

coat, or a flattening coat, are then applied. Sometimes each of the earlier coats is rubbed down.

Old ceilings and soffits of stairs are either washed to clean off the dirt and grease, stopped (which is cutting out the cracks and stopping them with new plaster), and whitened by a coat of whitening or Spanish white mixed with size; or after the two first operations they are finished in distemper, which is white lead and size; it presents a better appearance. Colouring is also done to plastered walls, the white being mixed in half linseed oil and half turpentine, and some earth added to make the tint required. Limewhiting is done by the bricklayer's labourer. Stucco or plaster-work, which is intended to be painted, but which is not sufficiently dry to receive the oil, may have a coating of water colours, or distemper colour, as it is called, in order to give a more finished appearance to that part of the building. The colour selected should be ground very fine, and incorporated with the whiting and parchment, or other strong size. Two coats will be required to make it bear out uniformly. When the stucco is sufficiently dry, and it is desired to be painted, the whole of the above colouring has to be washed off, and the painting proceeded with as described for new work.

Metal painting. Metal-work, not being absorbent, only requires when new to have a priming, and one, two, or three coats of oil paints, as may be considered necessary. It should have a coat as soon after it leaves the founder or smith as possible, to prevent early stages of oxidation. Old work should be cleaned, scraped, and filed if necessary, to remove rust, broken paint, and dirt.

Graining. Graining is understood among painters to be the imitating of the several different species of ornamental woods, as satin-wood, rose-wood, king-wood, air-wood, mahogany, wainscot or oak, and others. After the necessary coats of paint have been put on to the wood, a ground is then laid of Naples yellow and ceruse, diluted with turpentine if for satin-wood, which is left to dry. The painter then prepares small quantities of the same yellow and ochre with a little brown, and boiled oil and turpentine, and having mixed this, spreads it over some small part of his work. The flat hog's hair brushes being dipped in the liquid and drawn down the newly laid colour, the shades and grainings are produced. To obtain the mottled appearance, the camel's hair pencils are applied, and when completed the work is left to dry, and afterwards covered by a coat or two of good copal varnish. Imitation wainscot requires the use of combs of various degrees of fineness to obtain the grain (whence the process is called *combing* by some persons), and the flower is got by wiping off the colour with a piece of rag. When dry it is over-grained to obtain a more complete representation of the natural wood, and then varnished. If the work be done in water colour and not in oil, beer grounds to act as a drier are mixed with the colour; this sets it ready for varnishing. A "patent graining-machine," a sort of roller with a pattern upon it, has lately been introduced. The writer of this article suggested some years ago that deal well sized to prevent absorption might be at once grained either wainscot or pollard oak, without the preliminary operation, delay, and smell of painting. When dry it is to be varnished as usual. The effect is somewhat better than that obtained by the usual method of graining.

Marbling is the imitation of real marbles, granites, &c., some of which are represented by splashing on the carefully prepared ground, which should have been painted and often rubbed and polished to obtain an even surface; others have to be painted in colours, and then well varnished. The most expert at this sort of imitation do their work so as to prevent its easy detection except by the touch.

Ornamental painting embraces the execution of friezes and the decorative parts of architecture on walls and ceilings in chiaroscuro (or light and shade) or monochrome colouring. The ground is well prepared, and of the tint of the proposed work; the ornament and figures are drawn upon it, and are then painted and shaded to give them their due effect. This kind of work is sometimes painted on cloth and then fastened up. When the ornamental work is of a similar pattern throughout, as mouldings, fretwork, a running ornament, &c., it is effected by stencilling. This method consists in drawing a certain length of the pattern on paper, which is pricked through with a large sized needle, then laid on the wall to be ornamented, and struck with a small linen bag containing powdered chalk; the chalk enters the apertures, and fixes itself against the paint. The painter then draws it, or fills in the pattern with colours. Another method is to cut out the pattern where possible, and the paper, being stiffened with size, is laid on the surface, and a brush filled with the colour passed over it; the paper is carefully removed and laid on a fresh place, and so on. The pattern may then be touched up when dry with another tint, or with gold, or another pattern with minutest detail laid on it, and the operation repeated. A wall surface may be covered with such an ornamentation, of which paper hangings are a cheap substitute.

Many of these methods of decoration having been styled shams, the promoters of real woods advocated the disuse of paints, &c. This has led to the increased use of deals and pines for inside doors, wainscots, linings, shutters, and the like, which, if not left as completed by the tradesmen, are sized and varnished or polished. But in such a case a good selection of the wood is necessary, and it has to be picked. Another method is to stain the timber, as of roofs, galleries, and the like, or the joiners' work, so that it represents various tints of oak, and this is protected by a coat or two of varnish. These systems are open to the objection that the varnish, especially in towns, darkens rapidly, and every coat of it adds to the defect, so that in a few years paint is required to give the work the clean and lively appearance the wood originally possessed. Real wainscot, mahogany, and other woods are usually polished; the first is sometimes varnished after being properly prepared to prevent the rise of the grain which occurs when it is touched by a liquid.

Varnishing having been frequently referred to, we must notice that there are many varieties useful for various purposes. Like white lead, oil, and turpentine, they are subject to much adulteration, whereby the work is deprived of its proper consistency, and the painter and his employer dissatisfied with the result. There are drying varnishes made with spirit of wine; these are applied to some furniture, mouldings, &c. Varnishes made with essential oils, especially those made with oil of turpentine or ether and pure copal, are very solid, and better than those made with fat drying oils, which, from their colour being dark, are used only with grounds of a dark colour. Varnish can sometimes be tinted to correct defects of colour in graining, &c. For wood-work copal varnish in oil should alone be used.

It is not within our province to enter upon the higher class of painting on walls, which comes under the trade of the decorator, including that of the gilder and the artistic draughtsman and colourist, nor upon the higher class of paper-hangings. Decorations must necessarily depend upon the taste and skill required or employed in producing them. Paper-hangings are paid for by the piece or yard, Wall-papers a piece being made in England twelve yards long and twenty inches wide, and the hanging is charged at so much the piece. A dozen of borders is twelve yards long; they are charged by the yard for the material, and by the dozen for hanging. Sizing and otherwise preparing the

Ornamental painting.

walls may be requisite before hanging the papers; and washing old papers from off the walls should always be insisted upon by the owner of a house, as accumulations of paste, colours, and size are apt to breed vermin, and, as some think, to give rise to fevers. French paper-hangings are only eighteen inches wide and nine yards long. Wood-linings, old panelled wainscoting, and other irregular surfaces, require to be canvased and papered before the decorative paper is hung, otherwise it is liable to crack with the shrinking of the wood.

The principal publications on house painting are as follows:—Tingry, *Painter's and Varnisher's Guide*, 8vo, 1832, 3d edit.; Higgins, *Painter's and Decorator's Companion*, 4to, 1841; Arrow-smith, *House Decorator's and Painter's Guide*, 4to, 1840; Field, *Ruimants of the Painter's Art*, 12mo, 1850, and his *Chromatography*, 4to, 1841; Smith, *The Art of House Painting*, 12mo, 1687, improved by W. Butcher, 8vo, 1821; Whittock, *Decorative Painter's Guide*, 4to, 1841; Moxon, *Grainer's Guide*, 1842; Barber, *Painter's Assistant*, 12mo, 1852; *Wood and Marble Imitator's Manual*, 8vo, Edinb. There are two or three French journals which give examples of imitations of woods and marbles, and illustrations of decorations for apartments. (W. P.)

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Legal definition. BUILDING SOCIETIES, or societies "for the purpose of raising, by the subscriptions of the members, a stock or fund for making advances to members out of the funds of the society upon freehold, copyhold, or leasehold estate by way of mortgage," may be "either terminating or permanent" (37 and 38 Vict. c. 42, § 13).

A "terminating" society is one "which by its rules is to terminate at a fixed date, or when a result specified in its rules is attained," a "permanent" society is one "which has not by its rules any such fixed date or specified result, at which it shall terminate" (§ 5).

Popular definition. A more popular description of these societies would be,—Societies by means of which every man may become "his own landlord," their main purpose being to collect together the small periodical subscriptions of a number of members, until each in his turn has been able to receive a sum sufficient to aid him materially in buying his dwelling-house.

Origin. The origin and early history of these societies is not very clearly traceable. A mention of "building clubs" in Birmingham occurs in 1795; one is known to have been established by deed in the year 1809 at Greenwich; another is said to have been founded in 1825, under the auspices of the earl of Selkirk at Kirkcudbright in Scotland, and we learn (Scratchley *On Building Societies*, p. 5) that similar societies in that kingdom adopted the title of "menages."

When the Friendly Societies Act of 1834 gave effect to the wise and liberal policy of extending its benefits to societies for frugal investment, and generally to all associations having a similar legal object, several building societies were certified under it,—so many, indeed, that in 1836 a short Act was passed (6 and 7 Will. IV. cap. 32), confirming to them the privileges granted by the Friendly Societies Act, and according to them the additional privileges (very valuable at that time) of exemption from the usury laws,

simplicity in forms of conveyance, power to reconvey by a mere endorsement under the hands of the trustees for the time being, and exemption from stamp duty. This Act remained unaltered till 1874.

The early societies were all "terminating,"—consisting of a limited number of members, and coming to an end as soon as every member had received the amount agreed upon as the value of his shares.

Take, as a simple typical example of the working of such a society, one the shares of which are £120 each, realizable by subscriptions of 10s. a month during 14 years. Fourteen years happens to be nearly the time in which, at 5 per cent. compound interest, a sum of money becomes doubled. Hence the present value, at the commencement of the society, of the £120 to be realized at its conclusion, or (what is the same thing) of the subscriptions of 10s. a month by which that £120 is to be raised, is £60. If such a society had issued 120 shares, the aggregate subscriptions for the first month of its existence would amount to exactly the sum required to pay one member the present value of one share. One member would accordingly receive a sum down of £60, and in order to protect the other members from loss, would execute a mortgage of his dwelling-house for ensuring the payment of the future subscription of 10s. per month until every member had in like manner obtained an advance upon his shares, or accumulated the £120 per share.

As £60 is not of itself enough to buy a house, even of the most modest kind, every member desirous of using the society for its original purpose of obtaining a dwelling-house by its means would require to take more than one share. In this respect the Act of 1836 presented a curious inconsistency; it limited the amount of each share to £120, and the amount of the monthly contributions on each share to £1, but did not limit the number of shares a member might hold. If its purpose in this respect was to confine the operation of these societies to the industrial classes, it was defective. The only rational explanation of the provision is that it was an anticipation of the modern system of limited liability.

The earlier formed societies (in London at least) did not usually adopt the title "Building Society;" or they added to it some further descriptive title, as "Accumulating Fund," "Savings' Fund," or "Investment Association." Several are described as "Societies for obtaining freehold property,"

or simply as "Mutual Associations," or "Societies of Equality." The building societies in Scotland are mostly called "Property Investment Companies," or by some similar name. Although the term "Benefit Building Society" occurs in the title to the Act of 1836, it was not till 1849 that it became in England the sole distinctive name of these societies; and it cannot be said to be a happy description of them, for as ordinarily constituted they undertake no building operations whatever, and merely advance money to their members to enable them to build or to buy dwelling-houses or land.

The name "Building Society," too, leaves wholly out of sight the important functions these societies fulfil as means of investment of small savings. The Act of 1836 defined them as societies to enable every member to receive the amount or value of a share or shares to erect or purchase a dwelling-house, &c., but a member who did not desire to erect or purchase a dwelling-house might still receive out of the funds of the society the amount or value of his shares, improved by the payments of interest made by those to whom shares had been advanced.

About 1846 an important modification of the system of these societies was introduced, by the invention of the "permanent" plan, which was adopted by a great number of the societies established after that date. It was seen that these societies really consist of two classes of members; that those who do not care to have, or have not yet received, an advance upon mortgage security are mere investors; and that it matters little when they commence investing, or to what amount, while those to whom advances have been made are really debtors to the society, and arrangements for enabling them to pay off their debt in various terms of years, according to their convenience, would be of advantage both to themselves and the society. By permitting members to enter at any time without back-payment, and by granting advances for any term of years agreed upon, a continuous inflow of funds, and a continuous means of profitable investment of them, would be secured. The interest of each member in the society would terminate when his share was realized, or his advance paid off, but the society would continue with the accruing subscriptions of other members employed in making other advances.

Under this system Building Societies have largely increased and developed. In the county of Middlesex alone, 1600 societies were certified between 1836 and 1874; in that of Lancaster, 1300; and the total number of societies established in England and Wales cannot be less than between 5000 and 6000.

Deducting the terminating societies which have reached their termination, and the permanent societies which have failed or been dissolved, it is estimated that more than 2000 societies are still in existence. The operations of some of these societies are very extensive. The Queen's Building Society at Manchester has an income of £784,578, and assets amounting to £910,224; a society at Halifax has an income of £261,654, and assets £430,683; one at Burnley £221,508 income, and £324,919 assets (*Report of Registrar, 1875*). There are also several large societies in Scotland.

The total funds and income of building societies cannot be accurately ascertained; but the Royal Commissioners who inquired into the subject in 1872, estimated the total assets of the societies in 1870 at 17 millions, and their annual income at 11 millions. The larger societies are in the North of England, where, indeed, all classes of provident associations, notably friendly societies and co-operative societies, are more fully developed than in the South. To this remark, however, there is one exception, viz., the Birkbeck Building Society, London, whose receipts for the year 1874 amounted to 4½ millions, but by far the larger portion of that enormous sum consisted of deposits paid to the society as a banker.

A variety of the terminating class of societies has met with some favour of late years, under the name of "Starr Bowkett" or "mutual" societies, of which about 200 have been established. They differ from the typical society above described, in the contri-

bution of a member who has not received an advance being much smaller, while the amount of the advance is much larger, and it is made without any calculation of interest. Thus a society will issue say 500 shares, on which the contributions are to be 1s. 3d. per week, and, as soon as a sum of £300 has accumulated, will allot it by ballot to one of the shareholders, on condition that he is to repay it without interest by instalments in 10 or 12½ years, and at the same time to keep up his share-contributions. The fortunate recipient of the appropriation is at liberty to sell it, and frequently does so at a profit; but (except from fines) no profit whatever is earned by those who do not succeed in getting an appropriation, and as the number of members successful in the ballot must necessarily be small in the earlier years of the society, the others frequently become discontented and retire. These societies cannot, of course, borrow money, for as they receive no interest they cannot pay any. The plan has recently been modified by granting the appropriations alternately by ballot and sale, so that by the premiums paid on the sales (which are the same in effect as payments of interest on the amount actually advanced) profits may be earned for the investing members.

A further modification of the "mutual" plan is to make all the appropriations by sale. The effect of this is to bring the mutual society back to the ordinary form; for it amounts to precisely the same thing for a man to pay 10s. a month on a loan of £60 for 14 years, as for him to borrow a nominal sum of £84 for the same period, repayable in the same manner, but to allow £24 off the loan as a "bidding" at the sale. The only difference between the two classes of societies is that the interest which the member pays who bids for his advance depends on the amount of competition at the bidding, and is not fixed by a rule of the society.

In 1874 an Act was passed at the instance of the building societies conferring upon them several valuable privileges, and relieving them of some disabilities and doubts, which had grown up from the judicial expositions of the Act of 1836. Building societies are now incorporated bodies, and the members, and all who derive title through them, henceforth will not have to trace that title through a succession of trustees for a society. Again, a distinct declaration is given to the members of entire freedom from liability to pay anything beyond the arrears due from them at the time of winding up, or the amount actually secured by their mortgage deeds. Power to borrow money is also expressly given to the societies by the Act, but upon two conditions:—that the limitation of liability must be made known to the lender, by being printed on the acknowledgment for the loan, and that the borrowed money must not exceed two-thirds of the amount secured by mortgage from the members, or, in a terminating society, one year's income from subscriptions.

Previous to the passing of the Act (or rather to the judicial decision in *Living v. Road*, which the clause of the Act makes statutory) there had been, on the one hand, grave doubts on high legal authority whether a society could borrow money at all; while, on the other hand, many societies in order to raise funds carried on the business of deposit banks to an extent far exceeding the amounts used by them for their legitimate purpose of investment on mortgage. It is now enacted, that if a society borrow more than the statute authorizes, the directors accepting the loan shall be personally responsible for the excess.

The history of building societies thus briefly traced shows great progress in the past and equal promise for the future. The social and moral utility of societies established for the direct purpose of aiding a man to become proprietor of his dwelling-house is obvious, and the extent to which that purpose has been effected is very considerable.

It may be mentioned that building societies flourish in America (notably in Massachusetts, where they are called "Mutual Loan Fund Associations," and Pennsylvania), and in the British colonies, especially that of Victoria, Australia. (E. W. B.)

BUITENZORG, the capital of an assistant-residency in the island of Java, is situated in 6° 37' S. lat. and 106° 52' E. long., and is 66 miles S. of Batavia, with which it has been connected by rail since 1872. Lying 330 feet above the level of the sea, and possessing a salubrious climate, it is becoming a favourite place of residence for the Dutch of the greater city. Its principal buildings comprise the new church, which serves both for Protestant and Roman Catholic worship, a mosque, the regent's mansion, excellent barracks for the garrison, a prison, built in 1848, a bathing establishment, and the country palace of the governor-general. This splendid edifice occupies the site of the old castle, which was founded in 1744 by Baron van Imhof, enlarged by Daendels in 1809, restored by Van der Capellen in 1819, and destroyed by an earthquake in 1834. The botanical gardens, laid out in 1817 by Van der Capellen, are among the finest and most extensive in the world. In

the neighbourhood of Buitenzorg is Battou-Toulis-Cocaton, a sacred wood held in high veneration by the natives.

BUJALANCE, a town of Spain, in the province of Cordova, and about 25 miles E. of that city. It contains a Moorish castle flanked with towers, two hospitals, a founding asylum, and a seminary for the education of girls. Leather and woollen cloth are manufactured. Population 8946.

BUKOWINA, a duchy and crown-land of the Austrian empire, bounded on the N. and N.W. by Galicia, W. by Hungary and Transylvania, S. by Moldavia, and E. by Moldavia and Russia. It has an area of 4036 English square miles, and the population in 1869 amounted to 511,964, of whom 255,919 were males and 256,045 females. The country, especially in its southern parts, is largely occupied by offshoots of the Carpathian mountains. Its northern border is skirted by the Dniester, and a considerable section is drained by the Pruth, but by far the larger portion belongs to the system of the Danube, and is watered by the head streams of the Sereth, the Moldava, and the Bistritza. The climate is healthy but severe, especially in winter; and the soil, particularly in the north, is of great fertility. A large part of the surface,—according to official statistics in 1870, no less than 1,050,849 acres, or nearly one-half of the whole,—is occupied by woodland; and the very name of the country is derived from the abundance of beech-trees. Wheat, rye, oats, maize, barley, beans, potatoes, flax, and hemp are all more or less cultivated; and about 643,319 acres of arable land are under tillage. Gardens and meadows occupy 301,706 acres, vineyards 11, and pasture 290,531. In 1870 the number of horses in the duchy was 42,649, cattle 224,424, sheep 217,913, goats 18,786, and swine 133,385, while the bee stocks amounted to no fewer than 27,091. The mineral productions comprise copper, iron, lead, silver, coal, salt, sulphur, and alabaster, some of which, however, are only yielded in very moderate quantities. In 1870 the iron ore obtained amounted to 5808 tons, the copper to 945, and the salt 2590. The principal mineral springs are at Dorna-Watra, Jakobeny, and Lopuszna, but none of them as yet are much frequented. The country is divided into the eight districts of Czernowitz, Kimpolung, Kotsmann, Radautz, Sereth, Storozynec, Suczawa, and Wisznitz, the capital Czernowitz forming a separate and ninth division. There are seven towns in all, eight market-villages, and 456 hamlets, the most populous places being Czernowitz with 33,884 of a population, Radautz 9429, Suczawa 7450, Sereth 6486, Kuszumare 6419, and Kimpolung 5561. Industrial activity is still comparatively slight, the most important establishments being the breweries, of which there were fifteen in 1870, and the distilleries, which numbered forty-nine. The population is of various origin,—about 180,000 being Roumanians, 200,000 Ruthenians, and the rest Germans, Poles, Jews, Hungarians, &c. The German language alone is used in twenty-one of the village schools, and Roumanian in forty-nine, while in many both are in use. In 1869 there were 376,946 adherents of the Greek church, 74,347 Catholics, 11,393 Protestants, and 47,772 Jews, the total population amounting to 511,964, while in 1857 it was only 456,920. The Bukowina diet consists by the law of 1861 of thirty members, including, besides the bishop, ten appointed by the landed proprietors, seven by the towns, and twelve by the rural communes. Five members are sent to the imperial diet. Originally a part of Transylvania, Bukowina, passed in 1482 to Moldavia, and in 1775 to Austria, who united it in 1786 as the Czernowitz circle with Galicia, but in 1849 raised it to its present independence.

BULACAN, the chief town of a province of the same name in the Philippine island of Luzon, situated on an arm of the Pampanga delta, about 15 miles N. of Manila. With the exception of the churches and a few stone buildings, it was completely destroyed by fire in 1859, but has since been rebuilt. Population estimated at about 10,000.

BULANDSHAHR, a district of British India, in the Meerut division, under the jurisdiction of the Lieutenant Governor of the N.W. Provinces; lies between 28° 3' and 28° 43' N. lat., and 77° 28' and 78° 32' E. long. It is bounded on the N. by the district of Meerut; on the E. by the districts of Moradabad and Budaun; on the S. by the district of Aligarh; and on the W. by the districts of Gurgaon and Delhi. The district stretches out in a level plain, with a gentle slope from north-west to south-east, and a gradual but very slight elevation about midway between the Ganges and Jumna. Principal rivers, the Ganges and Jumna,—the former navigable all the year round, the latter only during the rains; minor rivers, Hindan and East Kali Nadi, not navigable. The Ganges canal intersects the district, and serves both for irrigation and navigation. Area of Bulandshahr district, 1910 square miles, of which 1368 are under cultivation; 346 cultivable, but not actually under cultivation; and the rest uncultivable waste. Population in 1872, 936,593 souls, residing in 182,694 houses, and inhabiting 1566 villages; persons per square mile, 490; per village, 598; per house, 5.1. Of the total population 760,602 or 81.2 per cent. were Hindus; 175,900 or 18.8 per cent. Mahometans; and 91 Christians and others.

Cotton, indigo, sugar, wheat, tobacco, barley, millet, and various kinds of pulse, form the principal agricultural products. The chief traffic routes are—(1), Road from Meerut to Aligarh; (2), from Delhi to Bareilly; and (3), between Delhi and Anupshahr. The East Indian Railway passes through the district. Total revenue in 1870-71, £176,422, of which £155,675, or 88 per cent., was from land. The regular constabulary police consisted of 523 men in 1870-71, besides the rural or village watch. Bulandshahr district contained 302 schools in 1872-73, attended by 6959 pupils. The following twelve towns in the district have upwards of 5000 inhabitants:—1. Baran or Bulandshahr, the administrative headquarters, situated on the right bank of the Kali Nadi, on the route from Bareilly to Delhi, in 28° 24' N. lat. and 77° 56' E. long.; area, 111 acres; population, 14,804; municipal income in 1872, £1075; expenditure, £1189, 2s.; rate of municipal taxation, 1s. 5½d. per head. 2. Diba—area, 106 acres; population, 7782; municipal income, £346, 16s. 9d.; expenditure, £298, 7s. 4d.; rate of taxation, 10½d. per head. 3. Anupshahr—area, 123 acres; population, 9386; municipal income, £598, 14s.; expenditure, £532, 14s.; rate of taxation, 1s. 3½d. per head. 4. Jahangirabad—114 acres; population, 9408; municipal income, £571, 3s. 5d.; expenditure, £456, 12s. 9d.; rate of taxation, 1s. 2½d. 5. Shikarpur—area, 115 acres; population, 11,150; municipal income, £435, 19s. 6d.; expenditure, £408, 11s. 9d.; rate of taxation, 9½d. per head. 6. Dankaur—area, 251 acres; population, 5423; municipal income, £189, 2s. 4d.; expenditure, £163, 9s. 1d.; rate of taxation, 8½d. per head. 7. Jhajhar—area, 50 acres; population, 5632; municipal income, £241, 15s. 5d.; expenditure, £199, 2s. 9d.; rate of taxation, 10½d. per head. 8. Jewar—area, 78 acres; population, 7399; municipal income, £282, 14s. 4d.; expenditure, £233, 17s. 1d.; rate of taxation, 9½d. per head. 9. Siyana—area, 65 acres; population, 6268; municipal income, £294, 14s. 5d.; expenditure, £251, 9s. 4d.; rate of taxation, 11½d. 10. Gulathi—area, 44 acres; population, 5608; municipal income, £294, 14s. 5d.; expenditure, £223, 2s. 7d.; rate of taxation, 10½d. per head. 11. Khurja—area, 206 acres; population, 26,858; municipal income, £2301, 14s.; expenditure, £2028, 10s.; rate of taxation, 1s. 8½d. per head. 12. Sikandabad—area, 199 acres; population, 18,349; municipal income, £988; expenditure, £539, 10s.; rate of taxation, 1s. 0½d. per head. The climate of the district is liable to extremes, being very cold in the winter and excessively hot in the summer.

Towards the end of the last century, the district passed into the hands of Perron, a French common sailor, who had won his way up to the rank of a general in the Marhatta service. Its annexation formed one of the leading points in the Marquis Wellesley's policy, and it was ceded to us by the Scindia treaty of 1803. Bulandshahr enjoyed a bad conspicuousness in the mutiny of 1857, when the Gujjar peasantry plundered the towns.

BULGARIA, otherwise known as the vilayet Tuna or province of the Danube (though the two do not absolutely coincide), is a political division of European Turkey, which stretches along the right bank of the Danube from the influx of the Timok to its mouth, and is bounded on the south by the main chain of the Balkan, which separates it from Rumelia. On the east it is washed by the Black Sea, and on the west is conterminous with Servia. Its area is estimated at 32,932 square miles. It may be roughly described as a great table-land, sloping with more or less regularity towards the river, having its surface broken with numerous offshoots and underfalls of the southern mountains, and furrowed by the channels of the many streams to which those heights give rise. By far the larger proportion of the area belongs to the basin of the Danube, which in this part of its course receives from the right the Jibritza, the Ogust, the Shit, the Isker, the Vid, the Osmia, the Yantra, the Lom, and the Kosliashilar. A few streams (mostly small) find their way directly to the Black Sea, the only one of importance being the Kamtchik, which drains the eastern extremity of the Balkan. In summer many of the smaller streams are almost dried up; but before harvest is fairly over, the wet season frequently sets in, and in spring again there is an abundant rainfall. Throughout the most of the province the soil is excellent, and if it were properly cultivated would yield the richest crops. As it is, the inhabitants are able not only to supply their own wants, but to furnish a considerable export of agricultural produce. The cereal most abundantly grown is wheat, but Indian corn is also pretty common with the Mussulman farmers. Little hay is made, and turnips are quite unknown. Potatoes are only cultivated by the Tatar settlers in the Dobrudsha. The peach, the apricot, the grape, and many other fruits come to great perfection; and wine is manufactured in considerable quantities, but in a very careless and rude manner. The buffalo is the animal chiefly used in agricultural labour, though horses are sufficiently common. Cows, pigs, and goats are also kept, and sheep-farming is largely carried on in many parts, but the character of the various stocks is very poor. The mineral wealth of the province is totally neglected, and its rich supplies of timber are often heedlessly wasted. Roads can hardly be said to exist; for though several have been constructed by enterprising pashas, they have soon been allowed to fall into total disrepair. A single railway line stretches from Kustendji to Chernavoda on the Danube. A considerable amount of traffic, however, is carried on by the river, and the export trade on the Black Sea is of growing importance. The province is politically divided into the sandjaks of Rustchuk, Nissa, Widdin, Tirnova, Sofia, Varna, and Tulcha. Its principal towns are Widdin, Nikopoli, Sistova, Rustchuk, Rassova, and Hirsova along the Danube; Kustendji, Baltshik, and Varna on the coast; and Babadagh, Basarjyk, Shumna, Tirnova, Lovatz, and Vratza. The population, which amounts to from two to two and a half millions, is of various elements, and is estimated as follows:—

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|-------------------------------|------------------------|
| Bulgarians proper | about 1,500,000 |
| Osmanli Turks | 500,000 |
| Tatars | from 80,000 to 100,000 |
| Circassians | 70,000 to 90,000 |
| Albanians | 60,000 or 70,000 |
| Roumanians | 35,000 or 40,000 |
| Gipsies | 20,000 or 25,000 |
| Jews | about 10,000 |
| Armenians | 10,000 |
| Russians | 10,000 |
| Greeks | 7,000 or 8,000 |
| Servians | 4,000 or 5,000 |
| Germans, Italians, Arabs, &c. | say 1,000 |

The population along the coast is of a very mingled description, the genuine Bulgarian looking down on the

Agriculture.

Minerals.

Communication.

Divisions.

Towns.

Gagaous, as he calls the mongrel race, with no small contempt. The Tatars are emigrants from the Crimea, who were permitted to leave the Russian empire after the last war. They are industrious and prosperous, but the Circassians, who have fled from the Caucasus at the advance of Russia, are for the most part very poor. The Turks, Tatars, Albanians, and Circassians are Mahometans; the Roumanians, the Armenians, and most of the Russians belong to the Greek Church; and the Gypsies are part Mahometan, part Christian, and part Pagan.

The Bulgarians were originally a people of Ugric or Finnish extraction, according to Professor Rösel, a Samoyede race. They appear for the first time in history about 120 B.C., when a band, under the leadership of a chieftain called Vound, took refuge in Armenia and settled on the banks of the Araxes. They are next mentioned by Bishop Eunodius as marching towards the left bank of the Danube, and in the following century they became known to the Byzantine empire as a hostile power. About 660 they seem to have broken up into several divisions, of which the most important crossed the Danube under Asparuch (third son of Kubrat, who had delivered them from the domination of the Avars), settled in Mesia, subjugated the Slavonic population, and extorted tribute even from the Greek emperor. The kingdom thus founded gradually extended northwards to the country of the Theiss, and south over a large part of the peninsula. Its most prosperous period was the reign of Simeon (893-927), who not only made himself formidable to the Greeks as a warrior, but also took an interest in the internal progress of his country, securing the establishment of Christianity, which had been introduced by Boris or Bogoris about 862, and bestowing his patronage on the early efforts of native literature. After his death decay began; the Russians and Petchenegs invaded the country, and the Byzantine emperors took no rest till the Bulgarians, sadly diminished in numbers, acknowledged the supremacy of Basilus in 1019. More than a century and a half later, two brothers, Peter and Asan or Yusan, headed a successful insurrection, and founded what is known as the Bulgaro-Wallachian kingdom of the Asanides, which, after maintaining itself against the Byzantines and the Hungarians, and even becoming master of Macedonia and Thrace, at last fell under the Tatar yoke, and was finally subjugated to Turkey by the fatal battle of Kossova.

The Bulgarians retain but little trace of their Finnish origin; Race and Language that they were recognized as belonging to that race is shown by the name Unnogonduri, applied to them by the Byzantines. They still have high cheek bones; their hair is light and thin; their eyelids do not open wide; and the general form of the face is frequently oval. Of their condition in heathen times little is known, though a few important deductions, such as that they had slaves, can be drawn from the questions presented by them to the Pope in 866. (See *Acta Conciliorum*, v.) They were so far Slavonized by the 9th century that the church service was held in Slavonic. At present, though their language is still fundamentally Slavonic, and is usually placed between the Russian and the Servian, yet it is largely mingled with Turkish and Persian, and has even a considerable element of Italian and Greek. The Turkish influence not only appears in the vocabulary, but it is no uncommon thing, especially in the more pretentious forms of speech, for Slavonic verbs to be conjugated in the Turkish mode. A grammar was published in 1852 by A. and D. Kyriak Canckof, and Miklosich has devoted himself to the study of the dialects. Of early literary remains there is an almost total lack; but a number of popular songs that seem to have been handed down, perhaps from heathen times, have been collected. (See Dozon's *Les Chants Populaires Bulgares*, Paris, 1874.) These songs have little or no poetic merit, but are full of wild cosmogonic myths. The modern literature is written in a dialect which is hardly understood by the mass of the people, and its existence is largely due to foreign influence. The alphabet in use is a compound of letters from the secular and ecclesiastical alphabets of Russia. Though nominally members of the Greek Church, the Bulgarians are in many respects as pagan as they were centuries ago, and their superstitions are almost countless. The clergy, appointed by the heads of the church at Constantinople, are deplorably ignorant, and frequently know as little as their flocks of the meaning of the prayers which they read in Greek. Their arbitrary and oppressive dealings excited a strong movement of revolt about 1860, and the bishops were expelled from many of the towns. A junction with the Roman Catholics, to whom the national church of Bulgaria has frequently shown a leaning, was proposed by one party, which soon found numerous supporters; but the agitation will probably end in the establishment of an independent Bulgarian hierarchy.

No inconsiderable number of Bulgarians are to be found beyond the province that bears their name. They form a more or less important element in the whole region from the Danube to the Aegean, and from the Black Sea to Eastern Albania. Gochlert reckons that

there are 4,000,000 in the Turkish empire, and Professor Szabo makes their number in Servia 100,000. As early as the 14th century emigration took place to the Banat, where the Bulgarians number upwards of 23,000; and in Transylvania there is a colony which retains its dialect. (See *Denkschriften d. Wien. Akad., Phil.-hist. Cl.*, 1856.) Much more important are the Bulgarian settlements in Bessarabia, which in 1862 numbered 70,000 inhabitants. These began to be formed as early as 1787, and received strong accessions from 1801 to 1812. The chief town which owed its existence to this transmigration is Bolgrad, on Lake Yalpuik, which passed with a portion of Bessarabia to Moldavia in 1851. About 1865 it had 9000 inhabitants.

For further information the reader may consult Jochmus's "Journey into the Balkan in 1847" (*Jour. R. Geog. Soc.*, 1854); Frähn, in *Mém. de l'Acad. de St. Petersbourg*, série vi. tom. 1.; Lejean, *Ethnographie de la Turquie d'Europe*, 1861; St. Clair and Brophy, *Residence in Bulgaria*, 1869; Tozer, *The Highlands of Turkey*, 1869; Sax, "Skizze von Bulgarien," in *Mittheil. der K. K. Geogr. Gesellsch. in Wien*, 1869; Kanitz, *Serbien, Hist.-ethnogr. Reisestudien*, 1868, and *Donau, Bulgarien, und der Balkan*, 1875; Bradaska, "Die Slaven in der Türkei" (*Petermann's Mittheil.*, 1869, xii.); R. Rösel, *Römische Studien*, 1871.

BULGARIN, THADDÄUS (1789-1859), a distinguished Russian writer, was born in Lithuania. His father was an officer under Kosciusko in the last disastrous Polish campaign. By some influence of friends Thaddäus was entered at the college for military cadets at St Petersburg, and afterwards received a commission in the Russian army, with which he served against Napoleon and in Finland. He then left the Russian army, joined the Poles under Napoleon, and took part in nearly all the great campaigns in Spain, Germany, and Russia. After the fall of the emperor he took up his residence in Warsaw, and devoted himself to literature, writing in his native Polish language. In 1819 he removed to St Petersburg, learned Russian, and became Russian in every way. He edited, alone or in conjunction with Gretsch, the *Northern Archives*, the *Northern Bee*, and the *Russian Thalia*. In 1829 his first novel, *Ivan Vuizhagen*, gained great popularity. A continuation was afterwards published under the title *Peter Ivanovitch Vuizhagen*. His other works comprise two novels, *Demetrius* and *Maseppa*, an *Account of Russia* (Russia in an historical, statistical, geographical, and literary point of view), and his *Reminiscences*. An English translation of his best novel, *Ivan Vuizhagen*, was published in 1831.

BULGARUS, the most celebrated of the famous "Four Doctors" of the law school of Bologna. He is sometimes erroneously called Bulgarinus, which was properly the name of a jurist of the 15th century. Bulgarus was a native of Bologna, and was regarded as the Chrysostom of the Gloss-writers, being frequently designated by the title of the "Golden Mouth" (*os aureum*). The time of his birth is not known. A popular tradition represents him to have been a pupil of Irnerius, but unfortunately nothing is known of Irnerius after 1118 A.D. Bulgarus, on the other hand, died in 1166 A.D., having attained a great age, and having become childish before his death. There is thus no inseparable difficulty in point of time in accepting this tradition as far as regards Bulgarus, although Savigny considers the general tradition to be inadmissible which represents all the Four Doctors to have been pupils of Irnerius. Martinus Gosia was the next most celebrated of the Four Doctors. He and Bulgarus were the chiefs of two opposite schools at Bologna, corresponding in many respects to the Proculians and Sabinians of Imperial Rome, Martinus being at the head of a school which accommodated the law to what his opponents styled the equity of "the purse" (*equitas bursalis*), whilst Bulgarus adhered more closely to the letter of the law. The school of Bulgarus ultimately prevailed, and it numbered amongst its adherents Joannes Bassianus, Azo, and Accursius, each of whom in his turn exercised a commanding influence over the course of legal studies at Bologna. Bulgarus took the leading part amongst the Four Doctors at the diet of Roncaglia in 1158, and was one of the most trusted advisers of the Emperor Frederick I. His most celebrated work is his commentary *De Regulis Juris*,

which was at one time printed amongst the writings of Placentinus, but has been properly reassigned to its true author by Cujacius, upon the internal evidence contained in the additions annexed to it, which are undoubtedly from the pen of Placentinus. Savigny considers this *Commentary*, which is the earliest extant work of its kind emanating from the school of the Gloss-writers, to be a model specimen of the excellence of the method introduced by Irnerius, and a striking example of the brilliant results which had been obtained in a short space of time by a constant and exclusive study of the sources of law.

BULL, PAPAL. See BULLS AND BRIEFS.
 BULL, GEORGE (1634-1710), bishop of St David's, was born at Wells, and educated at Tiverton school, Devonshire. He entered Exeter College, Oxford, but had to leave in consequence of his refusal to take the oath of allegiance to the Commonwealth. He was ordained privately by Bishop Skinner in 1655. The first benefice he enjoyed was that of St George's near Bristol, from which he rose successively to be rector of Suddington in Gloucestershire, prebendary of Gloucester, archdeacon of Llandaff, and in 1705 bishop of St David's. He died February 17, 1710. During the time of the Commonwealth he adhered steadily, though with great prudence, to the forms of the Church of England, and in the reign of James II. preached very strenuously against the errors of Romanism. His works are among the most solid contributions made to theological learning by the Church of England. They uniformly display great erudition and powerful thinking. The *Harmonia Apostolica*, published in 1670, is an attempt to show the fundamental agreement between the doctrines of Paul and James with regard to justification. The *Defensio Fidei Nicenæ*, his greatest work, published in 1685, tries to show that the doctrine of the Trinity was an article of faith in the Christian church before the Council of Nicea. It still retains value as a thoroughgoing examination of all the pertinent passages in early church literature. The *Judicium Ecclesie Catholice* obtained for him the thanks of the French clergy. His last treatise, *Primitive and Apostolical Tradition*, was published shortly before his death. The best edition of his works is that in 7 vols., published at Oxford by the Clarendon Press, under the superintendence of the Rev. E. Burton. This edition contains the *Life* by Nelson. The *Harmonia*, *Defensio*, and *Judicium* are translated in the Library of Anglo-Catholic Theology.

BULL, JOHN, a distinguished English composer and organist, was born in Somersetshire about 1563. In 1591 he was appointed organist in the Queen's chapel in succession to Blitheman, from whom he had received his musical education; in 1592 he received his degree of doctor of music at Cambridge University; and in 1596 he was made music professor at Gresham College, London. As he was unable to lecture in Latin according to the foundation-rules of that college, the executors of Sir Thomas Gresham made a dispensation in his favour by permitting him to lecture in English. He gave his first lecture on 6th October 1597. He afterwards visited France and Germany, and was everywhere received with the respect due to his talents. The story told by Anthony Wood of Dr Bull's feat at St Omer, which consisted in adding, within a few hours, forty parts to a composition already written in forty parts, is simply impossible. Honourable employments were offered to him by various Continental princes; but he declined them, and returned to England, where he was appointed organist to James I. in 1607, and in the same year resigned his Gresham professorship. In 1613 he again went to the Continent on account of his health; and, in the Netherlands, entered into the service of the archduke. In 1617 he was appointed organist to the cathedral of Nôtre Dame