external ear is largely useless; the animal hears through its body itself.

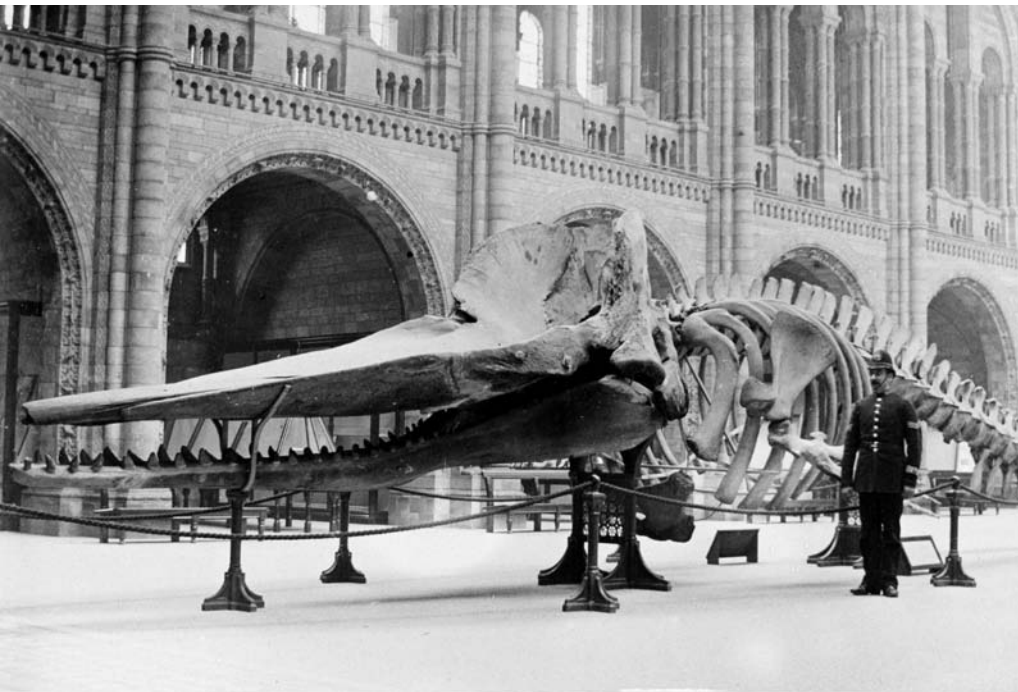
The deeper it dives, the more effective the whale's senses are, away from the chatter and interference of the world above. A sperm whale can create a two-hundred-decibel boom able to travel one hundred miles along the 'sofar' channel, a layer of deep water that readily conducts noise. It seems strange that such a physically enormous creature should rely on something so intangible; but bull sperm whales, by virtue of their larger heads, generate sounds so powerful that they may stun or even kill their prey. These directional acoustic bursts, focused through their foreheads and likened to gunshots, are the equivalent, as one writer notes, of the whale killing its quarry by shouting very loudly at it.

In their own researches, Soviet scientists, whose nation's enthusiastic hunting of the sperm whale in the twentieth century allowed ample opportunity for such study, suggested that in order to hunt in the depths where only one per cent of sunlight penetrates below two hundred metres, the whale uses a 'unique video-receptor system . . . which lets the animal obtain the image of objects in the acoustic flow of reflected energy even in complete darkness'. In other words, the sperm whale can see its prey in sound. And just when you think nothing else about this animal could confound you, another theory proposes that the whale's sonic bursts, and the movement of its head, may cause plankton

in the deep water to emit their bioluminescence. In the utter darkness, the leviathan may light its own way to its lunch.

Even as you leave the Tube station, you remain an underground passenger, conducted through a tiled tunnel before emerging into the shadow of an extravagant cathedral of science. Clinging to the terracotta façade – itself layered to resemble geological strata – is an industrial bestiary: heraldic griffins and scaly medieval fish and, most frightening of all, grinning, toothy pterodactyls, with their obscene storks' beaks and glaring gargoyle eyes and their leathery wings wrapped about them.

In the gothic nave, children mill about a blackened diplodocus nonchalantly waving its whiplash tail. A hundred years ago, they would have been greeted by another monster, for here stood the skeleton of a sperm whale, guarded by what appeared to be a Victorian policeman as if it were a prisoner at Pentonville.



466. Skeleton of Sperm Whale.

Whales are large marine mammals which live in the ocean. Like other mammals, they breathe oxygen from the air, have a small amount of hair, and are warm blooded. There are two basic kinds of whales, and about 100 species. People use the word whale in different ways. Some use it for all Cetaceans including dolphins and porpoises. These people say that dolphins and porpoises were also whales, because they are also Cetaceans. Others separate out the dolphins and porpoises: common English-speaking people Find the latest tracks, albums, and images from Noah and the Whale. Noah and the Whale were an English alternative/folk group formed in Twickenham, London in 2006. Their final line-up consisted of Charlie Fink (vocals, guitar), Tom Hobden (fiddle, keyboards), Matt "Urby Whale" Owens (bass), Fred Abbott (keyboards, guitar) and Matthew Petulla (drums). Former members of the band include Doug Fink (drums), Laura Marling (vocals, guitar) and Jack Hamson (drums).