priory. At Stourbridge is the disused chapel of an ancient hospital for lepers. The greatest fair in England was one held here. The little village of Trumpington is a favourite locality. Granchester has some remains which make it a question whether it or Cambridge Castle was the site of the old Roman station. Byron's Pool is in the river here. Madingley is a fine old mansion, the residence of the Prince of Wales when at Cambridge, and possibly the scene of Gray's *Elegy*. Between this place and Cambridge is the Observatory. The central dome revolves on wheels, and can be moved by a single hand. The remarkable telescope was presented by the late duke of Northumberland in 1835. A favourite walk is to the very moderate elevation known as the Gogmagog Hills, an off-shoot of the chalk range, the summit of which has been a Roman camp and a lord-treasurer's abode. The Ladies' College at Girton may also be mentioned. Chesterton and Cherry Hinton are familiar resorts of Cambridge men. These are environs of Cambridge. The borough population of Cambridge in 1871 was 30,078, consisting of 13,742 males and 16,286 females. (F. A.)

CAMBRIDGE, a city of the United States, in the county of Middlesex, Massachusetts. It lies on Charles River, three miles N.W. of Boston, with which it is connected by two bridges, with long causeways, and by horse railroads, or tramways. It is the seat of Harvard University, the oldest, richest, and most thoroughly equipped literary institution in the United States. Connected with the university is an observatory, in 42° 22′ 48″ N. lat. and 71° 8′ W. long. Under the name of Newtown a settlement was made on its territory, then much more extended than at present, by some of the first company of English colonists on Massachusetts Bay in 1630. It was then proposed to make it the capital of the colony; but the neighbouring peninsula of Boston was found more convenient for commerce and defence against the Indians. The order of the colony court in 1636 having provided for planting a college at Newtown, its name was changed to Cambridge, in honour of the English university town, where some of the leading men of the colony had been educated. The first company of settlers, being Mr Hooker's church and congregation, moved to Connecticut in 1636, to find better farm-land. Their rights were purchased by another body of colonists just arrived from England. The present site of the college halls was originally "fortified" by palisades, within which the settlers found protection at night for themselves and their cattle against a possible inroad of the savages. Here was set up the first printing-press in the United States, and from it issued John Eliot's translation of the Bible, for the Indians, in their own language. Under the title of "Cambridge Farms," the present town of Lexington, incorporated as such in 1712, was a part of the original town. The town of Brighton, now annexed to the city of Boston, formerly South Cambridge, or Little Cambridge, was separated and received its present name in 1807; and the west part of the original settlement, known as Menotomy, was marked off in the same year, as West Cambridge, now known as Arlington. Between this place and Cambridge is North Cambridge; and the districts of the city nearest to Boston, by the two bridges, are called Cambridge Port and East Cambridge. Cambridge was incorporated as a city in 1846. It is for the most part level, with much marsh land near the river, portions of which are in process of being reclaimed. The cemetery of Mount Auburn is on the western border of the city. The population of Cambridge in 1874 was 50,337; the numbers of polls for voters, 11,983; of dwellings, 7383. The valuation was—of personal property, $17,532,971; of real, $49,043,700; total, $66, 576,671. The net debt of the city, incurred for water-works, streets, school-houses, and other improvements, is $3,792,135. The city appropriation for 1874 was $2,771,508. Total cost of the water-works, $1,399,396. The police department, with 60 officers, cost $71,710; fire department, $97,355; filling up low lands, $650,000. The average number of paupers, 129; net cost of their maintenance, $38,000. Cost of street lighting, $20,157. The system of public schools is very complete and efficient, including a high school, 7 grammar schools, 18 primaries, and a training school,—with 183 teachers; cost of maintenance, $260,187·47. Cambridge was the site of the camp of the first American army, at the outbreak of the War of the Revolution with Great Britain. From it went the detachment which intrenched on Bunker's Hill; and here Washington took command of the army, July 3, 1775.

CAMBYSES, a Persian royal name, derived from the Greek Καμβύσης, in which form it appears in Herodotus and in the Greek writers generally. In inscriptions from Egypt the name is given as Καμβύσαις (Letronne, *Recueil d. inscrip. grecq.*, ii. pp. 350, 356, *f.*). In the old-Persian of the Behistun inscription it stands in the form *Kabujiya* (Rawlinson) or *Kambujiya* (Oppert, Spiegel). In Zend the name takes the form *Kavaus*, and in Arabic and modern Persian it is worn down still further to *Kavus* and *Kaus*. In Egyptian the name occurs under three forms of transcription,—*Kanbuza*, *Kembatet* (Lepsius, *Königsbuch*, taf. xlix.), or rather *Kambuzia*, and *Kambunsa* (Lauth, *Ein neuer Kambyses-text*, p. 5). The etymology of the name is obscure, and the attempts to explain it by Rawlinson (*Jour. As. Soc.*, xi. p. 97) and Benfey (*Die persischen Keilinschriften*, p. 77) cannot be regarded as successful. It has been often remarked that the name, or one very similar, occurs more than once in the East as an ethnical and geographical designation. Thus we find Camboja a territory in India, Kamoj a tribe of the Kafirs in Cabul; and a territory named Cambysene, situated in the north on the Kur, is known to Greek geographers. In the same region there was a river called Cambyses, the modern Jora. Perhaps with Spiegel (*Eranische Alterthumskunde*, vol. ii. p. 294) we may regard the personal name Kambujiya as originally an adjective, meaning belonging to Kambuja. In Egypt, also, Cambysu occurs in the *Itinerarium* as the name of a place in the Delta, but this is probably derived from the Persian king about to be mentioned, by whom Egypt was conquered.

The persons known by the name of Cambyses belong to the Achæmenian line of Persian kings. It is thought that the great-grandfather of Cyrus the Great was thus called. The evidence, however, for the existence of this Cambyses, though strong, is constructive rather than direct (see Rawlinson's *Herodotus*, vol. iv. p. 259). It is certain that the father of Cyrus was named Cambyses. He is called by Herodotus (i. 107) "a Persian of good family," but by Xenophon (*Cyrop.*, i. 11, 1) he is denominated "king of the Persians." The justness of this title is proved by an inscription on a brick found at Senkereh, in which Cyrus calls himself "the son of Cambyses, the powerful king," as well as by the statement of Darius Hystaspis, in the Behistun inscription (col. i. 4), that eight of his Achæmenian ancestors had been kings. During the reign of this Cambyses the Persian nation was included in the Median empire, and he is represented as the vassal of the Median king Astyages. At the same time he is said to have married Mandane, the daughter of Astyages, by whom he became the father of Cyrus. Such, at least, is the account of Herodotus, Xenophon, Diodorus, and Trogus Pompeius. Ctesias and Nicolaus Damascenus give a different representation.

It is stated by Loftus (*Chaldæa and Susiana*, p. 224) that he found at Warka "bricks inscribed in slightly

relieved cuneiform characters of Cambyses, the brother of Cyrus, a personage of whom we possess no historical notice whatsoever."

The only other, and the best known, king of this name is the elder son and successor of Cyrus, who reigned over the Persian empire, according to Herodotus, for seven years and five months—from 529 to 521 B.C. Of his proceedings before his famous invasion of Egypt little is known. To this period we must now, on the authority of the Behistun inscription (i. 10), in opposition to Herodotus (iii. 30), assign the secret murder of his brother, Bardiya (the Smerdis, Merdis, Mardus, or Mergis of the Greeks,—called Tanyoxarces by Ctesias, and Tanyoxares by Xenophon). Egypt at this time lay on the borders of the Persian empire; its subjugation had long been an object of ambition to the great Asiatic conquerors; it had recently provoked reprisals from Persia by sending help to Lydia against Cyrus; and in resolving to attack that country Cambyses was both carrying out the settled policy of his predecessors and accomplishing the purpose of his own father. If therefore, as is not unlikely, there was such an occasion given for the enterprise as that which Herodotus relates, it is not necessary to suppose that this was more than a pretext. A year or two were spent in collecting the forces of the empire, and the preparatory measures taken seem to have been marked by prudence and skill. A fleet of Phœnician and Greek ships was collected to operate against the vessels of the Egyptians; and the help of an Arabian chief was secured to provide water for the army in crossing the desert on the south and west of Palestine. The old king of Egypt, Amasis, under whom the country had enjoyed a long period of peace and prosperity, died a few months before the invasion, and was succeeded by his son Psammenitus, under whom the measures of defence proved unsuccessful. An obstinately contested but decisive victory was gained by the Persian arms near Pelusium, and this was speedily followed up by the siege and capture of the capital, Memphis, and by the subjugation of the whole country. The date of this conquest is commonly regarded as 525 B.C. (see Rawlinson, *Anc. Mon.*, vol. i. p. 385), though some find cause to place it one or even two years earlier (*cf.* v. Gumpach, *Zeitrechnung d. Ass. u. Bab.*, pp. 165, *f.*; Lauth, *op. cit.*, pp. 13, *f.*; Brugsch, *Hist. d'Égypte*, i. p. 267; Duncker, *Gesch. d. Alterthums*, vol. ii. p. 792, *n.*; Lepsius, *Königsbuch*, p. 89).

Henceforward the life and activity of Cambyses centred in his new dominion. We know from an important hieroglyphic inscription proceeding from a priest of Neith at Sais, that he assumed the responsibilities and titles proper to a king of Egypt, taking as his throne-name that of Ramesut. Moreover, it is evident that for a time at least he cultivated the good-will of his new subjects. We learn that he took Egyptians who had been officers of Psammenitus into his immediate service; that he sought instruction in regard to the rites of their religion, and was initiated into certain of its mysteries; that he listened to complaints in regard to the profanation of the temples by Persian and other foreign soldiers, and gave orders for their removal from the sacred precincts; that he secured the priests in the receipt of the temple-revenues, and arranged for the due and continued celebration of the customary ceremonies and festivals. A monument is still extant on which he is represented adoring, on bended knee, the god Apis. (See De Rougé, *Mémoire sur la statue naophore du Vatican*, passim; Brugsch, *op. cit.*, vol. i. pp. 266, *f.*; Lauth, *op. cit.*, pp. 17, *f.*) One act, indeed, of a different complexion is reported by Herodotus (iii. 16), viz., his outraging and finally consuming by fire the embalmed body of Amasis,—an act, the historian assures us, which shocked the feelings alike of Egyptians and of Persians, and which strongly attests the same jealous and resentful temper which prompted the murder of his brother.

After having established himself in his new possession, Cambyses, Herodotus (iii. 17, *f.*) informs us, planned three expeditions. One was against Carthage, in regard to which, however, he was thwarted by the refusal of his Phœnician mariners, who formed the principal portion of his sea-forces, to operate against their kindred. Another was directed against the Oasis and temple of Jupiter Ammon in the desert west of Egypt (see Heeren, *D. afrikan. Völker*, i. p. 416), the issue of which was that the whole of the force sent on this enterprise, numbering, it is said, 50,000 men, perished in the sand. The third was intended for the subjugation of the Ethiopians on the south of Egypt (regarding whose locality see Heeren, *op. cit.*, i. pp. 337, *f.*; Rawlinson, *Herod.*, vol. ii. p. 421; Maspero, *Histoire ancienne*, pp. 533, *f.*), and of this Cambyses himself took the command. The army, however, had marched less than a fifth of the distance when their provisions failed, and they were reduced to the utmost straits,—even, it is said, to cannibalism. Cambyses was thus forced to retrace his steps and to lead back the remnant of his army to Egypt in disappointment and disgrace.

Under the smart of this threefold discomfiture the conduct of Cambyses towards the Egyptians assumed a new and much more stern and cruel aspect. The people of Memphis were rejoicing on occasion of the discovery of a calf bearing the marks of their god Apis, when he arrived there on his return from his unfortunate expedition. Irritated by their apparent lack of sympathy, and misconstruing their joy, he ordered some of the magistrates of the city to be put to death; and what was still more fatal to his popularity, he commanded the newly-found god to be led into his presence, and inflicted upon it with his dagger a mortal wound. The epitaph of this unfortunate god "has been found by M. Mariette in the Serapeum, and is now in the museum of the Louvre" (Lenormant, *Manual of Anc. Hist.*, vol. ii. p. 99). We hear also of his violating the sepulchres of the Egyptians, and of his penetrating into the sanctuaries of their gods, and making sport of the more grotesque images. According to Herodotus, it seemed to the Egyptians that he had gone mad; and it is certain that they retained the most gloomy recollections of this period of their history. In the inscription already mentioned, drawn up while the Persians were still supreme in the country, and therefore with due reserve and caution, reference is made to the procedure of Cambyses in such language as the following:—"There happened a calamity in this district along with the very great calamity which befell the whole land;" "a frightful misfortune befell Egypt, the like of which never occurred in this land" (Brugsch, *op. cit.*, i. p. 271; Lauth, *op. cit.*, p. 19, *cf.* p. 49). It is, in all probability, the sense of this "frightful misfortune"—the keenness of feeling excited by the outrageous deeds of Cambyses towards their gods—which led the Egyptians to allege that he was smitten with frenzy, and to put in circulation some at least of the many stories relating to his cruelty towards his own countrymen and relatives which Herodotus and others report.

After an absence from Persia of several years, Cambyses, having appointed Aryandes, a Persian, governor of Egypt, set out on his homeward march. He was met, according to Herodotus (iii. 64), at a place in Syria called Agbatana, supposed by some to be Batanæa, or Bashan, by others to be Hamath, by the tidings of the Median revolution, the usurpation of the sovereignty by Gomates, the Magian, and the impersonation by the usurper of his own brother whom, as has been noticed, he had caused to be secretly murdered. Springing hastily upon his horse, his sword fell from the sheath and wounded him mortally in the thigh. According

to Ctesias (*Exc. Pers.*, § 12) he died at Babylon, of a wound accidentally inflicted while carving a piece of wood for his amusement. These accounts agree in representing his death as accidental. A somewhat different impression is conveyed by the statement of Darius on the point in the Behistun inscription (i. 11), who says that "killing himself he died." (*Cf.* Oppert, *Les inscriptions des Achéménides*, p. 54.) It may be, as Spiegel believes (*Eran. Alterthum.*, ii. p. 302), that the phrase expresses nothing more than the Greek tradition reports. Rawlinson, however (*Anc. Mon.*, iv. p. 394), and Duncker (*op. cit.*, ii. p. 801) understand it as meaning that he committed suicide. The character of this king is sufficiently obvious. It is evident that he was an impulsive, self-willed, reckless, ambitious despot, of the peculiarly Oriental type, possessed of considerable ability as a general, but with passions so strong and uncontrolled as to render the powers he possessed worthless for good. It was reported that from his childhood he was liable to epilepsy and also, what is probably more trustworthy, that he came to be much given to wine. By the Egyptians he made himself utterly abhorred. By the Persians also, while they acknowledged his success in enlarging their empire, his memory was held in evil repute. While they called Cyrus a father, they called his son a despot or master; and while they said the one was "gentle, and procured them all manner of goods," they called the other "harsh and reckless" (see Herodotus, iii. 33, 34, 89). In the Hebrew Scriptures, Cambyses appears once under the name of Ahasuerus, in Ezra iv. 6 (see ARTAXERXES). Some suppose that he is the "cruel lord" and "fierce king," to whose hands the Egyptians were to be given over, according to Isa. xix. 4. His name occurs in Babylonian contract-tablets found at Warka, with the title "Cambyses, king of Babylon." (See Loftus, *op. cit.*, p. 222; Bosanquet, *Trans. Bib. Archæology*, i. pp. 210, *f.*) He is usually regarded as the Lohrasp of Persian traditional history (Malcom, *Hist. of Persia*, i. p. 334); but another of the heroes of that cycle of romance, Kaus, appears both from the name and from the exploits ascribed to him to be the true representative of Cambyses. (*Cf.* Spiegel, *op. cit.*, vol. i. p. 594; Gobineau, *Hist. des Perses*, vol. i. p. 523.) (W. TU.)

CAMDEN (1), a city of the United States, capital of Camden county, New York, situated on the left bank of the Delaware River, directly opposite Philadelphia, with which it is connected by a regular steam-boat service. It lies 87 miles S.W. of New York, and is the terminus of several railway lines. Among its public buildings the chief place is held by the court-house and the railway stations; and its principal industrial establishments are iron-foundries, saw-mills, chemical works, glass-works, shipyards, and engineering factories. The city received its charter in 1831; and gas-light was first introduced in 1852. In 1840 the population was only 3371; in 1850 it amounted to 9479, and in 1870 to 20,045.

CAMDEN (2), the capital of Kershaw county in South Carolina, United States, 33 miles N.E. of Columbia on the Wateree River, which is navigable for steam-boats as far as the town. It contains an arsenal, an academy, and a library, and is altogether a flourishing little town. It is best known as the scene of two battles,—the first fought in 1780 between Gates and Cornwallis, and the second in 1781 between Greene and Rawdon. Population in 1870, 1007.

CAMDEN, WILLIAM (1551–1623), a celebrated antiquary and historian, was born in London, May 2, 1551. His father, who was a native of Lichfield, settled in London, where he became a member of the company of paper-stainers. His mother was of the ancient family of Curwen of Workington in Cumberland. Young Camden received his early education at Christ's Hospital and St Paul's School; and in 1566 he entered as a servitor of Magdalen College, Oxford; but not succeeding in getting a demi's place, he removed to Broadgate Hall, and, somewhat more than two years afterwards, to Christ Church, where he was supported by his friend and patron Dr Thornton. About this time he became a candidate for a fellowship at All Souls College, which he lost through the adverse influence of the Roman Catholic party. In 1570 he supplicated the regents of the university to be admitted bachelor of arts, but in this also he was disappointed. The following year Camden came to London, where he prosecuted his favourite study of antiquity, under the patronage of Dr Goodman, dean of Westminster, by whose interest he was made, in 1575, second master of Westminster school. From the time of his leaving the university to this period, he had travelled through great part of England, with a view to make observations and collect materials for his *Britannia*, on which he was now seriously engaged. In 1581 he became intimately acquainted with the learned President Brisson, who was then in England, and in 1586 he published the first edition of the *Britannia*, a survey of the British isles, written in elegant Latin. In 1593 he succeeded to the head mastership of Westminster school, on the resignation of Dr Grant. In this office he continued till 1597, when he was promoted to be Clarencieux king-at-arms. In 1600 Camden made a tour to the north, as far as Carlisle, accompanied by his friend Mr (afterwards Sir Robert) Cotton. In 1606 he began his correspondence with the celebrated President de Thou, which continued to the death of that historian. In the following year he published his last edition of the *Britannia*, from which the several English translations have been made; and in 1608 he began to digest his materials for a history of the reign of Queen Elizabeth. In 1609, after recovering from a dangerous illness, he retired to Chiselhurst in Kent, where he continued to spend the summer months during the remainder of his life. The first part of his annals of the queen did not appear till 1615, and he determined that the second volume should not appear till after his death. The work was entirely finished in 1617; and from that time he was principally employed in collecting materials for the further improvement of his *Britannia*. In 1622, being now upwards of seventy, he determined to lose no time in executing his design of founding a history lecture in the university of Oxford. His deed of gift was accordingly transmitted by his friend Mr Heather to Mr Gregory Wheare, who was by himself appointed the first professor. Camden died at Chiselhurst, Nov. 9, 1623, in the seventy-third year of his age, and was buried with great solemnity in Westminster Abbey, where a monument was erected to his memory. He was a man of great modesty and integrity, profoundly learned in the history and antiquities of England, and a judicious and conscientious historian. The Camden Society, founded in 1838 for historical research, was so named in honour of him. Besides the works already mentioned, he was author of an excellent Greek grammar, and of several tracts in Hearne's collection. His greatest and most useful work is the *Britannia*. It was first translated into English, and published in folio in London in 1611, by Dr Philemon Holland, who is thought to have consulted the author himself; and therefore great respect has been paid to his additions and explanations, on the supposition that they may belong to Camden. But in a later edition of the same translation, published in 1636, the doctor has taken liberties which cannot be excused. A new translation, made with the utmost fidelity from the last edition, was published in 1695, by Edmund Gibson of Queen's College, Oxford, afterwards bishop of London; in which, besides the addition of notes, and of all that deserved to be taken notice of in Dr Holland's first edition, there are many other augmentations

and improvements, all properly distinguished from the genuine work of the author.

Gibson's edition was reprinted in 1722, and several times subsequently. The latest and best editions are those by Gough, 1789–90, 3 vols. fol., and by Gough and Nichols, 1806, 4 vols. fol.

CAMDEN, CHARLES PRATT, EARL, AND VISCOUNT BAYHAM (1713–1794), chief-justice of the Common Pleas, lord chancellor of England, and president of the council, was born in 1713. He was a descendant of an old Devonshire family of high standing, the third son of Sir John Pratt, chief-justice of the King's Bench in the reign of George I. He received his early education at Eton College, whence he passed, at the age of seventeen, to King's College, Cambridge. In 1734 he became a fellow of his college, and in the following year obtained his degree of B.A. Having adopted his father's profession, he had entered the Middle Temple in 1728, and ten years later he was called to the bar. He practised at first in the courts of Common Law, travelling also the western circuit. In 1740 he took his degree of M.A. For some years his practice was so limited, and he became so much discouraged, that he seriously thought of turning his back on the law and entering the church. He listened, however, to the advice of his friend Sir Robert Henley, a brother barrister, afterwards known as Lord Chancellor Northington, and persevered, working on and waiting for the success which in such case is usually slow to come. The first case which brought him prominently into notice and gave him assurance of ultimate success was the Government prosecution, in 1752, of a bookseller, William Owen, for a libel on the House of Commons. Pratt was engaged as junior counsel for the defence, and he made his mark in an earnest and powerful speech, which contributed to the verdict for the defendant. In 1753 he undertook the defence of Murphy, who stood charged with the forgery of a will. Four years later, through the influence of William Pitt (afterwards earl of Chatham), with whom he had formed an intimate friendship while at Eton, he received the appointment of attorney-general. The same year he entered the House of Commons as member for the small borough of Downton in Wiltshire, which was subsequently disfranchised. He sat in parliament four years, but did not distinguish himself as a debater. His professional practice now largely increased. One of the most noticeable incidents of his tenure of office as attorney-general was the prosecution of Dr Shebbeare, a violent party writer of the day, for a libel against the Government contained in his notorious *Letters to the People of England*, which were published in the years 1756–1758. As a proof of Pratt's moderation in a period of passionate party warfare and frequent "State Trials," it is noted that this was the only official prosecution for libel which he set on foot. In January 1762 Pratt was raised to the bench as chief-justice of the Common Pleas, this post being vacant by the death of Chief-Justice Willes. He was at the same time knighted. Soon after his elevation the nation was thrown into great excitement about the prosecution of the "worthless profligate" John Wilkes, and the question involved in it of the legality of "general warrants." Chief-Justice Pratt pronounced, with decisive and almost passionate energy, against their legality, thus giving voice to the strong feeling of the nation, and winning for himself an extraordinary degree of popularity as one of the "maintainers of English constitutional liberty." Honours fell thick upon him in the form of addresses from the city of London and many large towns, and of presentations of freedom from various corporate bodies. In July 1765 he was raised to the peerage as Baron Camden, of Camden Place, in the county of Kent; and in the following year he was removed from the court of Common Pleas to take his seat as lord chancellor (July 30, 1766). This seat he retained less than four years; for although he discharged its duties in so efficient a manner that, with one exception, his decisions were never reversed on appeal, he took up a position of such uncompromising hostility to the Governments of the day, the Grafton and North administrations, on the greatest and most exciting matters, the treatment of the American colonies and the proceedings against John Wilkes, that the Government had no choice but to require of him the surrender of the great seal. He retired from the Court of Chancery in January 1770, but he continued to take a warm interest in the political affairs and discussions of the time. In his speeches in the House of Lords he sometimes showed a strong ill-feeling against his great opponent, Lord Mansfield, on the doctrine of libel. He continued steadfastly to oppose the taxation of the American colonists, and signed, in 1778, the protest of the Lords in favour of an address to the king on the subject of the manifesto of the American commissioners. In 1782 he was appointed president of the council under the Rockingham administration, but retired in the following year. Within a few months he was reinstated in this office under the Pitt administration, and held it till his death. Lord Camden was a strenuous opponent of Mr Fox's India Bill, took an animated part in the debates on important public matters till within two years of his death, introduced in 1786 the scheme of a regency on occasion of the king's insanity, and to the last zealously defended his early views on the functions of juries, especially of their right to decide on all questions of libel. He was raised to the dignity of an earl in May 1786, and was at the same time created Viscount Bayham. Earl Camden died in London, April 18, 1794. His remains were interred in Seale church in Kent.

CAMEL, the *Djemal* of the Arabs and *Gamal* of the Hebrews, a genus of Ruminant Mammals, which, with the South American llamas, form the family *Camelidæ*, and which in their dentition, in the absence of horns and of hoofs completely enveloping the toes, and in the separation of the navicular and cuboid bones of the tarsus, show an affinity with certain of the Perissodactyle *Ungulata*. In common with the llamas, and unlike all other ruminants, the camel has two upper incisor teeth, conical and laterally compressed, and somewhat resembling canine teeth, of which in the upper jaw there are two, in addition to twelve molars. Beneath there are six incisors, two canines, and ten molar teeth, the whole forming a dentition admirably suited for the tearing asunder and mastication of the coarse dry shrubs on which the camel usually feeds. It possesses besides many other peculiarities in form and structure specially adapted to its mode of life. Its nostrils are in the form of oblique slits, which can be opened or shut at will, and thus the organ of smell, which in the camel is of extraordinary acuteness, is preserved from contact with the hot acrid sand that, like a "pillar of cloud," frequently sweeps across the desert. The extremities only of the two toes which form the foot are free, and are each terminated by a short and somewhat curved nail, the rest of the toes being connected together by means of a broad elastic pad on which the foot rests, and which buoys the camel up as it moves on the soft and ever-shifting surface. The horny callosities on the breast and limb-joints, on which the camel rests when being loaded, may possibly have resulted from the long ages of servitude to which it has been subjected, but whether they existed in the wild camel or not, traces of them are said to be now found on the new-born young. The hump or humps on the camel's back are mere masses of fat, without any corresponding curve on the vertebral column of the animal, and form a reserve of nourishment to be used when other supplies fail; consequently during lengthened periods of privation, and during the rutting season, when the males almost cease to eat, these masses greatly diminish in size. The camel

driver knows well the value of this natural storehouse, and takes care before starting on a lengthened journey to have the humps of his beasts well distended. In its native deserts, however, the camel is more liable to suffer from lack of water than of food, and accordingly the stomach is so modified as to allow of a certain quantity of water being stored for future use. On the walls of the paunch or first stomach little pouches with narrow mouths are developed; these are the so called "water cells," the biggest of which in an adult camel measures when dilated about three inches in width and depth, and these serve to strain off a considerable quantity of water from the contents of the paunch, retaining it for future use by means of powerful sphincter muscles. The upper divided lip of the camel is slightly extensile, and is used as a feeler with which to touch and examine its food before turning the same into its mouth. The animal is further characterized externally by its long neck, the dusky colour of its fur, the shaggy masses of long woolly hair on certain parts of its body, and the disproportionate shortness of its legs. These, together with the peculiarities already mentioned, combine to make it one of the most ungainly of known animals, and almost justify the recent description given of it by Dr Russell, the *Times* correspondent, as "an abominably ugly necessary animal." Nevertheless, it is as indispensable where great deserts are to be traversed as is the ship on the ocean highway, and this fact seems to have completely blinded the Arab to its undoubted deficiences in form, for in his poetry allusion is sometimes made to the motions of the camel as to a recognized standard of elegance.

The camel is one of the oldest mammals now living, and fossil remains have been found in the Miocene of the Sevalik Hills of a species (*Camelus sivalensis*) somewhat larger, but otherwise scarcely distinguishable from recent forms. "The difference is so slight," says Andrew Murray, "it pleases us to think that we may have here, in this most ancient animal, a species which saw the Miocene epoch, and which has survived all the chances and changes which have taken place since then." That it was one of the earliest of domesticated animals is evident from the frequent allusions made to it in the oldest written records of the human race. Six thousand camels are said to have formed part of the wealth of the patriarch Job; they also formed part of the present which Pharaoh gave to Abraham, and it was to a company of Ishmaelites travelling from Gilead to Egypt on camels, laden with spices, much as their Arabian descendants do at the present day, that Joseph was sold by his brethren. Naturalists are able to indicate with more or less certainty the wild progenitors of most of the domestic animals, but they have hitherto failed to obtain any reliable evidence of the existence, at the present day, of the wild ancestor of the camel. In the eastern hemisphere it stands alone, sole representative of the family to which it belongs, its only allies, the llamas, being confined to the slopes of the Andes and the southern parts of South America. Palæontologists, however, by the discovery of several fossil forms, have been able to bridge over the geographical gap which at present separates the two branches of the Camelidæ.

During the rutting season the male camel becomes exceedingly savage and dangerous, and engages in fierce contests with its fellows. The gravid female carries her young for fully eleven months, and produces only one calf at a time, which she suckles for a year. Eight days after birth the Arabian camel stands three feet high, but it does not reach its full growth till its sixteenth or seventeenth year. It lives from forty to fifty years. The flesh of the young camel resembles veal, and is a favourite food of the Arabs, while camel's milk forms an excellent and highly nutritious beverage, although, according to Layard, it does not furnish butter. The woolly hair, which grows to a great length on the under side of the neck, the upper part of the legs, and on the humps, is shorn every summer, and is woven into a variety of stuffs used by the Arab for clothing himself and his family, and in covering his tent. It was in raiment of camel's hair that John the Baptist appeared as a preacher. The hair imported into this country is chiefly used in the manufacture of small brushes used by painters, while the thick hide is formed into a very durable leather. The dung is used as fuel, and from the incinerated remains of this sal-ammoniac is extracted, which was at one time largely exported from Egypt.

But it is as "the ship of the desert," without which vast tracts of the earth's surface would probably have remained for ever unexplored, that the camel is chiefly valuable. In its fourth year its training as a beast of burden begins, when it is taught to kneel down and to rise at a given signal, and is gradually accustomed to bear increasing loads. These vary in weight from 500 to 1000 ℔, according to the variety of camel employed, for of the Arabian camel there are almost as many breeds as there are of the horse in more temperate regions. When crossing a desert the camels are expected to carry their load 25 miles a day for three days without drink, getting a supply of water, however, on the fourth; but the fleeter varieties will carry their rider and a bag of water 50 miles a day for five days without drinking. When too heavily laden the camel refuses to rise, but on the march it is exceedingly patient under its burden, only yielding beneath it to die; relieved from its load it does not, like other animals, seek the shade, even when that is to be found, but prefers to kneel beside its burden in the broad glare of the sun, seeming to luxuriate in the burning sand. When overtaken by the deadly simoom it falls on its knees, and stretching its snake-like neck along the sand, closes its nostrils, and remains thus motionless till the atmosphere clears; and in this position it affords some shelter to its driver, who, wrapping his face in his mantle, crouches behind his beast. Of still greater service is it, when, the whole caravan being on the point of perishing for want of water, the acute sense of smell which the camel possesses enables it to perceive the presence of water more than a mile off; then it will break its halter and make an unerring track for the well. The food of the camel consists chiefly of the leaves of trees, shrubs, and dry hard vegetables, which it is enabled to tear down and masticate by means of its upper incisors and powerful canine teeth. It is, however, fond of luxurious living when such is to be had, and, according to Sir Samuel Baker, when it arrives in good pasture, after several days of sharp desert marching, it often dies in a few hours of inflammation caused by repletion; but when other animals are starving, the camel, according to the same authority, thrives "on the ends of barren leafless twigs, the dried sticks of certain shrubs, and the tough dry paper-like substance of the dome palm, about as succulent a breakfast as would be a green umbrella and a *Times* newspaper." The docility of the camel has become well-nigh proverbial throughout Europe, but recent travellers who have studied the animal in Arabia and Africa have said much to lessen, if not to extinguish, its reputation in this particular. "If docile means stupid," says Palgrave, who had ample opportunity of observing the camel during his romantic sojourn in Arabia, "well and good; in such a case the camel is the very model of docility. But if the epithet is intended to designate an animal that takes an interest in its rider so far as a beast can, that in some way understands his intentions, or shares them in a subordinate fashion, that obeys from a sort of submissive or half-fellow-feeling with his master, like the horse or elephant, then I say that the camel is by no means docile—very much the contrary. He takes no heed of his rider, pays no attention whether he be on his back or not, walks straight on when once set agoing, merely because he is too stupid to turn aside, and then should some tempting thorn or green branch allure him out of the path, continues to walk on in the new direction simply because he is too dull to turn back into the right road. In a word, he is from first to last an undomesticated and savage animal rendered serviceable by stupidity alone, without much skill on his master's part, or any co-operation on his own, save that of an extreme passiveness. Neither attachment nor even habit impress him; never tame, though not wide-awake enough to be exactly wild." So also Sir S. Baker, in his recent work *The Albert Nyanza*, bears testimony to its extreme dulness, for while other ruminants in feeding select wholesome herbs, the camel is stupid enough to eat indiscriminately every green vegetable; it is thus often poisoned through eating a plant known to the Arabs as "camel poison," and on this account it is customary to set watchers over them while grazing in districts where this plant is found. The camel, however, is revengeful, and in satisfying this passion is said to display a far-thoughted malice scarcely consistent with the extreme stupidity attributed to it by Palgrave. Of this vindictiveness the camel driver is well aware, and of the certainty that sooner or later it will seek revenge; accordingly it is customary for the person who has reason to fear its malice to throw his clothes before the camel, meanwhile concealing himself until the infuriated animal has expended its rage in tossing and trampling upon them, when the injury, real or supposed, is immediately forgotten.

The camel is probably a native of the desert countries of the south-west of Asia, whence it has spread into most of the arid regions of the eastern hemisphere, carrying with it wherever it goes a mark of its desert origin in the antipathy which it shows to cross a stream of water. It has lately been introduced into Australia, the great central desert of which was recently crossed by Warburton with a caravan of camels. It has now also obtained a footing in the New World, ten camels having been landed at New York some years ago, all of them, however, with the exception of a single male and female, dying soon after. The surviving pair were transferred to Nevada, where the soil was sandy and sterile, producing abundance of prickly shrubs which no other animal would touch, but on which the pair of camels flourished and bred. This female has already given birth to twenty-four young, all of which are still (1875) alive, and some of these having also bred, there are now ninety-six camels, all, with the exception of the original couple, born in Nevada. In Europe the camel is only reared in the neighbourhood of Pisa, having been introduced there by one of the dukes of Tuscany, and is employed as a beast of burden, but is said to be gradually deteriorating.

There are two species of camel—the Arabian and the Bactrian. The former or single-humped species (*Camelus dromedarius*) is found in greatest perfection in Arabia, whence it has spread eastwards to India, where it is now extensively used, although the stony nature of much of the ground it has to pass over does not give it in India that superiority over other beasts of burden, which it undoubtedly possesses in desert countries. It seems to have spread westwards with the Koran along the North African shores, and to have been introduced by the Moors into Spain, where, however, it did not succeed in establishing itself. It also accompanied the followers of Mahomet into European Turkey. In Arabia several breeds, each possessing special qualities, are carefully cultivated. The chief of these are the thick-built, heavy-footed, and slow-paced variety, used for carrying heavy loads, and the dromedary—a name often applied to all the members of the single-humped species, but properly belonging only to a thin, comparatively elegant, and fine-haired breed, celebrated for its fleetness, carrying its rider when necessary 100 miles a day. The dromedary, says Palgrave, "is the race-horse of its species," and the difference between it and the heavy variety is exactly the same "as between the race-horse and a hack." Another breed, belonging to a tribe of Arabs who dwell near the western shores of the Red Sea, is specially adapted for journeying with loads over mountainous districts, and Baker, who made use of them, states that they accomplished feats in mountain climbing which would have been impossible to any other domestic animal so loaded. The Bactrian or two-humped camel (*Camelus bactrianus*) is a somewhat larger and more robust species, and is much rarer than the Arabian. It is found throughout the region lying to the north and east of that inhabited by the dromedary, from the Black Sea to China and northward to Lake Baikal, where in winter it sustains severe cold, subsisting meanwhile upon the leaves and twigs of the willow and birch. The pads on its feet are harder than in the other species, and are thus better fitted to bear the changes wrought on the soil by the frequent alternations of rain and drought, while its fur is also thicker and more plentiful. In Central Asia both species occur, and hybrids are not uncommon, the latter being, it is alleged, occasionally fertile among themselves. (J. GI.)

CAMELLIA, the name of a genus of *Ternströmiaceæ*, remarkable for its evergreen laurel-like foliage, and its handsome rose-like flowers, whence the common species, *C. japonica*, is sometimes called the Japan rose. This is an evergreen shrub of remarkably hardy constitution, so that in our climate it flourishes perfectly in a cold green-house; indeed, in the south and west of England, and in other favourable situations, the plant itself is hardy, and only suffers from frost in regard to the damage done to its flowers, which are naturally developed very early in the spring, and are therefore liable to suffer injury from spring frosts. The plant had been cultivated by the Japanese and Chinese long previous to its introduction to our gardens from China in 1739, and, in consequence, numerous double-flowered varieties were at that time known, of which about two dozen sorts were introduced from China, chiefly between 1806 and 1824, some two or three others having been obtained so early as 1792–4. This number of varieties has now been very considerably increased by the production of European seedlings, so that several hundreds are figured in a publication called *Nouvelle Iconographie des Camellias*, specially devoted to their illustration. The plant seeds freely in the climate of Italy and the south of Europe, and thence many first-rate sorts have been obtained.

The original type of *C. japonica* forms a dense bushy evergreen, abundantly clothed with ovate acuminate glossy leaves, and decorated with sessile single red flowers composed of from five to seven (nominally five) broadly obovate rosy carmine petals, which expand into a cup-shaped flower, and surround a circle of numerous monadelphous stamens, within which a few free stamens, two to each petal, are produced. These stamens afford a fine contrast to the broad spreading petals. This form, or one but slightly removed from it, is still cultivated in gardens, as a stock on which to graft the double-flowered sorts, these only, in a general way, being now prized. There are, however, some few exceptions, as, for example, the single white, whose large flowers, with their conspicuous stamens, are extremely handsome when associated with the rich-looking dark green foliage.

The name *Camellia* was given to these plants by Linnæus in honour of George Joseph Camellus or Kamel, a Moravian Jesuit, who travelled in Asia, and wrote a history of the plants of the island of Luzon. In Japan, its native country, the *Camellia* attains to the size of a large tree, and it is held in high estimation by the Japanese on account of the extreme beauty of its large, showy, and