1791 he became instructor to the first battalion of volunteers of the Bas-Rhin. He served with his battalion in 1792, and rapidly rose to the position of adjutant-general, colonel, and chief of the staff to General Lefebvre. Soult it was who practically directed the operations of Lefebvre’s divi­sion in 1794, and after the battle of Fleurus he was pro­moted general of brigade by the representatives on mission. For the next five years he was constantly employed in Germany under Jourdan, Moreau, Kléber, and Lefebvre. The attack of the French left at the battle of Altenkirchen, which won the day, was directed by Soult, and in 1799 he was promoted general of division and ordered to proceed to Switzerland. It was at this time that he laid the foundations of his military fame, and he particularly dis­tinguished himself in Masséna’s great Swiss campaign, and especially at the battle of Zurich. He accompanied Masséna to Genoa, and acted as his principal lieutenant throughout the protracted siege of that city, during which he operated with a detached force without the walls, and after many successful actions he was wounded and taken prisoner at Monte Cretto on 13th April 1800. The victory of Marengo restoring his freedom, he received the command of the southern part of the kingdom of Naples, and in 1802 he was appointed one of the four generals commanding the guard of the consuls. Though he was one of those generals who had served under Moreau, and who therefore, as a rule, disliked and despised Napoleon, Soult had the wisdom to show his devotion to the ruling power ; in consequence he was in August 1803 appointed to the command in chief of the camp of Boulogne, and in May 1804 he was made one of the first marshals of France. When Napoleon decided to lead the troops of the camp of Boulogne into Germany, Soult took the command of the right wing, and it was by his capture of the heights of Pratzen that the great battle of Austerlitz was decided. He played a great part in all the famous battles of the grand army, except the battle of Friedland, and after the conclusion of the peace of Tilsit he returned to France and was created duke of Dalmatia. In the following year he was appointed to the command of the 2d corps of the army with which Napoleon intended to conquer Spain, and after winning the battle of Gamonal he was detailed by the emperor to pursue Sir John Moore, whom he only caught up at Coruna. For the next four years Soult remained in Spain, but it is impossible to do more than allude to his most important feats of arms. In 1809, after his defeat by Sir John Moore, he invaded Portugal and took Oporto, but, deluded by the idea of becoming king of Portugal, he neglected to advance upon Lisbon, and was eventually dislodged from Oporto by Sir Arthur Wellesley. After the battle of Talavera he was made major-general of French troops in Spain, and on 12th November 1809 won the great victory of Ocana. In 1810 he invaded Andalusia, which he speedily reduced, with the exception of Cadiz. In 1811 he marched north into Estremadura, and took Badajoz, and when the Anglo- Portuguese army laid siege to it he marched to its rescue, and fought the famous battle of Albuera (16th May). In 1812, however, he was obliged, after Wellington’s great victory of Salamanca, to evacuate Andalusia, and was soon after recalled from Spain at the request of Joseph Bonaparte, with whom he had always disagreed. In March 1813 he assumed the command of the 4th corps of the grand army and commanded the centre at Lützen and Bautzen, but he was soon sent, with unlimited powers, to the south of France to try and repair the damages done by the great defeat of Vittoria. His campaign there is the finest proof of his genius as a general, although he was repeatedly defeated by the English under Wellington, for his soldiers were but raw conscripts, while those of Wellington were the veterans of many campaigns.

Such was the military career of Marshal Soult. His political career was by no means so creditable. After the first abdication of Napoleon he declared himself a royalist, received the order of St Louis, and acted as minister for war from 3d December 1814 to 11th March 1815. When Napoleon returned from Elba Soult at once declared him­self a Bonapartist, and acted as major-general to the emperor in the campaign of Waterloo. For this conduct he was exiled, but not for long, for in 1819 he was recalled and in 1820 again made a marshal of France. He once more tried to show himself a fervent royalist and was made a peer in 1827. After the revolution of 1830 he made out that he was a partisan of Louis Philippe and constitutional royalty, and served as minister for war from 1830 to 1834, as ambassador extraordinary to London for the coronation of Queen Victoria in 1838, and again as minister for war from 1840 to 1844. In 1848, when Louis Philippe was overthrown, Soult again declared himself a republican. He died at his castle of Soultberg near his birthplace in 1851.

SOUND. See Acoustics.

SOUNDING to ascertain the depth of the sea has been practised from very early times for purposes of navigation, but it is only since the introduction of submarine tele­graphy that extensive efforts have been made to obtain a complete knowledge of the contour of the ocean-bed. As early as the middle of last century a few deep soundings were recorded in various parts of the world : Ellis made one in 1749 of 891 fathoms off the north-west coast of Africa. But these early results must be accepted only with great caution, for the methods then in use were not such as to ensure accuracy at any depth greater than a few hundred fathoms. Sir John Ross, the arctic explorer, was much in advance of his times as regarded such investiga­tions ; he invented a “ deep-sea clamm ” for bringing up a portion of the bottom, and on September 1, 1819, in Possession Bay, made a successful sounding at a depth of 1000 fathoms, which is especially memorable because it was clear, from the organisms which came up entangled in the line, that animal life existed at that depth.

The operation of sounding is readily performed in shallow water by letting down a weight attached to a cord, which is marked off into fathoms by worsted tucked under the strands, the tens and hundreds being indicated by different colours. The bottom of the weight usually presents a hollow, which is filled with tallow, so that a portion of the material from the bottom may be brought up and give an indication of its nature. Some­times a valved cavity is used instead of the tallow. It is easy to see that the longer the line let out the greater will be its friction in passing through the water, the more slowly the weight will descend, and the slighter will be the shock transmitted to the upper extremity when it reaches the bottom ; indeed, at what are now considered very moderate depths this becomes quite imperceptible : hence in deep-sea sounding the line is carefully watched as it runs out, and the time each 100-fathom mark enters the water is noted down. Owing to the increasing friction these intervals gradually lengthen, but any sudden incre­ment indicates that the bottom has been reached, for it shows that the weight has ceased to act, and that further descent of the line is due merely to its own gravitation. For instance, in one of the “Challenger” soundings, with a line 1 inch in circumference, and with a weight of 4 cwts. attached, the time occupied in descending from 2900 to 3000 fathoms was 2 m. 10 s.; from 3000 to 3100 fathoms 2 m. 13 s., and from 3100 to 3200 fathoms 3 m. 14 s., this sudden increase showing that the bottom had been reached in the interval.

Furthermore, the weight required to sink a line in deep