counties of Devon and Dorset. These eastern streams are comparatively slow and still-flowing. The Dartmoor rivers, rapid, dashing, and rocky, are famous trout streams. None have courses of any great length.

The *geological formations* of Devonshire are of course the main cause of the general appearance of the county. Dartmoor, as has been said, is a granite region. By far the greater part of central Devon is occupied by Carboniferous rocks, consisting chiefly of sandstones, often siliceous, and of slates. All this formation has been subjected to great disturbances, and the strata (as may be seen on every part of the coast between Boscastle and the mouth of the Taw), are twisted in a manner which defies description, the result being some very extraordinary and picturesque cliff scenery. True coal does not exist, but anthracite occurs near Bideford. These rocks are also associated with trappean and other ashes, which bear a striking analogy to those of existing volcanoes. Underlying the carbonaceous deposits are the grauwacke or Devonian rocks, forming the extreme north of the county, and great part of the South Hams. They extend west of Plymouth, and cover the greater part of Cornwall. These rocks are generally held to be the equivalents of the "Old Red" system, although the characteristic Old Red rocks, so largely developed in Scotland, Herefordshire, and elsewhere, are not found at all in Devonshire. The Devonian rocks consist of clay-slates, grey limestones, brown sandstones, and flags. The fossils of the two series also differ; but although these Devonians offer many complexities, this and other differences seem capable of explanation. The third great formation of Devonshire is the New Red, which occupies much of the eastern portion of the county, extends along the coast from Sidmouth to Torbay, and sends out a long spur westward into the Carboniferous district. The upper beds of the series consist principally of marls, the middle of sandstones, and the lower of breccias or coarse conglomerates, coloured red by peroxide of iron. The formation is characterized by a scarcity of organic remains, and by the extreme fertility of some of its soils.

At or near the junction of the Carboniferous and New Red formations, from Washfield, near Tiverton, on the N. to Haldon on the S., occur numerous masses of igneous rock, feldspathic traps. These traps are for the most part excellent building stones, and many of the quarries have been worked for ages. Greenstones and elvans are also associated with the Devonian series. Greensand strata cap the Blackdown hills, and the heights near Axminster, Seaton, and Sidmouth, and with beds of chalk, occupy a depression in the coast at Beer (near the eastern border of Devonshire), coming down to the level of the sea at Beer Head. A very interesting and remarkable Tertiary deposit, belonging to the Lower Miocene period, occurs at Bovey Tracy, below the eastern escarpment of Dartmoor. It consists of beds of lignite, clay, and sand, with an aggregate thickness of more than 100 feet. In the lignites at least 50 species of plants have been found, all indicating a sub-tropical climate; but the greater part of the lignite beds is formed by fragments of an enormous coniferous tree, belonging to the genus *Sequoia*, the only living species of which are to be found in California. Great lumps of inspissated resin occur occasionally. The clay which overlies the lignites is of much more modern date, and contains leaves of the dwarf birch, now an arctic plant, and of 3 species of willow, which all betoken a much colder climate than that of Devonshire at present. Fine potters' clay occurs above this "head" of coarse clay and sand, and has been turned to account. The lignite called "Bovey coal" burns with a disagreeable smell, and is not much used.

The *ossiferous caverns* of Devonshire are famous in geological history. The most important is Kent's Hole, near Torquay, which has been carefully explored, and appears to have been frequented by bears, hyænas, and, at last, by primitive man. There are others at Brixham, at Chudleigh, and at Oreston near Plymouth.[1]

Minerals.—The minerals of most account are tin and copper. Iron occurs, but to no great extent. The *silver-lead* mines at Combe Martin on the N. coast, and at Beer Alston, on the Devonshire side of the Tamar, were formerly worked to advantage; but the former have long been abandoned, and the latter, since 1860, have been swamped by water from the river, under the bed of which the principal mine extended. *Tin* has been found on Dartmoor (in stream works) from an unknown period. *Copper* was not much worked before the end of the last century. Tin occurs in the granite of Dartmoor, and along its borders, but rather where the Devonian than where the Carboniferous rocks border the granite. It is found most plentifully in the district which surrounds Tavistock, which, for tin and other ores, is in effect the great mining district of the county. Here, about 4 miles from Tavistock, are the Devon Great Consols mines, which from 1843 to 1871 were among the richest copper mines in the world, and by far the largest and most profitable in the kingdom. The divided profits during this period amounted to £1,192,960. But the mining interests of Devonshire are affected by the same causes, and in the same way, as those of Cornwall. The quantity of ore has greatly diminished, and the cost of raising it from the deep mines prevents competition with foreign markets. In many mines tin underlies the general depth of the copper, and is worked when the latter has been exhausted. The metalliferous character of the Tavistock district is indeed very mixed, and besides tin and copper, ores of *zinc* and *iron* are largely distributed, but these have as yet received no great attention. At the Devon Great Consols more than 2000 tons of refined *arsenic* are annually produced by elimination from the iron pyrites contained in the various lodes. This amount is calculated to be about one-third of the arsenic produced throughout Europe. *Manganese* occurs in the neighbourhood of Exeter, in the valley of the Teign, and in N. Devon; but the most profitable mines, which are shallow, are, like those of tin and copper, in the Tavistock district.

The other mineral productions of the county consist of marbles, building-stones, slates, and potters' clay. *Marbles* occur in the Carboniferous series at Chudleigh and elsewhere, but of very inferior character and beauty to those among the Devonian rocks, at Ipplepen, Babbacombe near Torquay, and Plymouth. These are largely worked, and are used extensively in the decoration of churches and other buildings. Among *building stones*, the granite of Dartmoor holds the foremost place. It is much quarried near Prince Town, near Moreton Hampstead on the N. of Dartmoor, and elsewhere. The annual export is considerable. There are very large and ancient quarries of a chalky greensand at Beer, near the eastern border of the county. This is an excellent building-stone, nearly white, and composed of carbonate of lime, mixed with argillaceous and siliceous matter, and with particles of green silicate of iron. Hard traps, which occur in many places, are also much used, as are the limestones of Buckfastleigh and of Plymouth. The Roborough stone, used from an early period in Devonshire churches, is found near Tavistock, and is a hard, porphyritic elvan, taking a fine polish. Excellent *roofing slates* occur in the Devonian series round the S. part of Dartmoor. The chief quarries are near Ashbur-

[1] For a full account of the literature connected with the caverns, and of the discoveries made in them, see *Transactions of the Devonshire Association*, and the annual reports, by Mr W. Pengelly, of the committee appointed by the British Association in 1864.

ton and Plymouth (Cann quarry), but none of them are so extensive or important as those at Delabole in Cornwall. *Potters' clay* is worked at King's Teignton, whence it is largely exported, at Bovey Tracy, and at Watcombe near Torquay. The Watcombe clay is of the finest quality, and is capable of retaining the most delicate form. *China clay* or kaolin, is found on the S. side of Dartmoor, at Lee Moor, and near Trowlesworthy. There is a very large deposit of *umber*, as yet little known, close to Ashburton.

Climate.—The climate varies greatly in different parts of the county but everywhere it is more humid than that of the eastern or south-eastern parts of England. Both Devon and Cornwall have a mean annual temperature about 1°·5 above that of the midland counties; but in the summer they are cooler than the whole range of country from the south coast to the 53° of lat. The air of the Dartmoor highlands is sharp and bracing. Mists are frequent, and snow often lies long. On the south coast frost is little known, and many half hardy plants, such as hydrangeas, myrtles, geraniums, and heliotropes, live through the winter without protection. The climate of Sidmouth, Teignmouth, Torquay, and other watering places on this coast, is very equable, and the mean temperature of the winter months is about 47°. The N. coast, exposed to the storms and swell of the Atlantic, is far more bracing; although there also, in the more sheltered nooks (as at Combe Martin), myrtles of great size and age flower freely, and produce their annual crop of berries.

Agriculture.—While the eastern division of England, ranging from Yorkshire to Hampshire and Sussex, is essentially a corn-growing country, the south-western is as specially the grazing or pasture-land division. The total amount of land in Devonshire under corn crops in 1876 was 283,332 acres, of which 112,652 were under wheat, 152,370 under green crops, 189,761 under clover, sanfoin, and grasses under rotation; and the permanent unbroken pasture (exclusive of the moors) extended to 442,406 acres. Of horses used solely for agricultural purposes, the number returned in 1876 was 51,753; of cattle, 217,111; of sheep, 943,542, of pigs, 90,773. These numbers, as compared with those of former years, show a steady progress, and an annual increase in the extent of permanent pasture. In the small farms on Dartmoor and along its borders grain crops are very uncertain, and on Dartmoor itself even oats do not ripen in unfavourable seasons. The root and other crops obtained on the land attached to the convict prison are due to the amount of manual labour expended on them, which in ordinary cases would be altogether without profit. Devonshire is one of the cider-producing counties of England, soil and climate being favourable to the growth and bearing of the apple. The acreage of Devonshire orchards in 1876 was 24,097. The two other principal cider counties had respectively—Hereford, 24,616 acres planted with fruit trees (apples and pears), and Somerset, 21,029.

As respects the ownership of the land, according to the Owners of Land Return for 1873, the county was divided among 31,809 proprietors, whose aggregate estimated rental amounted to £2,881,665. Of that number 21,647 or 68 per cent. owned less than 1 acre—the proportion of small proprietors in all England being 71 per cent.; and the rental per acre averaged £1, 18s. 0d, as against £3, 0s. 2d. in all England. Nearly one fifth of the land was owned by 15 proprietors:—To the Duchy of Cornwall belonged 48,457 acres; Hon. Mark Rolle, Stevenstone, Torrington, 45,088; Duke of Bedford, 22,607; Earl of Devon, Powderham Castle, 20,588; Earl Fortescue, Castle Hill, 20,171; Lord Poltimore, Court Hall, 17,047; F. W. Knight, Exmoor, 16,903; Earl of Portsmouth, Eggesford House, 16,414; Sir George Stucley, Bart., Hartland Abbey, 15,144; Sir T. D. Acland, Bart., Killerton, 15,018. Lord Clinton, Heanton Satchville, 14,431; Sir Massey Lopes, Bart., Maristow, 11,977; M. Preston, Chulmleigh, 11,280; Sir W. P. Carew, Bart., Newton Abbot, 10,889; and Sir Lawrence Palk, Bart., Haldon House, 10,109.

Industries.—Devonshire has few manufactures, and no very important industrial works. There is a considerable pottery at Bovey Tracy, manufacturing white, printed, and painted ware; and another at Watcombe, where the productions are finer and more artistic. Blankets and serges are made at Buckfastleigh and at Ashburton, and the factories employ many hands. At Tiverton there is an extensive lace-making factory. The manufacture of Honiton lace, made by hand on the pillow, is now confined to Beer and some other villages on the S.E. coast. Shoes and boots, chiefly for export, are made at Crediton. The greatest industrial works in the county however, are the vast Government establishments at Plymouth and Devonport—the victualling yard, and the dockyard. The convict prisons in Dartmoor may also be regarded as an industrial establishment. They were built for French prisoners in 1809, and in 1850 were adapted for receiving convicts. Since that year more than 100 acres round the prisons have been brought into cultivation under convict labour; and 1000 acres more were added to the prison lands in 1871. In addition to the old buildings, a large prison, arranged on the latest principles, was erected in 1872.

The fisheries of Devonshire are in no way so important as those of Cornwall. About 200 trawlers belong to the port of Brixham, the head quarters of the fisheries of Tor Bay. Herrings and mackerel visit the coasts in their seasons, but not in the vast shoals known farther west. It may be said that trawling is the main feature of the Devonshire fishery whilst seining and driving characterize that of Cornwall.

History.—The British tribes inhabiting this western portion of the island are called *Dumnonii* by Ptolemy; and *Dumnonia*, or *Dammonia*, the Latinized name of a kingdom which long remained independent after the arrival and early conquests of the West Saxons, seems to be identical with the Cymric Dyfnaint, which survives in the present Devon. The Saxon settlers, as they advanced into the country, called themselves Defenas, *i.e.*, men of Devon or Dyfnaint, thus adopting the British name, and indicating the broad difference between their settlements in such a district as Devon, where British influence so long survived, and where they came as Christians, and those in southern or eastern England, where the Britons were either expelled or exterminated. In Devonshire the Christian Britons became subjects of the Christian Saxons. "The Celtic element can be traced from the Somersetshire Axe, the last heathen frontier, to the extremities of Cornwall, of course increasing in amount as we reach the lands which were more recently conquered, and therefore less perfectly Teutonized. Devonshire is less Celtic than Cornwall, and Somersetshire is less Celtic than Devonshire; but not one of the three counties can be called a pure Teutonic land, like Kent or Norfolk" (E. A. Freeman). Celtic names are accordingly found in various parts of Devonshire, and especially on Dartmoor, side by side with those which are truly Saxon.

For some time after the landing of William I. and the battle of Hastings, the western counties remained undisturbed. In the spring of 1068 Exeter was besieged and taken by the Conqueror, who built a castle there, which was besieged in 1137 by Stephen for three months. In 1469 Exeter, which was Lancastrian, was besieged for twelve days by the Yorkists, but held out successfully; and in 1497 the city was again besieged by Perkin Warbeck. A more

important siege occurred in 1549, when the western counties rose in defence of what was called the "old religion." This lasted for 35 days. Both Exeter and Plymouth were besieged for many months during the civil war of the Commonwealth. This was a period of considerable disturbance in the west. The golden age of Devonshire is, however, that of Elizabeth. Drake, Hawkins, Raleigh, and the Gilberts, besides a host of others, were all of Devonshire; and the history of the county at that time is bound up with the story of its harbours and seaside towns, and is in close connection with the general history of England. It was from Plymouth that the English ships sailed for the attack and dispersion of the Armada, the near approach of which was there first made certain. The landing of William of Orange at Brixham, November 5, 1688, is perhaps the event most fraught with important results which has taken place in the western counties.

Antiquities.—In primeval antiquities Devonshire is not so rich as Cornwall; but Dartmoor abounds in remains of the highest interest, the most peculiar of which are the long parallel alignments of upright stones, which, on a small scale, resemble those of Carnac in Brittany. On Dartmoor the lines are invariably straight, and are found in direct connection with cairns, and with circles which are probably sepulchral. These stone avenues are very numerous. Of the so-called sacred circles the best examples are the "Longstones" on Scorhill down, and the "Grey Wethers" under Sittaford tor. By far the finest cromlech is the "Spinster's Rock" at Drewsteignton, a three-pillared cromlech which may well be compared with those of Cornwall. There are numerous maenhirs or single upright stones; a large dolmen or holed stone lies in the bed of the Teign, near the Scorhill circle; and rock basins occur on the summit of nearly every tor on Dartmoor (the largest are on Kestor, and on Heltor, above the Teign). It is, however, tolerably evident that these have been produced by the gradual disintegration of the granite, and that the dolmen in the Teign is due to the action of the river. Clusters of hut foundations, circular, and formed of rude granite blocks, are frequent; the best example of such a primitive village is at Batworthy, near Chagford; the type resembles that of East Cornwall. Walled inclosures, or pounds, occur in many places; Grimspound is the most remarkable. Trackways, or boundary lines, run across Dartmoor in many directions; and the rude bridges, formed of great slabs of granite, deserve notice. All these remains are on Dartmoor. Scattered over the county are numerous large hill castles and camps,—all earthworks, and all apparently of the British period. Roman relics have been found from time to time at Exeter (*Isca Damnoniorum*), the only large Roman station in the county.

Buildings.—The churches are for the most part of the Perpendicular period, dating from the middle of the 14th to the end of the 15th century. Exeter Cathedral is of course an exception, the whole (except the Norman towers) being very beautiful Decorated work. The special features of Devonshire churches, however, are the richly carved pulpits and chancel screens of wood, in which this county exceeded every other in England, with the exception of Norfolk and Suffolk. The designs are rich and varied, and the skill displayed often very great. Granite crosses are frequent, the finest and earliest being that of Coplestone, near Crediton. Monastic remains are scanty; the principal fragments are those at Tor, Buckfast, Tavistock, and Buckland Abbeys. Among domestic buildings the houses of Wear Gifford (15th century), Bradley (15th century), Dartington (15th), Bradfield (Elizabethan), and Holcombe Rogus (Elizabethan) deserve notice. The ruined castles of Okehampton (Edward I.), Exeter (with vast British earthworks), Berry Pomeroy (Henry III., and with ruins of a large Tudor mansion), Totnes (Henry III.), and Compton (early 15th century), are all interesting and picturesque.

The *dialect* of Devonshire belongs, of course, to the West Saxon division; but the mixture of races here was, as has been said, considerable; and in the language as well as in the folk-lore of the people Celtic words and ideas are found closely united with those of Teutonic origin.

The *episcopal see* for Devonshire was at first established at Crediton, in 909. The ancient Cornish see, which had existed during the British independence of Cornwall, was afterwards united to that of Crediton; and in 1050 the place of the united sees was removed by the Confessor from Crediton to Exeter. There was no further change until 1876, when the Cornish see was again separated from that of Devonshire, and the place of it fixed at Truro. The diocese of Exeter is now therefore confined to Devonshire.

Devonshire is in the western circuit, and the assizes are held at Exeter. It has one court of quarter sessions and 22 petty sessional divisions. The city of Exeter, a county of itself, and the boroughs of Barnstaple, Bideford, Dartmouth, Devonport, Plymouth, South Molton, Tiverton, and Totnes have commissions of the peace, and, with the exception of Totnes, separate courts of quarter sessions. The jurisdiction of the court of the vice-warden of the stannaries extends over the county of Devon as well as that of Cornwall. There are 23 lieutenancy subdivisions. For the purposes of parliamentary election, Devonshire is divided into east, north, and south—each of which divisions returns 2 county members. The city of Exeter, in East Devon, returns 2; Barnstaple and Tiverton, in North Devon, 2 each; Devonport and Plymouth, in South Devon, 2 each; and Tavistock, also in South Devon, returns 1 member. There are thus altogether 17 members returned for Devonshire.

One of the earliest *railways* in England was that from Plymouth to the prisons at Prince Town on Dartmoor, opened in 1825. It was, and is, used only by horse cars. The county is now well intersected by railways. Of *canals*, the most important (and, except "Morton's Leam," running from near Peterborough to the sea, the most ancient in England) is the Exeter Ship canal, cut in the reign of Henry VIII., and extended in 1826. It is about six miles in length, and connects the city of Exeter with the mouth of the River Exe. Tiverton is connected with Taunton by the Grand Western canal, 23 miles long; and a canal completed in 1817 connects Tavistock with the Tamar.

The principal *gentlemen's seats* in Devonshire are Saltram (earl of Morley), Maristow (Sir Massey Lopès, Bart.), Kitley (Baldwin Bastard, Esq.), Stover (duke of Somerset), Ugbrooke (Lord Clifford), Haldon (Sir Lawrence Palk, Bart.), Mamhead (Sir Lidstone Newman, Bart.), Powderham Castle (earl of Devon), Killerton (Sir Thomas Acland, Bart.), Bicton (Lady Rolle), Castle Hill (Earl Fortescue), Tawstock (Sir Bourchier Wrey, Bart.), and Eggesford (earl of Portsmouth). There are many lesser houses noticeable for beauty of situation or for the ornamental grounds in which they stand. Of these by far the most remarkable are Endsleigh (duke of Bedford), near Tavistock, commanding some of the finest scenery in the upper valley of the Tamar, and Buckland Court, on the Dart (Baldwin Bastard Esq.).

The principal *towns* in the county are those already mentioned as returning members to Parliament, or as possessing courts of quarter sessions. Besides these are the watering-places of Teignmouth, Torquay, and Ilfracombe, and the smaller towns of Crediton, Honiton, Axminster, Ashburton, and Newton Abbot.

Population.—The total population of Devonshire in 1851 amounted to 567,098 persons; in 1861 to 584,373; and in

1871 to 601,374, of whom 285,248 were males, and 316,126 females. There were, at the last census, on an average 0·36 persons to an acre, or 2·75 acres to each person. The number of inhabited houses was 105,200. There were 480 parishes and 33 hundreds. The population of the county in 1801 was 340,308 persons; so that the increase since that time has been at the rate of 77 for every hundred. Of the 52 counties in England and Wales, Devonshire is now the ninth in point of population. The comparative density of the population is considerably below the average. In England generally there are 389 persons to every square mile; in Devonshire the number is not more than 232.

Bibliography.—The best general history of the county is still that which forms part of Lysons's *Magna Britannia* (1822). Polwhele's *Hist. of Devon* (1793–98) was never completed, and is inaccurate. Westcote's *Survey of Devon*, written about 1630, and first printed in 1845, is curious and important. Prince's *Worthies of Devon*, a very valuable book, was first published in 1701, and was reprinted in 1810. Oliver's *Monasticon Diœcesis Exoniensis* (1845) is valuable for the history of the monastic foundations in both Devon and Cornwall. There are very good histories of Plymouth (1871) and of Devonport (1872) by R. N. Worth. Mrs Bray's *Borders of the Tamar and Tavy*, 3 vols., 1836, is full and interesting, and contains much information relating to Dartmoor. Rowe's *Perambulation of the Forest of Dartmoor* (1848, and later editions) is still the most complete book on that district; but a great amount of important matter relating to Dartmoor and to the county in general will be found in the annual volumes of the *Transactions of the Devonshire Association for the Promotion of Literature, Science, and Art*, beginning in 1862. The notes to Carrington's poem of *Dartmoor* should also be mentioned.

For the geology of the county reference should be made to the very valuable papers of Mr Pengelly in the *Transactions of the Devonshire Association*, and in the *Journal of the Geological Society*. The papers of Mr Ormerod and of Mr Vicary in the same Journals are also of great importance. The fullest general notice is, however, to be found in the *Report on the Geology of Cornwall, Devon, and West Somerset*, by Sir H. J. De la Beche, 1839. Murray's *Handbook for Travellers in Devon and Cornwall* (8th ed., 1872) must also be mentioned as full of useful information. (R. J. K.)

DEVONSHIRE, William Cavendish, Fourth Earl and First Duke of (1640–1707), distinguished as a statesman and patriot, born in 1640, was the eldest son of the third earl. After completing his education he made the tour of Europe according to the custom of young men of his rank, being accompanied on his travels by Dr Killigrew. On his return he obtained, in 1661, a seat in Parliament for the county of Derby, and soon became conspicuous as one of the most determined and daring opponents of the general policy of the court. In 1678 he was one of the committee appointed to draw up articles of impeachment against the lord-treasurer Danby. In 1679 he was re-elected for Derby, and made a privy councillor by Charles II.; but he soon withdrew from the board with his friend Lord Russell, when he found that the Romish interest uniformly prevailed. He carried up to the House of Lords the articles of impeachment against Lord Chief-Justice Scroggs, for his arbitrary and illegal proceedings in the Court of King's Bench; and when the king declared his resolution not to sign the bill for excluding the duke of York, afterwards James II., he moved in the House of Commons that a bill might be brought in for the association of all his majesty's Protestant subjects. He also openly denounced the king's counsellors, and voted for an address to remove them. He appeared in defence of Lord Russell at his trial, at a time when it was scarcely more criminal to be an accomplice than a witness. After the condemnation he gave the utmost possible proof of his attachment by offering to exchange clothes with Lord Russell in the prison, remain in his place, and so allow him to effect his escape. In November 1684 he succeeded to the earldom on the death of his father. He opposed arbitrary government under James II. with the same consistency and high spirit as during the previous reign. He was withdrawn from public life for a time, however, in consequence of a hasty and imprudent act of which his enemies knew how to avail themselves. Fancying that he had received an insulting look in the presence chamber from Colonel Colepepper, a swaggerer whose attendance at court the king encouraged, he immediately avenged the affront by challenging the colonel, and, on the challenge being refused, striking him with his cane. This offence was punished by a fine of £30,000, which was an enormous sum even to one of the earl's princely fortune. Not being able to pay he was imprisoned in the King's Bench, from which he was released only on signing a bond for the whole amount. This was afterwards cancelled by King William. After his discharge the earl went for a time to Chatsworth, where he occupied himself with architectural improvements on his mansion. The Revolution again brought him into prominence. He was one of the seven who signed the original paper inviting the Prince of Orange from Holland, and was the first nobleman who appeared in arms to receive him at his landing. He received the Order of the Garter on the occasion of the coronation, and was made lord high stewart of the new court. In 1691 he accompanied King William on his visit to Holland. He was created marquis of Hartington and duke of Devonshire in 1694 by William and Mary, on the same day on which the head of the house of Russell was created duke of Bedford. Thus, to quote Macaulay, "the two great houses of Russell and Cavendish, which had long been closely connected by friendship and by marriage, by common opinions, common sufferings, and common triumphs, received on the same day the highest honour which it is in the power of the Crown to confer." His last public service was assisting to conclude the union with Scotland, for negotiating which he and his son, the marquis of Hartington, had been appointed among the commissioners by Queen Anne. He died on the 18th August 1707, and ordered the following inscription to be put on his monument:—

Willielmus Dux Devon,
Bonorum Principum Fidelis Subditus,
Inimicus et Invisus Tyrannis.

DEW. See Meteorology.

DEWBERRY, *Rubus cæsius*, a deciduous trailing plant, allied to the bramble, of the natural order *Rosaceæ*. It is common in woods, hedges, and the borders of fields in England and other countries of Europe. The leaves are trifoliate, hairy beneath, and of a dusky green; the flowers, which appear in June and July, are white, or pale rose-coloured. The fruit is large, and closely embraced by the calyx, and consists of few grains, which are black, with a glaucous bloom; it has an agreeable acid taste, and is used for making a kind of wine.

D'EWES, Sir Simonds (1602–1650), antiquarian, chronicler, and collector of historical records, was born at Coxden, in the parish of Chardstock, in Dorsetshire, on the 18th December 1602. His father, one of the six clerks of Chancery, possessed a large official income, and gave him a liberal education at the grammar-school of Bury St Edmunds, and at St John's College, Cambridge. Called to the bar in 1623, he did not enter upon practice, being possessed of independent means, and having already resolved to devote himself to historical research. His intention seems to have been to compile a history of Britain from original documents, and in endeavouring to carry it out he spent much of his time in examining historical records, which he describes as "the most ravishing and satisfying part of human knowledge," in the Tower of London and elsewhere. The chief results of this labour were his valuable collection of records—originals and transcripts—which now form part of the Harleian collection in the British Museum, and his *Journals of all the Parliaments in the reign of Queen Elizabeth*, which, though completed in

1629, was first published by his nephew, Paul Bowes, in 1682. His means had been considerably increased by his marriage with an heiress in 1626, soon after which he procured the honour of knighthood. One of his many foibles was a desire to establish for himself an aristocratic lineage, and his efforts to do this, in spite of the fact he is forced to admit, that he does not know who his great-grandfather was, are very amusing. In 1639 he became high sheriff of Suffolk, and in 1641 he was made a baronet. In the intervening year he entered the Long Parliament as member for Sudbury. Here he obtained a peculiar place for himself by his whimsicality, and his parade of his knowledge of records, which he quoted at first in nearly every debate, sometimes relevantly, but oftener not. He was treated for a time with a sort of amused tolerance, but ultimately his innumerable interferences with the conduct of business had to be checked. He was not a very warm adherent of the cause of the Parliament against the king. Belonging to the Presbyterian section of the Puritan party, he was excluded from the House of Commons by "Pride's Purge" in 1648. He died on the 18th April 1650. The *Autobiography and Correspondence of Sir Simonds D'Ewes*, edited by J. O. Halliwell, was published in 1845, and possesses considerable historical value. Much more important, however, are his manuscript notes of the Long Parliament, describing its sittings between 1640 and 1645 with great graphic power and minuteness of detail. They form five volumes of the Harleian manuscripts in the British Museum, and have been largely drawn upon by John Forster and other writers on the period of the Long Parliament.

DE WETTE, Wilhelm Martin Leberecht (1780–1849), a distinguished German theologian, was born on the 12th January 1780, at Ulla, near Weimar, where his father was clergyman. After receiving his preliminary education at a local school he was sent to the gymnasium at Weimar, a town which was then at the height of its literary glory. Here, as he himself testified in glowing terms many years later, he was much influenced by intercourse with Herder, who as "ephorus" frequently visited the gymnasium and examined the pupils. In 1799 he entered on his theological studies at the university of Jena, his principal teachers being Griesbach and Paulus, from the latter of whom more than any other he derived the tendency to free critical inquiry which characterized him as an expositor. Herder and Paulus were thus in some sense his spiritual fathers, but the relationship was entirely one of spirit and aim; in method and results he occupied an independent and almost solitary position among German theologians. Having taken his doctor's degree, De Wette at once commenced, according to German custom, the career of a "privat-docent" at Jena, which, however, he was not permitted to continue long. In 1807 he became professor of theology at Heidelberg, and in 1810 he was transferred to a similar chair in the newly-founded university of Berlin, from which he was dismissed in 1819 on account of his having written a letter of consolation to the mother of Sand, the murderer of Kotzebue. The letter was defensible, though it drew a distinction between the morality of the deed and of the doer which many were not prepared to admit, and a petition in its author's favour was presented by the senate of the university. The king, however, proved inexorable, and a decree was issued not only depriving De Wette of the chair, but banishing him from the Prussian kingdom. He retired for a time to Weimar, where he occupied his enforced leisure in the preparation of his edition of Luther, and in writing the romance *Theodor oder die Weihe des Zweiflers* (Berlin, 1822), in which he describes the education of an evangelical pastor. During this period he made his first essay in preaching, and proved himself to be possessed of very popular gifts. An invitation to a pastoral charge in Brunswick was under his consideration, when the offer in 1822 of the chair of theology in the university of Basel, which had been reorganized four years before, opened up to him a still more congenial sphere. Though his appointment had been strongly opposed by the orthodox party, De Wette soon won for himself a position of great influence both in the university and in the community of Basel. He was early admitted a citizen, and received many proofs of the esteem of his fellow-townsmen; and the university owed much of its recovered strength, particularly in the theological faculty, to his individual efforts. He died on the 16th June 1849, being rector of the university at the time.

De Wette's chief work as a theologian was in the department of biblical criticism and exegesis, though he made valuable contributions to other branches of theology. In fact his range was unusually extensive, and he did much by precept as well as by example to widen the limits of theological culture. He had considerable poetic faculty, and wrote a drama in three acts, entitled *Die Entsagung* (Berlin, 1823). He had an intelligent interest in art, and devoted much attention to ecclesiastical music and architecture. As a biblical critic he is sometimes classed with the destructive school, but his position was unique, and cannot be accurately defined by merely referring him to a leader or a school. In the work of interpretation he strove to keep himself entirely free from dogmatic prepossessions, and he was fearless in recognizing and grappling with difficulties; but he was prevented by his deeper spirituality from identifying himself with the hard and uncompromising rationalism of Paulus, and on the other hand his unfettered critical method separated him distinctly from the supernaturalist or strictly orthodox school of interpreters. Thus it has happened that each school has classed him with the followers of the other, as he himself predicted would be the case in the preface to his *Christliche Sittenlehre*. His works are generally admitted to be marked by great exegetical skill, unusual power of condensation, and uniform fairness. Accordingly they possess an element of permanent value which is little affected by the progress of criticism. The following is a list of the most important of them:—

Beiträge zur Einleitung in das Alte Testament (2 vols. 1806–7); *Commentar über die Psalmen* (1811), which has passed through several editions, and is still regarded as of high authority; *Lehrbuch der Hebräisch-jüdischen Archæologie* (1814); *Ueber Religion und Theologie* (1815), a work of great importance as showing its author's general theological position; *Lehrbuch der Christlichen Dogmatik* (1813–16); *Christliche Sittenlehre* (1819–21); *Einleitung in das Neue Testament* (1836); *Religion, ihr Wesen, ihre Erscheinungsform, und ihre Einfluss auf das Leben* (1827); *Das Wesen des Christlichen Glaubens* (1846); and *Kurzgefasstes exegetisches Handbuch zum Neuen Testament* (1848). De Wette also edited Luther's works.

See Hagenbach in Herzog's *Real-Encyclopædie*, Lücke's *W. M. L. De Wette, zur freundschaftlicher Erinnerung* (1850), and Schenkel's *W. M. L. De Wette und die Bedeutung seiner Theologie für unsere Zeit* (1849).

DE WINTER, Jan Willem (1750–1812), Dutch admiral, was born at the Texel in 1750. He entered the navy at the age of twelve, but after twenty-five years of honourable service he had attained no higher rank than that of lieutenant. In 1787 he took part with the Revolutionists, and on the failure of their efforts fled to France. He then entered the French army, and served under Dumouriez and Pichegru in the campaigns of 1792 and 1793. In 1795 he returned to Holland and was appointed rear-admiral. In the following year he attained the rank of vice-admiral, and was named commander of the fleet at the Texel. The most memorable event in his career was the battle of the Texel, fought on the 11th of October 1797, in which after a gallant struggle the Dutch fleet was defeated and the admiral taken prisoner by the English under Admiral Duncan. De Winter was in a few months liberated by exchange; and his conduct in the battle was declared by a council of investigation to have nobly maintained the honour of the Dutch flag. He held the post of minister-plenipotentiary to the French republic from 1798 to 1802, when he reassumed the command of the Dutch fleet. He was employed in suppressing the piracies of the Tripolitans, and negotiated a treaty of peace with the Government. He enjoyed the confidence of Louis Bonaparte, king of Holland, and afterwards of the emperor Napoleon I. By the former he was created count of Huessen and made commander-in-chief of his armies by sea and land; and by the latter he was named grand officer of the Legion of Honour, inspector-general of the coasts of the North Sea, and in 1811 commander of the Texel fleet. De Winter died at Paris, June 2, 1812, and his remains were buried in the Pantheon at the public expense.

DE WITT, Cornelius (1623–1672), brother of the more celebrated John De Witt, was born at Dort in 1623. In 1650 he became burgomaster of his native town, and member of the states of Holland and West Friesland. He was throughout life closely associated with his brother, whose opinions he shared, and whom he supported with great ability and vigour. Of the eight deputies appointed in 1672 to accompany the naval and military commanders, he was the one selected to go with De Ruyter, and in action he displayed remarkable courage, as he had done under similar circumstances in 1667. Compelled by sickness to leave the fleet, he found on his return to Dort that the revocation of the Perpetual Edict had been signed by his fellow magistrates. He was forced in his sick-room to follow their example, but added after his name the initials V.C. (*vi coactus*). See next article.

DE WITT, John (1625–1672), an illustrious Dutch statesman, was born at Dort in 1625. He was carefully educated, and early displayed remarkable talents. A work entitled *Elementa Linearum Curvarum*, published in 1650, is attributed to him. His father was a member of the States General of Holland and West Friesland, and well known as a bitter opponent of the house of Orange, which had gradually acquired almost regal functions. William II., prince of Orange, died in 1650; and as his son, afterwards William III. of England, was an infant, the Republican party easily won predominance. De Witt was made pensionary of Dort, and in that position so distinguished himself by his eloquence, firmness, and sagacity, that in 1652, although only twenty-seven years of age, he became grand pensionary of Holland. He held this position for about twenty years, during which he controlled the policy of the United Provinces. He inherited his father's intense jealousy of the Orange family, and steadily laboured to prevent it from ever again rising to power. When he became grand pensionary the United Provinces were at war with England. He had always disapproved of this conflict, and in 1654 succeeded in bringing about peace, conceding to Cromwell his demands with respect to the honours due to the English flag. The treaty included a secret article providing that no member of the house of Orange should in future be elected stadtholder or grand admiral. De Witt was afterwards accused of having suggested this condition to Cromwell; but the latter was also opposed to the claims of a family which was nearly allied to the Stuarts.

After the restoration of Charles II., who had been exposed to many affronts during his residence in Holland, De Witt cultivated the friendship of France; and in 1661 a treaty was concluded by which that country and the United Provinces granted to each other freedom of commerce in their respective ports.—the Dutch guaranteeing to the French the possession of Dunkirk, and the French guaranteeing to the Dutch the right of fishing off the coasts of Great Britain and Ireland. The latter provision caused much irritation in England; and it was increased by the incessant quarrels of English and Dutch merchants on the Guinea Coast, each desiring to have a monopoly in the trade of slaves and gold dust. War was declared in 1665; and in a battle off Lowestoft the Dutch fleet was defeated, the remnant taking shelter in the Texel. Antwerp was the only port at which it could be refitted, and the most experienced pilots decided that it was impossible the vessels could be removed thither. De Witt himself, however, with splendid courage, undertook the task, and not only accomplished it, but in a very short time had the fleet once more ready for action. After two more battles, in which the Dutch well-sustained their fame for skill and bravery, De Witt entered upon negotiations which resulted in the Peace of Breda in 1667.

Meanwhile, by dint of severe labour, he introduced order into the financial system of the country; and in 1667 the chief object of his life seemed to be attained, for owing to his efforts a Perpetual Edict was passed proclaiming the office of stadtholder for ever abolished. At this time, however, a great danger threatened the Republic. In 1667 Louis XIV. invaded the Spanish Netherlands; and it was clear that if the war ended in the annexation of that country to France it would be difficult to maintain the independence of the United Provinces. De Witt made secret but rapid preparations for resistance, and appealed to England to support Holland in curbing French ambition. Notwithstanding the prejudices of Charles II., Sir William Temple was sent to propose an alliance between England, Holland, and Sweden. De Witt entered so heartily into this scheme that in the spring of 1668 the Triple Alliance was concluded. Louis XIV. saw that for the time his plans were foiled, and with as good a grace as possible signed the Peace of Aix-la-Chapelle. At heart, however, he bitterly resented the course which the States General, guided by De Witt, had taken, and slowly prepared for revenge. By artful diplomacy England and Sweden were detached from the alliance, and several German princes were persuaded to promise that they would join France in an attack on Holland in order to restore certain towns which, it was pretended, properly belonged to the empire.

While Louis was maturing his plans the power of De Witt was being steadily undermined. The Calvinist clergy, who had always been his enemies, excited their congregations against him and his party, and, as the Prince of Orange approached manhood, the people recalled the obligations of the country to his ancestors, and freely expressed doubts whether his rule would not be preferable to that of nobles and wealthy burgesses. The state of public feeling rendered it impossible for De Witt to make ready for the approaching peril. When, therefore, France, England, and the German allies of France proclaimed war against the United Provinces in 1672, and it was found that no effectual resistance could be offered to their attack, popular indignation turned against the grand pensionary. The Prince of Orange was appointed captain and admiral general; and De Witt could only secure that a council of eight deputies of the States General should be associated with the military and naval commanders, one to go with De Ruyter, the other seven with Prince William. This plan added to the confusion, and in a few months after the declaration of war a large part of the country was overrun, and the French were within five leagues of Amsterdam. To save themselves the humiliation of surrender, the towns of Holland and Brabant broke the dykes and laid the surrounding land under water.

The Orange party so profited by these disasters that the Perpetual Edict was revoked, and Prince William assumed the office of stadtholder. De Witt's policy was thus finally defeated, and he himself became an object of general and intense hatred. All sorts of monstrous charges were brought against him, and believed; and his brother Cornelius was falsely accused of conspiring against the life of the stadtholder. Brought to the Hague, Cornelius was there, on July 24, 1672, tortured and condemned to perpetual banishment. In the same town De Witt was assaulted by a band of assassins, who left him lying on the ground under the impression that he was dead. Summoned by a pretended message from Cornelius, De Witt went to visit him in prison, when a mob assembled and murdered the brothers amid circumstances of revolting cruelty.

De Witt is one of the greatest figures of Dutch history. His action in connection with the Triple Alliance proves that he thoroughly understood the central tendencies of European politics; and, whether he is to be praised or blamed for his life-long opposition to the house of Orange, there can be no doubt as to the greatness and purity of his motives. As an administrator he displayed extraordinary energy and resource; and personally he was a man of steady, upright character, loyal and fearless. His *Memoirs* were published at the Hague in 1667; and in 1725, at Amsterdam, appeared *Lettres et Négociations entre Jean De Witt et les Plenipotentiaires des Provinces Unies aux Cours de France, &c., depuis l'an* 1652 *jusqu'a* 1669." A Life of the two brothers, by Madame Zoutelande, was published at Utrecht in 1709. (J. SI.)

DEWSBURY, a market-town in the West Riding of Yorkshire, situated at the foot of a hill, on the left bank of the Calder, eight miles S. by W. of Leeds, on the Manchester and Leeds railway. The chief industries are the making of blankets, carpets, druggets, and worsted yarn. A mile from the town is Batley, the centre of the shoddy manufacture. Coal is worked in the neighbourhood of Dewsbury. The parish church of All Saints was for the most part rebuilt in the latter half of the 18th century; the portions still preserved of the original structure are of great antiquity. Paulinus, first archbishop of York, about the year 627 preached in the district of Dewsbury, where Edwin, king of Northumbria, whom he converted to Christianity, had a royal mansion. Dewsbury is said to have been originally called *Duis burgh*, or the town of *Dui*, the tutelar god of the Brigantes. At Kirklees, in the parish of Dewsbury, is the tomb of Robin Hood. The population of the municipal borough of Dewsbury in 1851 was 14,049; in 1871 it was 24,764, while that of the parliamentary borough, which has an extended area, was 54,940. The municipal charter of the town was granted in 1862. It returns one member to Parliament.

DEXTRIN, or British gum, $C_6H_{10}O_5$, is a substance produced from starch by the action of dilute acids, alkalies, and diastase or malt extract, and by roasting it at a temperature between 140° and 160° C. (284°–320° Fahr.) till it is of a light brown colour, and smells like over-baked bread. Its name has reference to its powerful dextro-rotatory action on polarized light. The purest dextrin is prepared by boiling 25 parts of sulphuric acid with 125 of water, and adding by degrees a mixture of 100 parts of starch and 125 of cold water. The liquid is then lowered in temperature to 60° or 70° C. (140°–158° Fahr.), at which it is kept for some time; it is next neutralized with chalk, filtered, and evaporated. Dextrin is an uncrystallizable, insipid, odourless, yellowish-white, translucent substance, brittle and friable when thoroughly dried. It dissolves in water and dilute alcohol; by strong alcohol it is precipitated from its solutions as the hydrated compound, $C_6H_{10}O_5.H_2O$. Unlike starch it is not coloured blue by iodine. Diastase converts it eventually into maltose, $C_{12}H_{22}O_{11}$; and by boiling with dilute acids and alkalies it is transformed into dextrose, or ordinary glucose, $C_6H_{12}O_6$. It does not ferment in contact with yeast, and in the pure state has probably no reducing action on an alkaline copper solution. If heated with strong nitric acid it gives oxalic, and not mucic acid. Limpricht has shown that dextrin is present in the flesh-juice of the horse. Dextrin much resembles gum arabic, instead of which it is generally substituted for a great variety of purposes. It is employed for sizing paper, for stiffening cotton goods, and for thickening colours in calico printing, also in the making of lozenges, adhesive stamps and labels, and surgical bandages. In most technical operations the crude solution only is used.

DHAR, a small native state of Malwá, in Central India, under the political superintendence of the British Government. Area, 2500 square miles; population, 150,000 souls. The state contains much fertile ground, the principal agricultural products being wheat, opium, gram, sugar-cane, Indian corn, and cotton. The Rájá is a Puar or Pramar Rájput, who claims descent from the famous King Vikramáditya; but the family only received possession of Dhar in 1749, by gift from the Marhattá Peshwá, Báji Ráo. Towards the close of the last, and in the early part of the present century, the state was subject to a series of spoliations by Sindhia and Holkar, and was only preserved from destruction by the talents and courage of the adoptive mother of the fifth Rájá. By a treaty in 1819, Dhar passed under British protection, and bound itself to act in subordinate co-operation. The state was confiscated for rebellion in 1857, but subsequently restored to Rájá Anand Ráo Puar, then a minor, with the exception of the detached district of Bairusia, which was granted to the Begam of Bhopál. The revenue of the state is estimated at £80,000 per annum, inclusive of *jagirs*. The military force consists of 276 cavalry, with 800 infantry (including police), 2 guns, and 21 artillery. Road-making is being pushed on. Fifteen schools were attended in 1874 by 550 scholars. Two charitable dispensaries afford gratuitous medical relief. The town of Dhar, situated on the road from Mau (Mhow) to Baroda, extends 3½ miles in length by half a mile in breadth, and is surrounded by a mud wall. The fort, built of red stone, forms a conspicuous object outside the city, and contains the Rájá's palace.

DHÁRWÁR, a district of British India in the presidency of Bombay, situated between 14° 6′ and 15° 53′ N. lat., and 74° 50′ and 75° 58′ E. long. It contains a total area of 4536 square miles, and a population of 988,037 inhabitants. The district is about 116 miles long, with an average width of 77 miles. It is bounded on the N. by the Belgaum and Kaládgi districts, on the E. by the Nizám's territory and Bellári district, on the S. by Mysore, and on the W. by Belgaum and North Kanara districts. The western portions of the district, in the neighbourhood of the Sahyádri range, are rugged and hilly; but towards the east, the land falls away into plains of black soil in many parts very fertile and well suited to the growth of cotton, with occasionally a detached peak or group of hills. The chief rivers are the Malprabhá on the north and the Tungbhadrá on the south. The hills are principally composed of hornblende and chloritic schists, gneiss, and mica slate, large interstratified beds of silicious and ferruginous schists (as at and near Dhárwár) often forming their ridges. Seams and beds of a crystalline white marble occur, which, near their junction with the hornblende slate, are often coloured green. Gold is found sparingly in the Dumbal hills, and chick mulgund, and also iron pyrites. Iron ore is worked to a small extent at Tegur, where there was once

a considerable trade in native iron. The most influential classes of the community are Brahmans and Lingáyats. The Lingáyats number 380,919, or 44 per cent. of the Hindu population; they worship the symbol of Siva, and males and females both carry this emblem about their person in a silver case. The manufactures of the district are not numerous; they consist of cotton and silk cloth, glass bracelets, and articles of ironware. In four towns of the district cotton and mixed silk and cotton fabrics, for male and female attire, are delicately and tastefully woven. Agriculture is the chief industry of the district, the principal products being cotton, exotic and native *jawári*, molasses, and oil of various kinds. Of a total of 1,662,040 acres of Government arable and assessed land, 1,530,235 acres were in 1874 under cultivation as follows:—Rice, 90,896 acres; cotton, 283,810; *jawári*, 497,312; *bájri*, 6126; wheat, 112,169; sugar-cane, 2909; tobacco, 790; *til* seed, 29,647; linseed, 7966; gram, 23,411; miscellaneous products, 294,491; fallow land, 182,869 acres. The cotton trade of Dhárwár has great commercial importance. The land revenue realized in 1875 amounted to £196,064. The district contains six municipalities.

The territory comprised within the district appears at the earliest recorded period to have formed part of the Brahmanical realm of Vijayanagar. On the overthrow of its king at Talikot in 1565, the lands of Dhárwár became part of the Mussulman kingdom of Bijápur. In 1675 the district seems to have been overrun and partially conquered by Siváji, becoming thereby subject to the king of Satára, and subsequently to the Peshwá. In 1776 the province was overrun by Hyder Ali, the usurping sultan of Mysore. In 1778 Dhárwár was taken from the Marhattás by Hyder Ali, and in 1791 retaken by a British force. On the final overthrow of the Peshwá in 1818, Dhárwár was incorporated with the territory of the East India Company.

DHOLPUR, a native state of Rájputáná, in Upper India, under the political superintendence of the British Government, is situated between 26° 30′ and 26° 57′ N. lat., and 77° 32′ and 78° 20′ E. long. The state is bounded on the N. and N.E. by the British district of Agra, on the E. and S. by the Gwalior state, from which it is separated by the Chambal river, and on the W. by the state of Karauli. It contains an area of about 1600 square miles, and an estimated population of upwards of 500,000 souls. It is a crop-producing country, without any special manufactures. All along the bank of the Chambal the country is deeply intersected by ravines; low ranges of hills in the western portion of the state supply inexhaustible quarries of fine-grained and easily-worked red sandstone. The chief, who has the title of Ráná, belongs, like most of his subjects, to the tribe of Deswáli Játs, who are believed to have formed a portion of the Indo-Scythian wave of invasion which swept over Northern India about 100 A.D. The earliest recorded ancestor of the family is one Jeyt Sinh, who in 1068 held certain territories south of Alwar. His descendant in 1505, Singàn Deo, having distinguished himself in an expedition against the freebooters of the Deccan, was rewarded by the sovereignty of the small territory of Gohad, with the title of Ráná. The family gradually extended their possessions until they included 56 estates, yielding an annual revenue said to amount to 66 lakhs of rupees (£660,000). Upon the defeat of the Marhattás at Panipat in 1761, Ráná Bhim Sinh, the tenth in descent from Ráná Singan Deo, seized upon the fortress of Gwalior. Political relations between the Ráná and the East India Company commenced in 1779 during the Marhattá war, when an offensive and defensive alliance was entered into. The Ráná joined the British forces against Sindhia, on receiving a promise that, at the conclusion of peace between the English and the Marhattás, all the territories then in his possession should be guaranteed to him, and protected from invasion by Sindhia. This protection was subsequently withdrawn, the Ráná having been guilty of treachery. In 1783, Madhoji Sindhi succeeded in recapturing the fortress of Gwalior, and crushed his Ját opponent by seizing the whole of Gohad. In 1803, however, the family were restored to their ancestral possessions of Gohad by the British Government; but, owing to the opposition of Sindhia, the Ráná agreed to relinquish possession of Gohad, in exchange for his present territory of Dholpur. By the treaty of 1804, the state was taken under the protection of the British Government,—the chief becoming bound to act in subordinate co-operation with the paramount power, and to refer all disputes with neighbouring princes to the British Government. The annual revenue of Dholpur, including *jagirs*, amounts to about £110,000. The military force consists of 2000 men. The town of Dholpur is situated on the Agra and Gwalior road.

DIABETES (from διά, through, and βαίνω, to pass), a disease characterized by a habitually excessive discharge of urine. Two forms of this complaint are described, viz.—Diabetes Mellitus, or Glycosuria, where the urine is not only increased in quantity, but also contains a greater or less amount of sugar, and Diabetes Insipidus, or Polyuria, where the urine is simply increased in quantity, and contains no abnormal ingredient. The former of these is the disease to which the term diabetes is most commonly applied, and is by far the more serious and important ailment.

Although sometimes classed by medical writers among diseases of the kidneys, *diabetes mellitus* is rather to be regarded as a constitutional disorder. Its cause is still a matter of uncertainty, but there is sufficient evidence to connect it with a defect in the process of the assimilation of food, more especially that stage in which the function of the liver is concerned. The important researches of Claude Bernard, and subsequently those of Schiff, Harley, Pavy, M'Donell, and others, have shown that this organ, besides the secretion of bile, has the additional function of forming in large quantity a substance to which the names of glycogen, dextrin, or amyloid substance have been given. This matter is capable of being converted by the action of ferments into glucose, or grape sugar, and such a change is supposed by some to take place normally in the blood where the sugar thus formed is consumed by oxidation in the course of the circulation, while by other authorities it is held that the glycogen is not directly converted into sugar, but is transformed into other compounds.

The theories of diabetes founded on these views ascribe its production either to an excessive formation of glycogen or to some defect in its transformation, the result being that grape sugar passes out of the body by the kidneys. It has long been known, both by experiment and by observation in disease, that injuries to certain parts of the nervous system, particularly the floor of the fourth ventricle in the brain, and that portion of the sympathetic nerve which sends branches to the liver and regulates its blood supply, are followed by the appearance of sugar in the urine. Hence certain pathologists seek an explanation for the disease in a morbid state of the parts of the nervous system whereby these particular nerves are either irritated or paralyzed and the flow of blood through the liver temporarily or permanently increased. It must, however, be remarked that, although in some instances the portions of the nervous system above mentioned are found after death to be involved in disease, this is by no means constant, and that in many cases of diabetes the *post mortem* appearances are entirely negative. While, therefore, considerable light