

favourite poets. His "Lochleven" and "Elegy written in Spring" are alone worthy of preservation, and both were composed in his last year. The former abounds in happy word-painting and moral reflections. The tale of Levina, which forms about the half of the poem, and is by far the prettiest flower in the bouquet, bears distinct marks of the same hand that wrote "Runnimeid." The "Elegy" is most affecting, when read in the knowledge of the circumstance of its having been written by a dying youth of twenty-one:—

"Led by pale ghosts I enter death's dark gate,
And bid the realms of light and life adieu."

It is a death song, remarkable for exquisite beauty and chaste simplicity. Bruce is not to be compared with another young Scottish poet, Robert Nicoll. His life wanted the fulness and strength, his poems the wide and vivid sympathies of his later compeer.

BRUCE, ROBERT, king of Scotland. See SCOTLAND.
BRUCHSAL, a town of the Grand Duchy of Baden, in the circle of Carlsruhe, 14 miles from the city of that name, on the Salzbach. From 1056 to 1801 it was the seat of the bishop of Spires, whose magnificent palace is still extant; and it has an old castle of the 12th century (now used as a prison), a town-house, a gymnasium, a hospital, barracks, and a considerable trade in wine. Population in 1872, 9762. The town was originally the seat of an imperial palace, and its name is said to be derived from *bruch* a marsh, and *sala*, royal possession. The Peasants' War first broke out at Bruchsal, which has been several times reduced to ashes in subsequent conflicts. In 1849 it was the scene of an engagement between the Prussian troops and Baden insurgents.

BRUCK, the name of two towns of Austria—

(1.) BRUCK ON THE MUR, the chief town of a circle in the province of Steyermark, situated at the junction of the rivers Mur and Mürz, with a station on the railway from Vienna to Trieste, 25 miles N.W. of Gratz. It contains about 2900 inhabitants, and has a considerable transit trade. The principal building is the palace of the ancient princes of Bruck, which dates from the 14th century.

(2.) BRUCK ON THE LEYTHA, the chief town of a circle in Lower Austria, with the castle of the counts of Harrach. It lies on the Vienna and Buda railway, 20 miles S.E. of Vienna. Population, 4203.

BRÜCKENAU, a town and fashionable watering-place of Bavaria, in the circle of Lower Franconia, on the Sinn, 16 miles N.W. of Kissingen. The mineral springs, which are five in number, situated in the pleasant valley of the Sinn, 2 miles from the town, were a favourite resort of Louis I. of Bavaria. Population in 1871, 2825.

BRUCKER, JAMES, theologian, historian, philologist, and biographer, was born at Augsburg on the 22d of January 1696. His father, who was a respectable burgher, destined him for the church; and his own inclinations according with his father's wishes, he was sent at the usual age to pursue his studies in the university of Jena. Here he took the degree of master of arts in 1718; and in the following year he published his *Tentamen Introductionis in Historiam Doctrinæ de Ideis*, in 4to,—a work which he afterwards amplified and completed, and republished under the title of *Historia Philosophica Doctrinæ de Ideis*, at Augsburg in 1723. He returned to his native city in 1720; but here his merit having attracted envy rather than recompense, he was induced to accept of the office of parish minister of Kaufbevern in 1723. In the same year he published a memoir *De Vita et Scriptis Cl. Etringeri*, Augs. 8vo. His reputation having been at length established by these learned works, in 1731 he was elected a member of the Academy of Sciences at Berlin; and soon afterwards he was invited to Augsburg to fill the honour-

able situation of pastor and senior minister of the church of St Ulric. He published in the same year three dissertations relating to the history of philosophy, under the title of *Otium Vindelicum sive Meletematum Historico-philosophicorum Triga*, Augsburg, 1731, 8vo. Besides several smaller dissertations on biography and literary history, printed at different times, and which he afterwards collected in his *Miscellanea*, he published at Ulm, in 1737, *Neue Zusätze verschiedener Vermehrungen, &c., zu den kurtzen Fragen aus der philosophischen Historie*, 7 vols. 12mo. This work being a history of philosophy in question and answer, contains many details, especially in the department of literary history, which he has chosen to omit in his greater work on the same subject. He was forced by the booksellers, in opposition to his own opinion, to adopt the erotematic method, which at that time had been rendered popular by the writings of Hubner and Rambach.

In 1741, at Leipsic, appeared the first volume of his great work, *Historia Critica Philosophiæ, a mundi incunabulis ad nostram usque ætatem deducta*. Four other ponderous quartos, completing the first edition of this elaborate history, followed in 1744. Such was the success of this publication, that the first impression, consisting of four thousand copies, was exhausted in twenty-three years, when a new and more perfect edition, the consummation of the labours of half a century devoted to the history of philosophy, was in 1767 given to the world in six volumes quarto. The sixth volume, consisting entirely of supplement and corrections, is applicable to the first as well as to the second edition. Of the merits of this work we shall speak in the sequel.

His attention, however, was not wholly occupied by this stupendous undertaking. The following books would of themselves have been sufficient to exhaust the industry of any ordinary author:—*Pinacotheca Scriptorum nostra ætate literis illustrium, &c.*, Augsburg, 1741–55, folio, in five decades. *Ehrentempel der Deutschen Gelehrsamkeit in welchem die Bildnisse gelehrter Männer unter den Deutschen aus dem XV., XVI., und XVII. Jahrhundert aufgestellt, und ihre Geschichte, &c., entworfen sind*, Augsburg, 1747–49, 4to, five decades. *Institutiones Historiæ Philosophicæ*, Leipsic, 1747, 8vo, second edition, *ibid.*, 1756; a third has been published since Brucker's death, with a continuation by Professor Born of Leipsic, in 1790. *Miscellanea Historiæ Philosophicæ Literariæ Criticæ olim sparsim edita, nunc uno fascio collecta*, Augsburg, 1748, 8vo. *Erste Anfangsgründe der philosophischen Geschichte, als ein Auszug seiner grossern Werke, zweyte Ausgabe*, Ulm, 1751, 8vo. He likewise superintended and corrected an edition of Luther's translation of the Old and New Testament, with a Commentary extracted from the writings of the English theologians, Leipsic, 1758–70, folio, six parts. His death ensued before the completion of this work, which has since been accomplished by Teller. He died at Augsburg in 1770; and he may be added to the catalogue of Huetius, to prove that literary labour is not incompatible with sound health and longevity. (See Saxii *Onomasticon*; *Biographiæ Universelle*; Gesner's *Isagoge*.)

It is only by his writings on the history of philosophy that Brucker is now known in the literature of Europe. In this study his great work forms an important era, and even at the present day it is the most extensive and elaborate upon the subject. It is, however, a work of which the defects are great, and its errors have been important in their consequences, in proportion to the authority it has acquired. We shall, therefore, hazard a few general observations on the defects which chiefly detract from the perfection and utility of the *Critical History of Philosophy*.

If Brucker had carried into this study a penetration equal to his diligence, and had his general comprehension of the scope and

nature of the subject corresponded with the elaborate minuteness of his details, he would have left us a work which might have had some pretensions to be considered as a rational history of human opinion. He lived, however, at a period when these different qualities were only beginning to be conjoined, and when as yet the history of philosophy had been written merely as a chronicle of the passing theories of individuals and sects. To give to the science of history a regular and connected form, and to arrange the narrative of successive events, and still more of successive opinions, according to the relation they bear to principles of established influence, was an attempt of which few in that age had any conception, and of which Brucker certainly had none. In civil history it was then believed that the historian had fulfilled all the duties of his office if he strung together the events which were known or believed to have occurred, in good language, and garnished them occasionally by a few general reflections on the absolute motives of human action. A very different notion is now held of the functions of the historian. He who at present attempts to write the history of any country must reflect, before he begins, what were the chief occurrences in that history, and what were the revolutions which the manners and constitution of that particular nation have undergone. He must bear with him, from the commencement to the conclusion of his labours, a constant impression that every occurrence should be more or less considered, not only as it took place, and as it bore an influence on contemporary affairs, but as it may have remotely contributed to the events, and the opinions, and the character of succeeding times. But if this be true in regard to the histories of particular nations, it is evident that, by how much the traces of opinions are more light and evanescent than those of events, by how much the speculations of philosophers whose writings have either perished or come down to us mutilated and obscure are more difficult to be appreciated in their causes, and connections, and consequences, than the actions of warriors and statesmen,—by so much the more is it necessary in philosophical than in civil history to combine reasoning with erudition, and to substitute the researches of the philosopher for the details of the chronicler. History and philosophy are two different things; and he who would write the history of philosophy must excel in both. Bacon had long ago required this union, and had pointed out the manner in which the historian of literature should endeavour to establish those principles of connection which constitute the soul and charm of such a history; how, by detecting the union of effects and causes, he might be enabled to determine the circumstances favourable or adverse to the sciences; and how, in short, by a species of enchantment, he might evoke the literary genius of each different age. The fulfilment of this plan was, however, far beyond the capacity of Brucker, and was an undertaking of which he had even no conception. Better qualified by nature and education for amassing than arranging materials, he devoted his principal attention to a confused compilation of facts, leaving to others their application, the discovery of their mutual connections, and the formation of the scattered fragments into a whole.

The merit of his great work consists entirely in the ample collection of materials. The reader who would extract any rational view of the progress of opinion must peruse it with a perpetual commentary of his own thoughts. He will find no assistance from his author in forming any general views, or in tracing the mutual dependencies of the different parts of the subject. Brucker has discovered the fountains of history, but he has made us drink of them without purifying the draught. Even in this respect his merit has been greatly overrated. Vast as is the body of materials which he has collected, we are always missing those very things which we might reasonably have expected would have been the first objects of a rational inquirer, and we are continually disappointed of the information we are most anxious to acquire. The idle and slavish attention which he has bestowed on previous compilers has frequently diverted him from the study of the original authors themselves. Quoting the passages of the ancients from others, or trusting perhaps to the reference of an index, he has frequently overlooked those very testimonies which could have given us the most authentic knowledge of the opinions or characters of ages and individuals. He has often presented the authorities he has adduced, mutilated or misapplied; and this either from not having sufficiently studied these passages in their general connection with the system they illustrate, or from having been unable to withdraw them from the obscurity in which they were involved. He has shown no critical sagacity in distinguishing the spurious from the authentic, or in balancing the comparative weight of his authorities. He has frequently transcribed where he ought to have explained the words of the original authors; and, without taking into account the different value of the same term in different nations and ages, he has left us to apply a doubtful or erroneous meaning to words which might have been easily rendered by other expressions, and to suppose a distinction in the sense where there only existed a difference in the language. The glaring errors, even, which occasionally occur in his expositions of the Grecian philosophy, while they are inconsistent with any critical knowledge of the tongue,

would make us suspect that he was in the habit of relying on the treacherous aid of translations. In short, if we knew nothing more of the ancient philosophers than what we acquire from Brucker, we should be often obliged to attribute to them opinions so obscure, or so absurd, that we must either believe ourselves wrong in the interpretation, or be unable to comprehend the cause of all the admiration and reverence they have received.

He has discovered little skill in his analysis of the different systems of philosophy; and the confusion of what is essential and principal with what is accidental and subordinate clearly evinces that these abridgments were thrown together while acquiring, in detail, a knowledge expressly for the purpose, instead of being the consummation of a long and familiar meditation on the subjects in all their modifications and dependencies. He has dwelt with the most irksome minuteness on every unimportant and doubtful circumstance in the lives of the philosophers; but he has too often overlooked the particular and general causes that produced an influence on the destinies of their philosophy. The aphoristic method which he has adopted prevents him from following a consecutive argument throughout its various windings. The most convincing reasoning in his hands loses much of its demonstration and beauty; and every ingenious paradox comes forth from his alembic a mere *caput mortuum*,—a residuum from which every finer principle has been expelled. Where the genius of the philosopher is discovered more in the exposition and defence than in the original selection and intrinsic stability of his tenets, Brucker has not found the art of doing justice both to the philosopher and to his opinions, or of conveying to the reader any conception of the general value of the original. This last defect, it must, however, be acknowledged, is more or less inseparable from every abstract of opinions, where it is always necessary to separate in some degree what is essential to the subject from what is peculiar to the map. He has relieved the sterility of his analysis by none of the elegancies of which the subject was susceptible. Without any pretension to purity, his diction is defective even in precision; and his sentences, at all times void of harmony and grace, are abrupt, and often intricate in their structure. (W. H.)

BRUGES (in Flemish BRUGGE), a city of Belgium, the capital of West Flanders, is situated in the midst of a fertile plain, intersected by the canals of Ghent, Ostend, and Sluys, in 51° 12' N. lat. and 3° 13' E. long. It is, in a direct line, about 7 miles from the sea, 12 miles E. of Ostend, 24 N.W. of Ghent, and 60 miles in the same direction from Brussels. The history of Bruges dates from about the 3d century of the Christian era. In the 7th it had emerged into importance; and its corporation of weavers, which afterwards in its best days numbered 50,000 men, was already highly renowned in the time of Charlemagne. In the 9th century Bruges became subject to the counts of Flanders, who resided there, and made the city one of the most populous and wealthy in Europe by the great advantages and immunities which they offered to merchants and manufacturers. The inhabitants guarded with the most jealous care the privileges which they sometimes received and sometimes exacted from their rulers, and not unfrequently rose in arms for their defence. Though Bruges, and Ghent, and other Flemish towns owned a common lord, their interests were never identified, and they seldom let an opportunity pass of doing each other as much injury as possible. In the middle of the 14th century Bruges passed by marriage into the hands of the dukes of Burgundy, under whom it reached the highest point of its prosperity. The magnificence of the Flemish court was such that no European monarch could equal or approach it. When the wife of Philip the Fair of France visited Bruges at the beginning of the 14th century, "There are hundreds here," she exclaimed, "who have more the air of queens than myself;" and to such an extent was this extravagance ultimately carried that Charles V. was obliged, in the 16th century, to repress it by severe sumptuary laws. In 1430 Philip the Good, duke of Burgundy, instituted at Bruges the chivalric order of the Golden Fleece, a compliment to the town, no small portion of whose prosperity arose from its woollen trade. In the 14th and 15th centuries, Bruges was the chief emporium of the cities of the Hanseatic league; and merchants from every quarter of the world found there a ready market for their

goods. The argosies of Venice and Genoa came laden with the produce of the East; ships of every nation took in and discharged their cargoes at the quays; the warehouses were filled with bales of wool from England, and with silk from Persia. Not the least famous of the manufactures was that of tapestry, in which the people of Bruges acquired great skill a century before the looms of Beauvais or the Gobelins were set up. The prosperity of Bruges was undiminished till it passed under the dominion of the house of Hapsburg. For a violation of some of their prerogatives, the inhabitants imprisoned the Archduke Maximilian in 1488, and a terrible vengeance was inflicted upon the town for this outrage. Its trade was transferred to Antwerp, and its ruin was ultimately completed by the religious persecutions of the bloody duke of Alva at the end of the 16th century. Such of the inhabitants as escaped with their lives fled to England and introduced into that country many of the arts and manufactures which they and their forefathers had cultivated with success for many generations. In more modern times the town has frequently suffered from the effects of war. In 1704 it was besieged by the Dutch, and in 1708 and 1745 it was captured by the French. The contrast between the Bruges of the 15th century and the Bruges of recent times is as striking as it is painful. As Wordsworth says—

"In Bruges town is many a street
Whence busy life hath fled,
Where, without hurry, noiseless feet
The grass-grown pavement tread."

The great circumference of the city, its numerous squares and streets, and the number and magnificence of its public buildings, all attest its former importance; while the comparative absence of commercial activity, and the general air of desolation, bear witness to its present insignificance. Its trade has, however, considerably revived during the present century, and its great advantages in canal and railway communication, its spacious docks and excellent quays, and the great fertility of the surrounding country, are once more restoring it to its high place among cities. Of the public buildings of Bruges the most remarkable are the Church of Notre Dame, containing a sculpture of the Virgin and Child, said to be by Michel Angelo, effigies in copper of Charles the Bold and Mary of Burgundy, who are buried in the church; the cathedral of St Sauveur, built of brick, but internally the handsomest church in Bruges, with some fine pictures by Hemling (or, more correctly, Memling,—see *Athenæum*, No. 2513) and Peter Porbus; the hospital of St John, a charitable institution, where sick persons are attended by the sisters of charity; the exchange, which is the oldest in Europe; the courthouse, a fine building, partly on the site of the old palace of the counts of Flanders; and the Hôtel de Ville, a small but handsome edifice, dating from 1377 and restored in the present century, in the niches of which there were formerly statues of the old counts of Flanders, which were destroyed by the French revolutionists in 1792. The belfry-tower in the great square, of which Longfellow sings so finely, is the most beautiful structure of the kind in Europe, and its chimes are the best in Belgium. It was erected at the end of the 14th century, and is still used for communicating the alarm of fire by a flag or a light to all parts of the city. In this same square is a house in which Charles II. resided during his exile from England. Among the conventual establishments the most important are the Béguinage and the English nunnery. The town is likewise well provided with the means of education. There is a medical school, to which is attached a museum of natural history and a botanical garden. For the higher departments of school training there is an excellent atheneum, annually subsidized by Government, besides a

theological seminary, a school of navigation, and an institution for the deaf and dumb and blind. The academy of painting is in a very flourishing condition, and offers many advantages to the student, as instruction is given gratis in drawing and architecture. The public library in the town-hall contains upwards of 15,000 volumes. The charitable institutions of Bruges are both numerous and well organized. They are all the more necessary, that the number of persons in the city requiring support is unusually great. In the poorhouse alone there is accommodation for nearly 600 individuals, and it is almost always completely filled. The most important manufacture in Bruges is that of lace. The other manufactures consist of linens, woollen and cotton goods, soap, leather, tobacco, starch, pottery, and bells. There are also some small breweries and distilleries, and dyeing and bleaching establishments; and ship-building is also carried on. The exports from Bruges comprise the products of the rich agricultural district that surrounds the town; the imports include metals, dyewoods, wines, fruits, oil, cotton, and wool. Despite the number of canals, the inhabitants of Bruges are very ill supplied with water for domestic purposes; every house is accordingly provided with a tank or butt to receive rain-water. The quantity collected in the public tanks is distributed through the city in pipes. Of the canals the largest is that to Ostend, wide and deep enough to allow vessels of 500 tons to pass up from the sea. The ramifications of these canals intersect the city in all directions, and are crossed by upwards of fifty bridges, whence the name of the town is derived. Population in 1838, 44,374; in 1846, 49,308; in 1851, 50,698; in 1866, 49,819.

See Weale's *Bruges et ses environs*, 1865; Gilliodts van Severen, *L'Inventaire des archives de la ville de Bruges*, 3 vols.

BRUMATH, or BRUMPT, a town of Lower Alsace, in the circle of Strasburg, on the River Zorn. It has a castle and mineral wells, and occupies the site of the ancient Brucomagus. Population in 1871, 5619.

BRUNCK, RICHARD FRANÇOIS PHILIPPE (1729-1803), a French scholar, was born at Strasburg, 20th December 1729. He was educated at the Jesuits' college at Paris, but having early entered the public service, he soon forgot his Latin and Greek. At the age of thirty he returned to his native town and resumed his studies, paying special attention to Greek. The nature of the office which he held put considerable sums of money at his disposal, which he expended in publishing editions of the Greek classics. The first work which he edited was the *Anthologia Græca*, in which his innovations on the established mode of criticism startled European scholars; for wherever it seemed to him that an obscure or difficult passage might be made intelligible and easy by a change of text, he did not scruple to make the necessary alterations, whether the new reading were supported by manuscript authority or not. With the assistance of Schweighäuser, then an unknown youth, he next brought out editions of the Greek dramatists, characterized by the same peculiarities as the *Anthologia*, and ultimately the *Gnomici Poetæ Græci*. In 1781 he published an edition of *Virgil*, for which he was pensioned by the French king. At the outbreak of the French Revolution, in which he took an active part, he lost his pension, and was reduced to such extremities that he was obliged to sell a portion of his library. In 1802 his pension was restored to him, but too late to prevent the sale of the remainder of his books. He had brought out an edition of *Plautus* in 1788, and was in the act of republishing it when he died, June 12, 1803.

BRUNDISIUM, or BRUNDISIUM. See BRINDISI.
BRUNEL, ISAMBARD KINGDOM (1806-1859), one of the most distinguished civil engineers of the age, was born at Portsmouth, April 9, 1806. He was the only son of Sir

Maro Isambard Brunel, from whom he inherited some rare intellectual gifts, and to whom he owed his first education. From his earliest years he took an eager and intelligent interest in all the plans and undertakings of his father, who had then just completed the construction of the remarkable block machinery at Portsmouth. He displayed in childhood singular powers of mental calculation, great skill and rapidity as a draughtsman, and a true feeling for art. After attending some private schools, he was sent at the age of fourteen to Paris, to study mathematics, and to recover his knowledge of French. From November 1820 to August 1822 he studied at the Collège Henri Quatre; and in holiday intervals he used to visit the engineering works going on in Paris, and send his father drawings and descriptions of them. In 1823 he entered his father's office as assistant-engineer, just at the time when the project of the Thames Tunnel began to occupy the attention of Sir Isambard; and from 1825, when the work was begun, till 1828, when it was stopped by an irruption of the river, he displayed a singular energy, inventiveness, and power of application in that struggle of science against natural obstacles on a vast scale. He had even then the power, which distinguished him in later years, of doing almost without sleep for many nights when work was pressing. During the later part of the contest which ended by a second irruption in January 1828, he was both nominal and actual resident engineer of the Thames Tunnel. Left for nearly two years without regular professional occupation, Brunel employed himself in scientific researches, enjoying intercourse with Babbage, Faraday, and other friends. In November 1829 he sent in designs and plans for the projected Suspension Bridge over the Avon at Clifton. In consequence of objections raised by Telford, the referee of the bridge committee, Brunel's plans were rejected. But on a second competition, early in 1831, he sent in a new design, and this was accepted. Brunel was appointed engineer to the trustees, and the works were begun in 1836. Delay had been caused by want of funds, and from the same cause the works were afterwards suspended for some years, and were not completed during Brunel's lifetime. In March 1833, Brunel, at the age of twenty-seven, attained one of the highest professional positions by his appointment as engineer of the newly-projected Great Western Railway. For several years his energies were taxed to the utmost by the conflict with obstructive landowners and short-sighted critics; but he showed himself equal to the occasion, not only as a professional man, but as a persuasive negotiator. For solidity of construction and for skill and beauty of design the Great Western Railway, though one of the first made in England, holds a very high place. Among the triumphs of the engineer are the Hanwell Viaduct, the Maidenhead Bridge, and the Box Tunnel, at the time the longest in the world; and, on extensions of the line, the great bridges at Chepstow and Saltash. The now notorious "battle of the gauges" took its rise from Brunel's introduction of the broad gauge on this line. In 1846 he resigned his office as engineer of the Great Western Railway. In 1844 he had recommended the adoption of the Atmospheric System on the South Devon Railway, but after a year's trial this system was abandoned. The last and greatest of Brunel's railway works was the Royal Albert Bridge of the Cornwall Railway, crossing the River Tamar at Saltash. This work, sanctioned by parliament in 1845, was constructed between 1853 and 1859. In addition to the arduous labours of railway engineering, Mr Brunel had taken a leading part in the systematic development of ocean steam navigation. As early as October 1835 he had suggested, to the amusement of the directory of the Great Western Railway, that they should "make it longer, and have a steamboat to go from Bristol to New York, and call it the

Great Western." The project was taken up, and the "Great Western" steamship was designed by Brunel, and built at Bristol under his superintendence. It was much longer than any steamer of the day, and was the first steamship built to make regular voyages across the Atlantic. While the vessel was building a controversy was raised about the practicability of Brunel's scheme, Dr Lardner asserting dogmatically that the voyage could not be made, and backing his assertion with an array of figures. His view was widely accepted, but the work went on, and the voyage was accomplished in 1838. A greater work was at once undertaken, and the "Great Britain" was built. This was the first large iron steamship, the largest ship afloat at that time, and the first large ship in which the screw-propeller was used. She made her first voyage from Liverpool to New York in August and September 1845; but in the following year was carelessly run upon the rocks in Dundrum Bay on the coast of Ireland. After lying there nearly a year without material damage she was got off and was employed in the Australian trade. Brunel soon after began to meditate a vaster project still, the construction of a vessel large enough to carry all the coal required for a long voyage out, and if coal could not be had at the out port, then to carry enough also for the return voyage. It seemed to him, further, that a great increase of size would give many advantages for navigation. During his connection as engineer with the Australian Mail Company he worked out into a practical shape his conception of a "great ship;" and in 1852 his scheme was laid before the Directors of the Eastern Steam Navigation Company. It was adopted, the projector was appointed their engineer, and after much time occupied about contracts and specifications, the work was begun in December 1853. Immense difficulties in the progress of construction caused delays from time to time. The operations of launching was several times attempted in vain; but at length the gigantic vessel, the now familiar "Great Eastern," was got afloat (31st January 1858). Much remained to be done to complete the ship; and her engineer, overworked and worn out with the worry of the launching processes, broke down and did not live to see her sail on her first voyage. In addition to the great works already described, Brunel was employed in the construction of many docks and piers. The first of these was the Monkwearmouth Docks, for which he made the designs in 1831. The construction, after a new design, was begun in 1834. He was afterwards engaged in works of the same kind at Bristol, Plymouth, Briton Ferry, and Brentford, and on a pier at Milford Haven. He was a zealous promoter of the Great Exhibition of 1851, and was a member of the committee on the section of machinery and of the building committee. He paid much attention to the subject of improvement of large guns, and designed a floating gun-carriage for the attack on Cronstadt in the Russian war (1854); he also designed and superintended the construction of the hospital buildings at Renkioi, on the Dardanelles (1855). The genius, energy, and industry of Brunel in his profession were not more remarkable than the high moral tone which characterized his whole life, and the fascinating qualities which gave him immense personal influence, and made him the delight of the social circle. With single-hearted truthfulness he devoted himself to his chosen work; he was singularly free from professional jealousy, and was always ready to commend and help others. With robust health, which he enjoyed through many years, he had the two invaluable qualities of good spirits and good temper. In his relations with his subordinates he was considerate and kindly, at the same time that he demanded faithful service according to a high standard. He cared nothing for popularity. He enjoyed