

fort. In the prosecution of the war several actions ensued, and various fortresses were taken; but it would appear that one of the Bhatti chiefs at variance with General Thomas commenced hostilities against him about the period now alluded to; and in this new warfare with his late allies his forces were so much reduced by repeated encounters, that, being scarcely able to stand an engagement, he fortified his camps. The Bhattis, after frequent attacks, withdrew their troops by night; whereupon General Thomas took and burned Pathiábád and other places, and might have occupied the whole country, had not a neighbouring chief concluded an alliance with the Bhattis, and sent 1000 cavalry to their aid. General Thomas retreated to Jaijar, a town within his own territory, leaving the Bhattis in possession of their capital.

The triumphs of the British arms proved fatal to the European adventurers who at that period had established themselves in Northern India, and the arrangements made with Sindia brought the British into contact with the country of the Bhattis, against whom they were compelled in 1810 to march a force, which expelled the chief, and transferred the greater part of the territory to his son, who had voluntarily proceeded to the British camp.

BHÁWALPUR, a feudatory state in North-Western India, under the political jurisdiction of the Lieutenant-Governor of the Panjáb, lying between 27° 41' and 30° 25' N. lat., and 69° 30' and 73° 58' E. long. It is bounded on the N. by Sind and Panjáb, on the E. and S.E. by the British district of Hissar and the Rájput states of Bikánir and Jasalmír, and on the S.W. by Sind. The state contains an estimated area of about 22,000 square miles; greatest length from N.E. to S.W., 310 miles; greatest breadth, 110 miles. Only a sixth part of the total area is capable of cultivation.

Thornton thus describes the general aspect of the state:—"Bhawalpur is a remarkably level country, there being no considerable eminence within its limits, as the occasional sand-hills, seldom exceeding 50 or 60 feet in height, cannot be considered exceptions. The cultivable part extends along the river line for a distance of about 10 miles in breadth from the left or eastern bank. In the sandy part of the desert beyond this strip of fertility both men and beasts, leaving the beaten path, sink as if in loose snow. Here, too, the sand is raised into ever-changing hills by the force of the wind sweeping over it. In those parts of the desert which have a hard level soil of clay, a few stunted mimosas, acacias, and other shrubs are produced, together with rue, various bitter and aromatic plants, and occasionally tufts of grass. Much of the soil of the desert appears to be alluvial; there are numerous traces of streams having formerly passed over it, and still, where irrigation is at all practicable, fertility in the clayey tract follows; but the rains are scanty, the wells few and generally 100 feet deep or more."

The Ghará, a great stream formed by the united waters of the Bías and Satej, the Indus, and the Panjnad, are the principal rivers of the state, affording a continuous river-line of 300 or 350 miles in length. In 1872 the population was estimated at 472,791, the majority of whom are Mahometans, consisting of Játs of Hindu descent, Beluchis, and Afgháns. The principal products are woollen and cotton cloths, silk goods, indigo, cereals, alum, saltpetre, &c. These form the principal exports; the imports are inconsiderable. Value of external trade in 1872, £358,000; internal trade, £444,700. Principal trade routes:—(1.) From Bikánir to Central Asia *via* Bhawalpur; (2.) from Jasalmír to Afghánistán; (3.) from Bhawalpur to Sind. In 1872 the gross revenue of the state was returned as £197,344; estimated military force, 2679. Principal towns—Bhawalpur, the capital, situated on a branch of the River Ghará; Ahmadpur, Uch, Khánpur, and Michinábad.

The state was a dependency of the Duránf kingdom till its dismemberment, when Bhawalpur became independent. On the rise of Ranjit Singh, the khán of Bhawalpur tendered his allegiance to the British Government, and received a life-pension of £10,000 per annum for his services in the Sikh war. The present ruler is a minor (1875); and the state is now under British management, under which it has greatly prospered. The Panjáb Administration Report for 1871-72 states that on the death

of the late chief, when Bhawalpur came under British management, "the treasury was empty, the Government in debt, the army disorganized, the canals, on which cultivation mainly depends, neglected, while a general sense of insecurity prevailed; but now (1871-72) there is a cash balance of £80,000 in hand, the state debts have been paid off, the revenue has reached £200,000 a year (or double what it was three years ago), while the ordinary expenditure is about £160,000, the canals have been greatly increased in number and efficiency, waste lands have been brought under cultivation, population has increased, and the army has been reorganized."

BHIL, a tribe and a British political agency in Central India. The political agency comprises the following native states:—(1.) Dhár, revenue in 1871-72, £60,000, expenditure £55,000; (2.) Bakhtnagar, revenue £5933, expenditure £4495; (3.) Jabuá, revenue £11,000, expenditure the same; (4.) Alfrájpur, revenue £12,095, expenditure £10,783; (5.) Matwash, revenue £620, expenditure £334; (6.) Jobat, revenue £1500, expenditure £1200; (7.) Katiwára; (8.) Ratanmall; (9.) Amjherá, Dektán, Sagar, Báng, Bankánir, and Manáwan, belonging to Sindhiá; and (10.) Pitláwad and Chikáldá, belonging to Holkár. The Bhil agency comprises an area of 8160 square miles, with a population of 240,000 souls, and consists of—(1.) Mánpur Parganá (British); (2.) Barwánf state (under British management in 1871-72); (3.) Jammíá, Rájgash, Garhi, and other Bhumíá chiefdoms; (4.) Holkár's districts south of the Vindhyan range; and (5.) Dewas or Bágod Parganá. The Bhil agency was formed in 1825, when the Bhil corps was organized, with a view to utilizing the warlike instincts of the Bhil tribes. This brave body of men have done good service, and gradually put down the predatory habits of their countrymen. The Bhil tribes chiefly inhabit the rocky ranges of the Vindhya and Sápura mountains, and the banks of the Nabadá and the Taptí. In common with other hill tribes, the Bhils are supposed to have been aborigines of India, and to have been driven to their present fastnesses at the time of the Hindu invasion. They are of dark complexion and diminutive stature, but active, and capable of enduring great fatigue. Various efforts have been made by the British Government to reclaim this people from their predatory habits, and in 1869-70 the official report stated that "the Bhils of Mánpur are becoming reconciled to the life of cultivators, though not yet willing to take out leases."

BHOPAL, a British political agency in Central India, comprising 31 native administrations classified as follows:—First, Bhopál, a treaty state, its ruler having the power of life and death; second, Rájgarh and Narsinggarh, the rulers of which receive salutes, and exercise independent civil and criminal jurisdiction, but submit proceedings in cases of heinous crime for the political agent's review; third, Kilchipur, Kurwál, and Maksúdnagar, the chiefs of which receive no salute, but possess independent authority, except in heinous offences; fourth, Pathári, Basaudá, and Muhammadgarh, lesser chiefships, under the more direct supervision of the political agent; Laráwát, the chief of this is a *jágirdár* or holder of a grant of land under life tenure, and is subordinate to the political agent in all matters of administration; fifth, sixteen petty chiefs called *thákurs* and *jágirdárs*; sixth, four districts of other native states not within the jurisdiction of this agency. The Bhopál political agency is subordinate to the Central India agency.

BHOPÁL, a native state in Malwa in Central India, under the political superintendence of the British Government, lying between 22° 32' and 23° 46' N. lat., and 76° 25' and 78° 50' E. long. It is bounded on the N. by the state of Gwalior and the British district of Bairsiá, on the N.E. and S.E. by the Sagar and Ner-

badá territory, on the S.W. by the possessions of Holkár and Sindhiá, and on the N.W. by Sindhiá's districts and Omatwára. Length of the state from E. to W., 157 miles; breadth from N. to S., 76 miles; estimated area, 6764 square miles. The surface of the country is uneven, being traversed by the Vindhya ranges, a peak of which near Raysen is upwards of 2500 feet above sea-level. The general inclination of the country is towards the north, in which direction most of the streams of the state flow, while others, passing through the Vindhyan ranges, flow to the Nabadá. The population of the state is estimated at 663,656, comprising Hindus, Mahometans, and the Gonds, an aboriginal tribe. Principal crops: wheat, Indian corn, oil-seeds, pulses, opium. Chief routes: (1.) from Sagar through the town of Bhopál to the British cantonment of Mhow; (2.) from Bhisá to Hoshangábád and thence to Mhow; (3.) from Hoshangábád to Nimach; (4.) from Jabalpur through Hoshangábád to Mhow. Principal towns: Bhopál the capital, Islámnagar, Ashtá, Sihor, and Ráisen. In 1871-72 the annual income of the state was estimated at £240,000. Bhopál state was founded in 1723 by Dost Muhammad Khán, an Afghán adventurer. In 1818 a treaty of dependence was concluded between the chief and the British Government. Since then Bhopál has been steadily loyal to the British Government, and during the mutiny it rendered good services. The present ruler is a lady, and both she and her mother, who preceded her as head of the state, have displayed the highest capacity for administration. Both have been appointed Knights of the Star of India, and their territory is the best governed native state in India.

BHUTAN, an independent kingdom in the Eastern Himalayas, between 26° and 28° N. lat., and 89° and 93° E. long. It is bounded on the N. by Thibet; on the E. by a tract inhabited by various uncivilized independent mountain tribes; on the S. by the British province of Assam, and the district of Jalpaiguri; and on the W. by the independent native state of Sikim. The whole of Bhután presents a succession of lofty and rugged mountains abounding in picturesque and sublime scenery. "The prospect," says Captain Turner, "between abrupt and lofty prominences is inconceivably grand; hills clothed to their very summits with trees, dark and deep glens, and the high tops of mountains lost in the clouds, constitute altogether a scene of extraordinary magnificence and sublimity." As might be expected from its physical structure, this alpine region sends out numerous rivers in a southerly direction, which, forcing their passage through narrow defiles, and precipitated in cataracts over the precipices, eventually pour themselves into the Brahmaputra. One torrent is mentioned by Turner as falling over so great a height that it is nearly dissipated in mid-air, and looks from below like a jet of steam from boiling water. Of the rivers traversing Bhután, the most considerable is the Manás, flowing in its progress to the Brahmaputra under the walls of Tásgáon, below which it is unfordable. At the foot of Tásgáon Hill it is crossed by a suspension bridge. The other principal rivers are the Máchu, Tehinchu, Torshá, Mánchi, and Dharlá.

Previous to the British annexation of the Dvárs from Bhután, the area of the kingdom was reckoned at 20,000 sq. miles. The population of the country now remaining to Bhután was estimated in 1864 at 20,000 souls. Later information, however, points to a larger figure. The people are industrious, and devote themselves to agriculture, but from the geological structure of the country, and from the insecurity of property, regular husbandry is limited to comparatively few spots. The people are oppressed and poor. "Nothing that a Bhutiá possesses is his own," wrote the British envoy in 1864; "he is at all

times liable to lose it if it attracts the cupidity of any one more powerful than himself. The lower classes, whether villagers or public servants, are little better than the slaves of higher officials. In regard to them no rights of property are observed, and they have at once to surrender anything that is demanded of them. There never was, I fancy, a country in which the doctrine of 'might is right' formed more completely the whole and sole law and custom of the land than it does in Bhután. No official receives a salary; he has certain districts made over to him, and he may get what he can out of them; a certain portion of his gains he is compelled to send to the Darbár; and the more he extorts and the more he sends to his superior, the longer his tenure of office is likely to be." Captain Pemberton thus describes their moral condition—"I sometimes saw a few persons in whom the demoralizing influences of such a state of society had yet left a trace of the image in which they were originally created, and where the feelings of nature still exercised their accustomed influence, but the exceptions were rare, and although I have travelled and resided amongst various savage tribes on our frontiers, I have never yet known a people so wholly degraded as the Bhutiás." Physically the Bhutiás are a fine race, although dirty in their habits and persons. Their food consists of meat, chiefly pork, turnips, rice, barley-meal, and tea made from the brick-tea of China. Their favourite drink is *chong*, distilled from rice or barley and millet, and *Marwá*, beer made from fermented millet. A loose woollen coat reaching to the knees, and bound round the waist by a thick fold of cotton cloth, forms the dress of the men; the women's dress is a long cloak with loose sleeves. The houses of the Bhutiás are of three and four stories; all the floors are neatly boarded with deal; and on two sides of the house is a verandah ornamented with carved work generally painted. The Bhutiás are neat joiners, and their doors, windows, and panelling are perfect in their way. No iron-work is used; the doors open on ingenious wooden hinges. The appearance of the houses is precisely that of Swiss chalets, picturesque and comfortable—the only drawback being a want of chimneys, which the Bhutiás do not know how to construct. The people nominally profess the Buddhist religion, but in reality their religious exercises are confined to the propitiation of evil spirits, and the mechanical recital of a few sacred sentences. Around the cottages in the mountains the land is cleared for cultivation, and produces thriving crops of barley, wheat, buckwheat, millet, mustard, chillies, &c. Turnips of excellent quality are extensively grown; they are free from fibre and remarkably sweet. The wheat and barley have a full round grain, and the climate is well adapted to the production of both European and Asiatic vegetables. Potatoes have been introduced. The Bhutiás lay out their fields in a series of terraces cut out of the sides of the hills; each terrace is rivetted and supported by stone embankments, sometimes twenty feet high. Every field is carefully fenced with pine branches, or protected by a stone wall. A complete system of irrigation permeates the whole cultivated part of a village, the water being often brought from a long distance by stone aqueducts. Bhutiás do not care to extend their cultivation, as an increased revenue is exacted in proportion to the land cultivated, but devote their whole energies to make the land yield twice what it is estimated to produce. The forests of Bhután abound in many varieties of stately trees. Among them are the beech, ash, birch, maple, cypress, and yew. Firs and pines cover the mountain heights; and below these, but still at an elevation of eight or nine thousand feet, is a zone of vegetation, consisting principally of oaks and rhododendrons. The cinnamon tree is also found. Some

of the roots and branches were examined by Turner during his journey to Thibet; but the plant being neither in blossom nor bearing fruit, it was impossible to decide whether it was the true cinchona or an inferior kind of cassia. The leaf, however, corresponded with the description given of the true cinchona by Linnæus. The lower ranges of the hills abound in animal life. Elephants are so numerous as to be dangerous to travellers; but tigers are not common, except near the River Tistá. Leopards abound in the Hah valley; deer everywhere, some of them of a very large species. The musk deer is found in the snows, and the barking deer on every hill side. Wild hogs are met with even at great elevations. Large squirrels are common. Bears and rhinoceros are also found. Pheasants, jungle fowls, pigeons, and other small game abound. The Bhutias are no sportsmen. They have a superstitious objection to firing a gun, thinking that it offends the deities of the woods and valleys, and brings down rain. A species of horse, which seems indigenous to Bhután, and is used as a domestic animal, is called *tangan*, from *Tangastán*, the general appellation of that assemblage of mountains which constitutes the territory of Bhután. It is peculiar to this tract, not being found in any of the neighbouring countries of Assam, Nepal, Thibet, or Bengal, and unites in an eminent degree the two qualities of strength and beauty. The *tangan* horse usually stands about thirteen hands high, is short bodied, clean-limbed, deep in the chest, and extremely active, his colour usually inclining to piebald. In so barren and rude a country the manufacturing industry of its people is, as might be expected, in a low stage, the few articles produced being all destined for home consumption. These consist of coarse blankets and cotton cloths made by the villagers inhabiting the southern tract. Leather, from the hide of the buffalo, imperfectly tanned, furnishes the soles of snow boots. Circular bowls are neatly turned from various woods. A small quantity of paper is made from a plant described as the *Daphne papyrifera*. Swords, iron spears, and arrow-heads, and a few copper caldrons fabricated from the metal obtained in the country, complete the list of manufactures. The foreign trade of Bhután has greatly declined. In 1809 the trade between Assam and Bhután amounted to £20,000 per annum, the lac, madder, silk, *erendi* cloth, and dried fish of Assam, being exchanged for the woollens, gold-dust, salt, musk, horses, and silk of Bhután. At present very little trade is carried on by Bhután with the neighbouring countries. The military resources of the country are on an insignificant scale. Beyond the guards for the defence of the various castles, there is nothing like a standing army. The total military force was estimated by the British envoy in 1864 at 6000. The climate of Bhután varies according to the difference of elevation. At the time when the inhabitants of Punákhá (the winter residence of the Rájás) are afraid of exposing themselves to the blazing sun, those of Ghásá experience all the rigour of winter, and are chilled by perpetual snows. Yet these places are within sight of each other. The rains descend in floods upon the heights; but in the vicinity of Tásisudon, the capital, they are moderate; there are frequent showers, but nothing that can be compared to the tropical rains of Bengal. Owing to the great elevation and steepness of the mountains, dreadful storms arise among the hollows, often attended with fatal results.

History.—Bhután formerly belonged to a tribe called by the Bhutias Tephu, generally believed to have been the people of Kuch Behar. About two hundred years ago some Thibetan soldiers subjugated the Tephus, took possession of the country, and settled down in it. At the head of the Bhután government there are nominally two supreme authorities, the Dharm Rájá, the spiritual head,

and the Deb Rájá, the temporal ruler. To aid these Rájás in administering the country, there is a council of permanent ministers, called the Lenehen. Practically, however, there is no government all. Subordinate officers and rapacious governors of forts wield all the power of the state, and tyranny, oppression, and anarchy reign over the whole country. The Dharm Rájá succeeds as an incarnation of the deity. On the death of a Dharm Rájá a year or two elapses, and the new incarnation then reappears in the shape of a child who generally happens to be born in the family of a principal officer. The child establishes his identity by recognizing the cooking utensils, &c., of the late Dharm Rájá; he is then trained in a monastery, and on attaining his majority is recognized as Rájá, though he exercises no more real authority in his majority than he did in his infancy. The Deb Rájá is in theory elected by the council. In practice he is merely the nominee of whichever of the two governors of East and West Bhután happens for the time to be the more powerful. The relations of the British with Bhután commenced in 1772, when the Bhutias invaded the principality of Kuch Behar, a dependency of Bengal. The Kuch Behar Rájá applied for aid, and a force under Captain James was despatched to his assistance; the invaders were expelled and pursued into their own territories. Upon the intercession of Teshu Lama, then regent of Thibet, a treaty of peace was concluded in 1774 between the East India Company and the ruler of Bhután. In 1783 Captain Turner was deputed to Bhután, with a view of promoting commercial intercourse, but his mission proved unsuccessful. From this period little intercourse took place with Bhután, until the occupation of Assam by the British in 1826. It was then discovered that the Bhutias had usurped several tracts of low land lying at the foot of the mountains, called the Dwárs or passes, and for these they agreed to pay a small tribute. They failed to do so, however, and availed themselves of the command of the passes to commit depredations within the British territory. Captain Pemberton was accordingly deputed to Bhután to adjust the points of difference. But his negotiations yielded no definite result; and every other means of obtaining redress and security proving unsuccessful, the Assam Dwárs were wrested from the Bhutias, and the British Government consented to pay to Bhután a sum of £1000 per annum as compensation for the resumption of their tenure, during the good behaviour of the Bhutias. Continued outrages and aggressions were, however, committed by the Bhutias on British subjects in the Dwárs. Notwithstanding repeated remonstrances and threats, scarcely a year passed without the occurrence of several raids in British territory headed by Bhutia officials, in which they plundered the inhabitants, massacred them, or carried them away as slaves. In 1863 Mr Ashley Eden was sent as an envoy to Bhután to demand reparation for these outrages. He did not succeed in his mission; he was subjected to the grossest insults; and under compulsion signed a treaty giving over the disputed territory to Bhután, and making other concessions which the Bhután Government demanded. On Mr Eden's return the viceroy at once disavowed his treaty, sternly stopped the former allowance for the Assam Dwárs, and demanded the immediate restoration of all British subjects kidnapped during the last five years. The Bhutias not complying with this demand, the Governor-General issued a proclamation, dated the 12th November 1864, by which the eleven Western or Bengal Dwárs were forthwith incorporated with the Queen's Indian dominions. No resistance was at first offered to the annexation; but, suddenly, in January 1865, the Bhutias surprised the English garrison at Diwángiri, and the post was abandoned with

the loss of two mountain train guns. This disaster was soon retrieved by General Tombs, and the Bhutias were compelled to sue for peace, which was concluded on the 11th November 1865. The Bhután Government formally ceded all the eighteen Dwárs of Bengal and Assam, with the rest of the territory taken from them, and agreed to liberate all kidnapped British subjects. As the revenues of Bhután mainly depended on these Dwárs, the British Government, in return for these concessions, undertook to pay the Deb and Dharm Rájás annually, subject to the condition of their continued good behaviour, an allowance beginning at £2500 and rising gradually to a maximum of twice that amount. Since that time nothing of importance has occurred, and the annexed territories have settled down into peaceful and prosperous British districts.

BIAFRA, a tract of country on the coast of Western Africa, on a bay or bight of the same name. Lander, in descending the Niger, arrived in the Bight of Biafra, and thus left no doubt that the system of inter-ramified river-channels, extending from Benin to Biafra, constitutes the delta of that river. The Bight of Biafra, or Mafra, is the most eastern part of the Gulf of Guinea, between Capes Formosa and Lopez; it contains the islands of Fernando Po, Prince's, and St Thomas's.

BIANCHINI, FRANCIS, a learned Italian astronomer and antiquary, was born at Verona in 1662, of a noble and ancient family. He was educated at Padua, and devoted himself especially to mathematics and classics. In 1684 he went to Rome, and was made librarian to Cardinal Ottoboni, afterwards Pope Alexander VIII. He was made canon of Sta Maria de la Rotonda, and afterwards of St Lorenzo in Damaso. His first work seems to have been a treatise directed against the Copernican system; it was published about 1680. In 1697 appeared the first and only volume of his *Universal History*, coming down to the close of the Assyrian empire. His later works, with the exception of the *Hesperii et Phosphori nova Phænomena*, a series of observations on Venus, were chiefly upon the ruins excavated on the Via Appia and Mount Palatine. He died in 1729.

BIARRITZ, a watering-place in the south of France, in the department of Basses-Pyrénées, on the sea-coast about five miles south-west of Bayonne. From a mere fishing village, with a few hundred inhabitants, in the beginning of the century, it rose rapidly into a place of importance under the patronage of the late emperor Napoleon III, and the empress, with whom it was a favourite resort. Excellent bathing-ground is afforded by the Vieux Port and the various sheltered bays into which the cliffs of this part of the coast are carved by the swell of the Atlantic; and the irregular eminences and promontories supply attractive sites for the erection of villas. The climate is delightful and bracing; and the bareness of the neighbourhood has been considerably relieved by fir plantations. Except the ruins of the castle of Atalaye, the lighthouse of Port Hart, the Villa Eugénie, erected for the empress in 1855–1856, the new French church, the English Protestant church, and the casino, there is no building with special claim to notice; the bathing establishments, cafés, and hotels are matters of course, but these are at least not unworthy the fame of the town. Since 1863, when it was decided that the construction of a new port was a matter of public utility, large sums of money have been expended in the attempt to form a satisfactory breakwater, but the severity of the winter storms has frequently interrupted the work. The permanent population of Biarritz, according to the census of 1871, was 3164; and the autumn visitors are estimated at from 12,000 to 15,000.

See Russell, *Biarritz and the Basque Countries*, 1873.

BIAS, a native of Priene, one of the seven sages of

Greece, was the son of Teutamus, and flourished about the middle of the 6th century B.C. He was one of the most eloquent speakers of his time, and is celebrated as having never used his talents for purposes of mere gain, but as having devoted them to the service of the injured and oppressed. Many stories are told illustrative of the nobility of his character in this and other respects. According to one of these, when his native town was taken by an enemy, and the inhabitants were carrying off whatever seemed to each most valuable, one of them, observing Bias without any burden, advised him to follow his example. "I am doing so," said he, "for I carry all my valuables with me." His fellow-citizens honoured him with a splendid funeral, and dedicated to him a sanctuary which they called Teutamium. He is said to have written an heroic poem on the affairs of the Ionians, in order to show them how they might be most prosperous. A great number of the short, pithy, ethical sayings or apophthegms characteristic of the Greek sages are ascribed to Bias. Of these a few specimens may be given—"Be slow to enter on an undertaking, but when you have begun, persevere to the end;" "Know, and then act;" "Hear much, speak little;" "Do not praise an unworthy man on account of his wealth;" "Take (*i.e.*, gain your end) by persuasion, not by force;" "He is unfortunate who cannot bear misfortune;" "So order your affairs as if your life were to be both long and short." Bias is the author of the famous and often imitated reproof to the impious sailors, who in the midst of a tempest were calling on the gods—"Be quiet," said he, "lest the gods discover that you are here." (*Diog. Laert.*, i. 82–88; *Stobæus Floril.* · Mullach. *Frag. Ph. Græc.*, i. 203, *sqq.*)

BIBERACH, a town of Württemberg, in the circle of the Danube, a capital of a bailiwick 23 miles S.S.W. of Ulm. It is situated on the River Riss, a small tributary of the Danube, partly on level ground and partly on hills, and still has a somewhat mediæval appearance from the remains of its ancient walls and towers. Its principal church dates from the 12th century, and it possesses a hospital with very extensive endowments. The main objects of its varied industry are toys, cloth goods of different kinds, lace, paper, and leather; and there are also bell-foundries and breweries. In the neighbourhood is the watering-place called Jordansbad. Biberach appears as a village in the 8th century, and in the 15th it became a free imperial city. During the Thirty Years' War it underwent various vicissitudes, and was for a good while held by the Swedes. In 1707 it was captured and put to ransom by the French, who afterwards, in 1796 and 1800, defeated the Austrians in the neighbourhood. In 1803 the city was deprived of its imperial freedom and assigned to Baden; and in 1806 it was transferred to Württemberg. Biberach is the birthplace of the sculptor Natter and the painter Neher; and Wieland, who was born at the neighbouring village of Oberholzheim, spent a series of years in the town.

BIBIRINE, or **BEBERINE**, an alkaloid obtained from the bark and fruit of the greenheart tree, *Nectandra Rodiei*, called bibiru or sipiri in Guiana, where the tree grows. The alkaloid was discovered about the year 1835 by Hugh Rodie, a surgeon resident in Demerara, who found it possessed great efficacy as a febrifuge, and it was recommended by him as a substitute for quinine. The sulphate of bibirine has a place in the British pharmacopœia, and is in considerable use in medicine as a bitter tonic and febrifuge. Bibirine has been shown by Walz to be apparently identical with an alkaloid obtained from the common box, *Buxus sempervirens*, called buxine, and this opinion is to some extent confirmed by Dr Flückiger. The sulphate of bibirine found in commerce is a dark brown substance in thin translucent scales.