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Battle At Sea

John Keegan

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About the Author

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Illustration Credits

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In memory
of my grandfather
John Bridgman
(1882-1954)
of Toomdeely, County Limerick
and for my son
Thomas John Bridgman Keegan
and my grandson
Benjamin Bridgman Newmark

BATTLE AT SEA

From Man-of-War to Submarine

JOHN KEEGAN



PIMLICO

INTRODUCTION

BATTLE AT SEA

How men have fought at sea, in the period from the heyday of the ship of the line to the coming of the submarine, is the subject of this book. It is one I have long wanted to write because, before ever chance turned me into a military historian, it was a naval historian that I wanted to be. Not difficult to explain why: I am English; no Englishman – no Briton – lives more than eighty miles from tidal water, and no Briton of my generation, raised on food fought through the U-boat packs in the battle of the Atlantic, can ever ignore the narrowness of the margin by which seapower separates survival from starvation in the islands he inhabits. The artefacts and memorials of seapower are warp to the woof of British life. HMS *Victory*, cocooned in her dry dock at Portsmouth, is an object as much visited by British schoolchildren as the manuscript of their constitution by American, Napoleon's tomb by French or Lenin's cadaver by Russian. Nelson's Column is the grand centrepiece of the British capital's traffic, and the Admiral Nelson, Hood, Rodney, Albemarle, Jervis, Codrington, Anson, Blake and Collingwood are as familiar city, town or village drinking-places as are the Royal Sovereign – itself a

famous ship's name – George or William IV, who was in any case 'the sailor king'.

Most British people possess direct and personal acquaintance with the facts of seapower and the maritime commerce it protects. My family's photograph album is full of images of the trading schooners and ketches in which my grandfather, a small landowner's son from the tidewater of the river Shannon, sailed the west coast of Ireland in his school holidays in the 1890s, on voyages similar to those made by slate-carriers from the North Welsh ports, island traders between the west coast of Scotland and the Hebrides, herring-catchers plying out of Yorkshire and Northumberland ports or spiritsail barges loaded with grain and hay from the East Anglian backwaters for the estuaries of the Medway, Thames and London River itself.

That peaceful commerce, familiar even to the British whose lives connect with it only through the traffic of canal narrowboats and the annual migration to the seaside, intermingles with naval warfare at a multiplicity of points. Sailor sons, husbands, uncles, nephews, clad in the round hat and bell-bottom trousers which are one of Britain's universal legacies to the world, figure in the family tree of the majority of the nation's households. Acquaintance with the ships in which those Jack Tars sailed is part also of the British national experience. Mine embodies two wartime visits: one to a motor torpedo-boat of one of the Channel flotillas, moored in a Dorset port, between sallies against German E-boats, on a naval 'open day' in the weeks before the invasion of Normandy in 1944; another to a fleet minesweeper, of which a family friend was first lieutenant, repairing in the London Docks after damage by a U-boat-laid mine during the last stages of the battle of the Atlantic in 1945. The memory of both crews' sang-froid, light-heartedness and derring-do remains with me to this day.

These impressions are reinforced by others: those transmitted by the extraordinary grace and beauty of the

physical means of naval warfare, the hulls, masts, spars, weapons and instruments of the warship. The artistry which went to the making of *Victory*, paradigm of the sailing-warship world, touches anyone who visits her: not only the sublime proportionality of her structure but also the elegance of her joinery and fittings, the delicacy of her classical detail – ogival mouldings to her gun-ports, Doric columns supporting her tween-decks, rococo carving to her bow, Greek-revival colonnades at her stern galleries – and the severe rationality of her standing and running rigging. *Victory* is a cool and deadly instrument of war. But she is also a thing of beauty, as are often her descendants, in wood, iron and steel, in our own day.

The conjunction of the warship's beauty with the deadliness of its purpose raises a second and central question: *why* did men fight at sea at all? For the beauty of such ships, though enhanced by artifice, is fundamentally determined by the nature of the perpetual struggle that the sailor wages with the elements. The run of a ship's lines, the proportionality of breadth to depth and length, the point and counterpoint of its spars and rigging are not a product of the shipwright's whim but the fruit of millennia of experience in pitting wood, metal and fibre against the forces of wind and water. A ship is first of all a vessel for bringing those who sail in her safe from one landfall to another. The perils of making landfall, even across narrow waters, arouse fears which lie very deep in the human psyche. Why, then, add to them those of capture, shipwreck or death at the hands of fellow mariners?

There is, indeed, a profound and powerful set of values that inhibits the waging of maritime war, roughly summarised by the phrase 'fellowship of the sea'. What that implies is a code of mutual self-interest: today's well-found mariner may be tomorrow's derelict, dependent for his life on the help of a passing stranger. All sailors recognise the logic of the code and most abide by it most of the time. But

the code of fellowship wars, alas, with an entirely contrary and conflicting interest: that of quick and chance enrichment. Ships, by their nature, are objects of capital intensity. They are valuable in themselves, and what they carry may be more valuable still. The temptation to attack and take a ship, when opportunity offered, could thus all too easily overcome the inhibitions imposed by the sense of risk shared between sailors; when it did so, the practice of war-making at sea was born.

Its institution must have been reinforced by similar motives underlying the institution of organised warfare on land. As Professor William McNeill has pointed out, sophisticated military operations – those entailing mechanisms of command, calculations of strategy and rehearsal of tactics – must have had their origin in campaigns generated by the rewards and opportunities of long-distance trade. Irrigation societies, the first to create the large agricultural surpluses which could support standing armies, were also the first to initiate the practice of sending long-distance expeditions to trade for the commodities – particularly metals and horses – which they did not produce within their own boundaries. Such expeditions were initially mere raids, which seized what they wanted by force; later the irrigation societies found it more profitable to offer manufactured goods for the resources that they sought. But such expeditions always needed protection en route; and the more primitive peoples with which they exchanged trade were tempted by the desirability of the strangers' trade goods to raid in the opposite direction, with the aim of seizing objects of value instead of bartering for them. These raiding expeditions may be seen as a form of piracy on land.

And it is in piracy at sea that we may perceive the origins of naval warfare. Fights between traders and pirates, to whom a trader's ship provided an opportunity for enrichment unattainable by toil, were the small change out

of which the larger currency of organised naval warfare grew. Ships were – still are – the most efficient means of transporting bulk cargoes over distance. River voyages may have been the first form that long-distance bulk transportation took; but piracy was a possibility wherever the rivers flowed above or below friendly territory. Once riverine navigators left sheltered waters and took to the open sea, exposure to piracy became an occupational hazard; and all the more so because, for the earliest seaward mariners, navigation was a coastwise affair. Inaccessible offshore and littoral zones, islands, peninsulas and deltas close to trade routes, provided safe refuges for other mariners who chose to practise piracy, though they often combined it with commercial trading, using pirated goods as part of their stock. Hence the ‘ambiguous’ quality of much piracy, which all students of the practice have identified as one of its salient characteristics.

Pirates, trader-pirates, even pirate rulers were to become a fixed and significant element in the commerce of all inland sea and coastal economies throughout antiquity. They flourished in the Mediterranean, the Baltic, the North Sea, the western Indian Ocean, the Bay of Bengal, the South China Sea and the Sea of Japan from the earliest periods of seaborne trade. And piracy was only suppressed when large polities raised navies to put it down. It was a major achievement of the Ming dynasty in China (1368–1644) that it created a navy which assured safe passage for Chinese traders to ports as distant as those of the Red Sea and East Africa. Maritime peace had come earlier to the Mediterranean. Although not even Athens at the height of its maritime power – founded initially to assure the import of grain from the Black Sea – had been able to extirpate piracy on its trade routes altogether (Greeks had been enthusiastic pirates since the age of Odysseus), the Persian Empire’s navy acted as an effective anti-piracy force in the eastern Mediterranean. And the late Roman Republic and

early Roman Empire, by the extension of their authority from one end of the Mediterranean to the other, completed the Persians' work. Under the rule of Pompey, in the first century BC, the Roman navy swept much of the inland sea free of pirates. The naval victories of Octavian, later the Emperor Augustus, ushered in a true naval *imperium* which made the seas safe for trade not only within the Mediterranean itself but also along the empire's Atlantic, Channel and North Sea coasts – a peace which was to hold good until the third century AD.

The subsequent resurgence of piracy was a feature of those external barbarian assaults on the empire which culminated in its collapse in the fifth century. And maritime peace was not subsequently to be restored in European waters for over a thousand years – years which comprehended the rise and dominance of the most destructive of all pirate societies, that of the Vikings. The transformation of Viking overseas bases – in England, Normandy and Sicily – into Viking kingdoms imposed an automatic check on their depredations. But it was only with the harnessing of the economies of older-established states – Portugal, Spain, then England and Holland – to the practice of long-distance oceanic trade in the sixteenth century that the principle of freedom of the seas recovered international value. England and Holland in particular hovered uncertainly in their naval policy between the condoning of piracy, for state purposes, and its suppression. But by the seventeenth century a consensus had been reached; the naval ships that state revenues supported, whose efficiency in the defeat of pirates, whether semi-official or the enemy of all, had by then been established beyond question, would in future only fight other naval ships. They would do so to acquire 'command of the sea' – a phrase not yet coined, though its force was implicitly understood by all who sought to exercise it – and command of the sea would in turn determine which states

were to be rich and which poor in those parts of the European subcontinent washed by the world ocean.

A similar struggle between navies and pirates – including both semi-official and private operators – had simultaneously been concluded in the Mediterranean, historic home of the maritime predator. Its result was to consign control of the eastern Mediterranean to Islam and of the western Mediterranean to Christendom, represented principally by Spain. But Mediterranean naval warfare of the sixteenth century differed from that waged in North European waters by reason of its distinctively local instrument, the oared galley. The Atlantic warship, by contrast, was a sailing vessel, ill adapted to the ramming and hand-to-hand tactics which characterised galley fighting – as they had done since Greek and Roman times – but a powerful weight-carrier and therefore ready-made to accommodate artillery when artillery achieved a compactly transportable form.

Guns were revolutionised at the end of the fifteenth century. After 200 years of experiment, they suddenly acquired the set of characteristics – solid-cast form with integral ‘trunnions’ which married into a wheeled carriage – that made them readily adaptable either for easy passage over land or for cross-deck recoil aboard ship. By the third decade of the sixteenth century, wheeled guns had rendered obsolete a thousand years of European castle-building on land, while, arrayed in ‘broadside’ at sea, they had transformed weight-carrying cargo ships into floating castles of formidable power. ‘Broadside’ provided states with the potential to wage and win strategic campaigns offshore, and they would shortly begin to do so.

Galleys, too, mounted the new artillery, which also greatly added to their power. A heavy gun trained over the bow of a galley could cause more damage to another than any inflicted by hand-to-hand fighting or even by ramming, in any case the trickiest manoeuvre of sea warfare. But,

because galleys were necessarily too narrow to mount guns for cross-deck recoil, they could not deploy them in broadside, nor, in consequence, meet the new sailing warship on equal terms. The galley's narrow configuration made it unsuitable for operations in the heavy weather of great waters; while the sailing-ship powers of northern Europe did not yet seek to penetrate the confines of the Mediterranean. The galley was therefore to survive as a local instrument of naval force for the 200 years in which England and Holland, in competition with the French and Spanish Atlantic fleets, were contesting control of the oceans and the lands that lay beyond.

Contest between these fleets was ultimately resolved by battle, when sea battles could be organised. But encounter between fleets at sea was difficult to arrange in sailing-ship days and, even when a meeting was made, still difficult to contrive in a form which gave victory to one side or the other. Fleets had first to find each other in an environment without landmarks; they then had to choose formations which allowed their firepower to bear; finally they had to hold the enemy in play sufficiently long for firepower to take effect. All three difficulties were to defy easy solution.

Rendezvous proved the least of the problems. For, despite the enormous range of the sixteenth-century sailing ship – the globe was first circumnavigated in 1519–22 by Magellan – and the vast extent of the seas, practical difficulties imposed by intelligence-gathering and position-finding, as well as victualling and the state of the weather, effectively confined a fleet bent on bringing another to battle to short-range sorties from base. Moreover, as long as position-finding and intelligence-gathering were difficult – as both remained until first mechanical and then electronic means appeared to process navigational data or to transmit ‘real time’ information^{[fn1](#)} – it was only at short range from base that ‘command of the sea’ could be exercised in any meaningful way. The depths of the oceans

meanwhile remained no man's lands, which fleets might beat almost in perpetuity without getting glimpse of each other. Hence the result that no great sailing-ship battle was fought far out of sight of land; Howe's victory of the Glorious First of June in 1794, though the first truly oceanic engagement, took place only 400 miles from the coast of Spain, and was to have no parallel before the coming of the steamship.

Fighting the enemy when found proved difficult at first, and not only at first, because admirals could not readily determine how they should best arrange their ships to attack the enemy. Centuries of engagement in which the issue had been decided by hand-to-hand combat led fleet commanders to believe that tactics suitable for a culmination in boarding were the correct ones. As a result ships whose real power lay in their broadsides were directed head-on at each other, in 'line abreast', when reflection would have revealed that the fleet should have been laid alongside its enemy, in 'line ahead'. The outcome was such messy encounters as Henry VIII's battle with the French off Ryde in 1545 and many episodes of the Armada fight up the Channel in 1588.

By the seventeenth century, however, the North European admirals, particularly the Dutch and English, had grasped that broadside gunnery was the key to victory and were laying their fleets in 'line ahead' – bow to stern with each other, that is, from first ship to last in parallel lines – and fighting the issue out by firepower. The battles that resulted were bloody. Few ships were sunk in these encounters, for the wooden ship was virtually unsinkable by solid shot unless it caught fire. But solid shot caused grievous casualties among crews, as long as ships clung together at man-killing range. Naturally few admirals who sensed casualties mounting chose to sustain punishment, even in the bitter Anglo-Dutch cannonades of the seventeenth century. And the particular circumstances of

sailing-ship warfare offered them a ready escape. Because attacking fleets sailed downwind to engage an enemy, and it was attacking fleets which normally inflicted the casualties, the defending fleet automatically retained the option of itself sailing downwind away from battle when battle grew too hot. And so they commonly did.



Nelson explaining to his officers the plan of attack before the battle of Trafalgar.

The consequence was that almost all the great battles of the wooden-wall epoch proved inconclusive, and the pantheon of sailing-ship admirals who fought them – most of them British – are in truth partial rather than decisive victors. Not until the coming of the ironclad steamship would the spectre of annihilation confront an admiral who grievously mismanaged his fleet; and the ironclad era itself would be almost past before – at Midway and the subsequent battles of America's war with Japan in the Pacific – such an outcome transpired. Jutland, the greatest but also one of the earliest clashes of ironclads to occur before the Pacific War, fell short of decision because of uncertainties felt by the opposed British and German commanders as to how a conflict between large fleets of such novel and untested warships should occur. Both were

inhibited from pressing the decision by fear of the submarine, a revolutionary instrument of war which was to create its own challenge to the exercise of 'command of the sea' in the battle of the Atlantic twenty-five years after Jutland was fought. Tactical stalemate may therefore be seen as the determining quality of most action in naval warfare throughout the period from the appearance of the shipborne gun in the sixteenth century until its supersession by the embarked aircraft and the submarine-launched torpedo in the twentieth.

And why, given the forces of nature and impenetrabilities of distance with which sailors have to contend as they make their way across the face of the waters, should things have been expected to fall out differently? The wonder is not that one body of ships should fail to defeat another but that either should have arrived intact and battleworthy at the point of conflict. And yet, at the very end of the sailing-ship era, fleets and admirals had begun to find, fix and defeat the enemy with something akin to regularity. Three admirals, all British – Rodney at the battle of the Saints in 1782, Howe at the Glorious First of June in 1794, Duncan at Camperdown in 1797 – had shown how a decisive battle between sailing ships might be fought. In 1805 a fourth, Horatio Nelson, demonstrated that total victory lay within the grasp of a commander bold enough to seize it.

[fn1](#) 'Real time' is an intelligence term implying that knowledge of one side's intentions or actions is received by the other as, or nearly as, quickly as word of it is passed. Typically it depends on the ability to intercept enemy messages and decipher or decode them at the same speed as the enemy receiving station can do. The triumph of the British cryptographic centre at Bletchley Park during the Second World War was to read much German Enigma cipher traffic in 'real time'.

1

TRAFALGAR

THE WOODEN WORLD

‘LIKE A GREAT wood on our lee bow’, Able Seaman Brown of Nelson’s *Victory* called his sight of the masts of the French and Spanish fleets, breaking the Atlantic skyline off the coast of Spain at first light on the morning of Trafalgar, 21 October 1805. And ‘a wooden world’ was what sea officers called navies themselves 200 years ago. The modern visitor who ducks his head to go below one of the ships that survive from that age – *Victory* at Portsmouth, *Constitution* in Boston Navy Yard – will instantly comprehend what they meant. Wood surrounds and encloses him: planed and scrubbed boards of pine or teak 8 inches wide under his feet, sawn baulks of oak a foot and a half square running athwartships overhead, hanging ‘knees’ cut from whole tree forks at his elbow and pillars of fir, too large for a man’s arms to encircle, breaking the deck’s run where masts descend to meet the wooden keel and rise to bear the hamper of wooden yards, tops and crosstrees high over poop, waist and forecastle in the open air above.

The smell of wood and its derivatives surrounds him: pine pitch and tar run hot between the cracks of the timbers,

filling the vegetable fibres first forced between them; the fibrous odour of hemp from the cables; the sweet tang of vegetable-oil paints and varnishes spread on the wooden fixtures – capstans, cable-bitts, companion ways – that interrupt the deck's floor. And, if the ship could still move, the *sound* of wood would surround him also: timbers – jointed, scarfed, dovetailed, pegged, morticed, fayed and rabbeted – moving with and working against each other in a concerto, sometimes a cacophony, of creaks, groans, shrieks, wails, buzzes and vibrations. Six thousand years of craftsmanship would orchestrate the woodwind of the ship in motion, singing of tolerances between frames and planking, marriages of timbers hard and soft, pliancies and rigidities, give and take, first learned by rule of thumb, then transmitted by word of mouth, finally refined by calculation on a thousand slipways from the Pharaonic Nile to the fiords of Viking Norway.

The great wooden warships that sailed to Trafalgar, and a score of other contemporary oceanic battlefields, were a summary and encapsulation of a culture, almost a civilisation of timber whose roots drive as deep as man's first impulse to leave dry land and venture his life and his future on the bosom of the waters.

Because the great wooden ships, like *Victory* and *Constitution*, that survive to our own age summarise a technology and a society of immense antiquity, and yet catch both, as in a 'freeze frame', at a peak moment of their development, they can convey to the visitor's imagination a picture of the battles they were built to fight far more intense and immediate than any he can conjure up for himself on a battlefield ashore. The battlefields of the sea bear, of course, no physical trace of the events that transpired in those places; wind and water wipe the debris from the surface in a few days, even hours, and the depths engulf the ships and men that fell victim to the action. Land battlefields are marked more lastingly. The soldier's spade

leaves scars that may persist for a hundred years, as those of the American Civil War still do. The artillery of more modern wars turns and pockmarks the soil, shreds woodland, sterilises fertile earth, tumbles villages, even whole towns; the landscape of the First World War trench zone will bear the traces of that terrible tragedy long after the great-grandchildren of the actors are in their own graves. And memory relates this or that episode of past battles to landmarks which will stand for all time. Little Round Top at Gettysburg, the ridge at Waterloo, the pass of Thermopylae, the cliffs at Omaha Beach will be remembered as places of aggression and suffering as long as collective memory holds.

Yet the exact circumstances, let alone the rhythms and dynamics of land battle, defy easy reconstruction even by the expert visitor to Gettysburg or Waterloo. However precise his understanding of blackpowder tactics, however detailed his knowledge of Lee's or Wellington's regimental dispositions, he will never quite be able to place the people of the past in time and place on the ground that he treads. Was it here, he will ask himself, that Wellington stood when he watched the roofs of Hougoumont take fire – or was it a little further to the right? Did it take five minutes for the head of Pickett's division to breast Cemetery Ridge – or seven – or twelve? Walking the ground oneself will not yield the answer, for, even if one burdens oneself with a soldier's hamper, everything else that worked to deaden or hasten the soldier's step – fear, crowd pressure, the obstacle of fallen bodies – will lack from the simulation. Sight lines, so immediate and easy to establish on a peaceful visit, cannot be those of the day of battle, when smoke clouds, formed bodies of troops, even a neighbour's head and shoulders, intervened to alter a participant's view. However strong the visitor's will to impose the battlefield scene on the landscape before his eyes, it will appear at its sharpest as a

fleeting and patchy transparency, monochrome, two-dimensional and ultimately bloodless.

By contrast the gun decks of *Victory* – or any other relic of a sea battlefield – can translate a visitor in imagination directly to the heart of action. Ascending to the open air, he can put his own feet on the spot where Nelson stood at the moment the French sharpshooter's bullet dropped him to the deck; descending below waterline to the cockpit in the lowest level of the ship, he can see the corner, illuminated by a light no stronger than that which helped Surgeon Scott lop limbs and probe wounds for splinters, where Nelson lay to die. On the decks between, along which the sixty guns of *Victory's* main battery are ranked at 12-foot intervals from stern to stern, he will find himself forced to adopt exactly the same posture, follow the same movements, squint at the same angle of vision as the seamen gunners who laboured there at their cannon 200 years ago. On a crowded day, with visitors jostling for space around him, he will also be able to feel, not merely to visualise, how close was the press of a thousand human beings cramped within 3000 tons of timber shell. The noise will be absent: no rumble of gun-carriage wheels being run up to gun-ports, no babble of orders, no crash of artillery as the guns spoke out. The motion will be absent: no sea sway beneath his feet, no pitch or roll, no heel from the pressure of wind on sails a hundred feet above his head. The fear will be absent, the horror absent, the energy and intensity of action absent; but, more closely than in any other place of past combat that remains on earth, the gun deck will bring to him the reality of human strife. It was actually *here*, he will be able to say to himself, that French shot crashed through the scantlings to decapitate men or cut them in two, here that splinters, as deadly as shrapnel, flew to shred and skewer human flesh, here that those untouched sweated and strained with tackle and handspike to load and lay these 3-ton lumps of iron every minute and

a half of action, here that the smoke of discharge hung pea-soup thick between gun-stations to hide one from another, here at last that word came of enemy colours struck and so of respite from carnage, here that the deafened and battle-drugged survivors stopped from the work of killing to reckon their luck and count their friends among the living.

No one then can enter *Victory's* gundeck without catching some echo of Trafalgar and bearing it away with him; but what took *Victory* and its people to that place, and why they did what was done there, is not so easily grasped. Trafalgar is, after all, just a patch of the Atlantic Ocean, two miles square at most, some forty miles north-west of the Straits of Gibraltar. Only a navigator with chart and compass is equipped to distinguish it from any other patch of the ocean that washes the shores of Spain for fifty miles on either side. Even in Nelson's and Villeneuve's time, it was crisscrossed daily by coasters, fishing smacks and merchantmen whose crews gave not a passing thought to the notion that they were entering or leaving one of the strategic crossroads of history. In our own time, it is entered and left as frequently by ships which often exceed in deadweight tonnage that of Nelson's and Villeneuve's combined. Their crews have their business in waters greater even than Nelson knew, and what brought him and his enemies' 'great woods' of warships to the western approaches of the Mediterranean on Trafalgar Day is a question to which, if they give it any thought at all, they have little answer. Nor do many other mariners – or land-dwellers – of this end of the twentieth century. What *had* drawn the fleets of Britain, France and Spain to battle off Cape Trafalgar on 21 October 1805?

THE STRATEGIC BACKGROUND

To 'defeat the enemy fleet from the land' was what Alexander the Great told his general, Parmenio, should be Macedonia's strategy following the invasion of Persia in the spring of 334 BC. It is a design many warlords have sought to achieve since, rarely with Alexander's success. He had already managed to secure a foothold on the landward side of the continent from which the Persian navy operated and, by moving directly against its bases, struck such anxiety into its captains that they successively abandoned their allegiance to the Persian emperor and made their peace with the intruder. Within a year of setting foot in Asia Minor, Alexander had indeed defeated the Persian fleet 'from the land' and was poised to strike at the heart of the empire.

No warlord more greatly admired Alexander than Napoleon Bonaparte; in exile on St Helena he told Las Cases, his amanuensis, that the study of the life of Alexander was the most perfect education a future soldier could undertake. How keenly must his admiration have been mixed with envy in the aftermath of the collapse (16 May 1803) of the Peace of Amiens, when each of his designs to complete his command of the European continent was checked at some point on its perimeter by Britain's command of the sea. The way to break that command was clear: if he could only land his army on the British coast, as Alexander had landed his in Asia Minor, he could defeat the Royal Navy 'from the land' in trifling time. However, to do so he was faced, not as Alexander had been by the narrow and tideless defile of the Bosphorus, but by the nineteen miles of stormy water that separate Calais from Dover. The operation would be similar to 'a large-scale river crossing' (*grosses Flussübergang*), the generals of the German high command would advise Hitler 140 years later in their draft plan for 'Sealion', the plan to invade Britain in the aftermath of Dunkirk. Napoleon – though, like Hitler, he emptied the estuaries of northern

Europe to assemble a fleet of flat-bottomed coasters for the attempt – never entertained any such delusion. He had seen as early as 1798, the year of his descent upon Egypt, that a victorious invasion of Britain must turn upon a successful diversion of the British fleet from the seas which they commanded. Then he had written that ‘an invasion of Britain’ could be made to succeed by mounting expeditions against Egypt or India simultaneously, so forcing the Royal Navy to deploy its fleet far from home in the confined waters of the Mediterranean. In its absence, the French could descend on the British coast and bring the country’s minuscule army to battle and defeat on home territory. The trick was to achieve such a diversion in the Mediterranean by preference, if not elsewhere. How was it to be arranged?

At the beginning of the nineteenth century Britain and France constituted a fascinating strategic mismatch. France, with a population of 30 million, was not only the most populous but the most prosperous nation in Europe. It was also, through its victories in the wars of the Revolution and under Napoleon, militarily paramount on land. The sovereign territory of France had been enormously increased by conquest, the Austrian Netherlands (modern Belgium), Nice and Savoy having been annexed and organised as French departments in 1793. The neighbouring territories of Holland, Switzerland and much of northern Italy, established as satellite republics between 1795 and 1798, were fated in the future to undergo similar incorporation, as were Austrian provinces of the Adriatic coast. Meanwhile the princely states of western Germany, 350 in number, were between 1801 and 1803 summarily reduced to thirty-nine and amalgamated into a Confederation of the Rhine under French tutelage. The terms of the Peace of Amiens in 1801 had obliged France to withdraw from southern Italy and the Greek Ionian islands, but any part of Italy stood subject to reconquest. Finally Spain, intimidated by French power and suspicious of

Britain's imperial ambitions, was a potential French ally and would formally become one in 1804, an unhappy prelude to subjection and occupation.

The Atlantic side of the European land mass was, therefore, in the first decade of the nineteenth century almost wholly dominated by France; only remote Portugal, shielded by its mountain chain, lay outside the immediate reach of French armies. The rest of Europe could not count on remaining so. Prussia, still crowned by the military reputation won under Frederick the Great, seemed secure in its Baltic hinterland – but would prove a house of cards in 1806. Austria, traditional enemy of the French kings, had already failed humiliatingly in its efforts to overturn the Revolution. Even Russia, whose troops had intervened far to the west in 1799, had learned to appreciate the ferocity with which French armies moved to the attack.

And those armies were enormous. The Austrian and Russian armies each numbered some 250,000 men; but both were obliged to keep substantial forces on their frontiers with the Ottoman Empire. The Grande Armée, formed after 1802 from the disparate armies of the Republic and Consulate, reached a strength of 350,000 in 1805, all of which was at Napoleon's free strategic disposal. By 1808 it would number 700,000 soldiers, of whom 520,000 were deployed in the field. Moreover, while the Austrian and Russian armies were heterogeneous in composition, including large numbers of semi-barbaric irregulars as well as drilled infantry and cavalry, the Grande Armée was uniform in composition. It was, indeed, the first modern *operational* army, in which each formation exactly resembled every other and all were equipped and trained for instant and effective co-operation in the field. Its component elements were the *corps d'armée*, virtual armies in miniature, which moved on the line of march ready to manoeuvre in any direction in support of a neighbour. Their artillery was the best in Europe, their