

and fall two feet below the mean low-water mark. Under the influence of heavy winds and storms, the rise has been as high as nine feet.

The harbor at Galveston, having a depth at its entrance at the present time of nearly fourteen feet, is the best harbor on the entire gulf coast from the mouth of the Mississippi to the Rio Grande. It is also believed to be the one most susceptible of such improvements as would constitute a harbor of the first class. Its superiority to the other ports of Texas is clearly indicated by the coast survey charts and by the fact that the principal railroads of this State extend to Galveston or connect with railroads terminating at that point. The value of railroad properties in the State of Texas is about one hundred and sixty millions of dollars. This large expenditure of private capital in supplying means of internal transportation in Texas, expresses faith in the resources of this State, and emphasizes the importance of securing for it a first-class seaport. Such expenditure stands also as the strongest indorsement of any practical plan for the accomplishment of that object. The proposed improvement of the entrance to the port of Galveston would constitute a connecting link between this great system of internal transportation and the ocean, nature's great free highway of commerce. If the proposed depth of thirty feet at the entrance to the port of Galveston can be secured, that port would become the nearest and most accessible first-class seaport for the States of Texas, Kansas, New Mexico and Colorado, the Indian Territory and the Territory of Arizona, and parts of the States and Territories adjoining those just mentioned. The central portions of the State of Kansas are about equidistant from Chicago and Galveston. If the harbor of Galveston shall be so improved as to admit the entrance of vessels of the largest size, the various railroads connecting this city with Arkansas, Western Missouri, Western Iowa, Kansas, Nebraska, Colorado, and New Mexico, will become active competitors with the railroads extending east, not only with respect to trade with Europe, but also with respect to the trade between the area referred to and the chief Atlantic seaports.

The coast line of Texas from Sabine Pass to the Rio Grande, measures about 375 statute miles. In this distance there are four points which are now receiving the attention of the government with a view to harbor improvement, viz: Sabine Pass at the eastern extremity of the line; Brazos Santiago at the western extremity; Galveston, 65 miles from the eastern extremity, and Aransas Pass, 138 miles from the western extremity. The area of water in the Galveston harbor, 24 feet deep, is 1,304 acres, 30 feet deep, 463 acres, and a considerable acreage of 40 and 50 feet depth.

It is thus seen that the natural advantages which created Galveston and made her the principal port of the State still exist to maintain her pre-eminence.

The old south jetty has been built up to a height of five feet above mean low tide to a distance of 4,550 feet seaward, and connected with the shore by a wall of ordinary riprap 1,100 feet long, sloping gradually downward to the level of the ground, which is about six inches above mean low tide. The work of extending the jetty seaward was continued until July 17, 1888, when it was suspended for lack of funds. Additional funds having been provided in the River and Harbor act of August 11, 1888, work was resumed October 15, 1888, under a new contract, dated October 15, 1888. During the year a shore branch 8,464 feet long was constructed to connect the former work with the relatively high ground upon which Galveston is built. The object of this work is twofold, viz: to furnish a secure anchorage point for the south jetty, and also to improve the Galveston channel. The total length of the railway upon the crest of the jetty, including that built upon the trestle in advance of the stonework, is 17,375 feet. The level of mean low tide was five inches higher for the year 1888 than the level fixed for that plane in 1872.

The number of steam vessels entered at the port of Galveston for the year ending June 30th, 1887, was 250; number of sail vessels entered was 296. Total number of vessels 546. The tonnage of all vessels was 446,711 tons. The total value of their cargo was \$27,903,000, and they carried 3,000 passengers. The number of steam vessels cleared was 256. The number of sail vessels cleared was 288. Total number of vessels, 544.

The tonnage of vessels cleared was 444,801 tons, valued at \$73,874,701. The majority of vessels draw fifteen to twenty feet of water when fully loaded.

In addition to these there is a large number of small schooners, drawing five feet or less, engaged in the coasting trade. The first settlement of Galveston was made in 1837. From 1817 to 1821 it had been the haunt of the famous pirate Lafitte, who was finally dislodged from the island in the latter year. The city is handsomely laid out upon ground which lies very even, elevated six or eight feet above the sea level. Its streets are straight, broad, and elegant; those running parallel with the bay are designated as avenues, and those at right angles simply as streets. The avenues are called by the letters of the alphabet,

beginning on the bay front, and the streets are numbered First, Second, etc. The public building, containing the post-office and United States court house, stands at the crossing of 20th street and avenue "F." The avenues between this building and the bay are devoted to shipping and wholesale business, retail stores, shops, restaurants, hotels, banks and offices. Broadway, or avenue "J," is the most beautiful residence avenue of Galveston, and is considered the St. Charles of the city. Like some other southern cities, Galveston has been laid out upon a generous plan. Avenue "J" is 150 feet wide. An esplanade 36 feet in width runs through the middle, and its sidewalks are 16 feet wide on either side. The next street in point of width is Bath street, which is 120 feet wide. All the other streets are 80 feet wide and the avenues are 70 feet wide; all have sidewalks 16 feet in width. A shell road runs from the bay to the beach, which is called Fremont street. It is a favorite resort, as well as the beach, for driving. The streets are not paved, though the sidewalks in the center of the city are paved either with concrete or asphalt, or laid with brick or tile.

Galveston has a number of churches and schools of various kinds, an opera house and seven public halls. There are two libraries, two theaters, three market places and fourteen hotels of various grades. In the line of public buildings Galveston has a postoffice, custom house, and United States court house, a county court house, city prison and a city hall. The churches number 15, and the schools, of all kinds, 30. It is also the see of the Bishop of the Roman Catholic Church for that diocese. Galveston has several foundries, flour and planing mills and machine shops. The wharves are good, and there are several ship-building yards, and cotton-presses. Papers, daily and weekly, as well as bi-weekly and tri-weekly, are published. There are two railroads across the Bay—one two miles long—connecting the island with the main land, but no highway bridges have as yet been built. Cotton and cotton-seed oil form the great bulk of the foreign exports, which exceeded \$17,000,000 in 1887. The foreign imports for the same year reached \$1,765,612.

The following is a statement for 1878, 1879 and 1880 of the receipts from duties on imports and other sources, such as "tonnage tax," "hospital tax," etc.

FROM—	Imports.	Other Sources.
Jan. 1, 1878, to Dec. 31, 1878	\$43,006 51	\$23,035 97
Jan. 1, 1879, to Dec. 31, 1879	128,543 51	26,982 46
Jan. 1, 1880, to Feb. 13, 1880	24,196 65	2,433 15

Probable amount of collections during the year ending Dec. 31, 1880, approximated from invoices on hand and other reliable data. \$250,000 00

The value of imports from foreign countries for the years 1877 and 1878 was \$1,357,488 and \$1,357,488 respectively. These imports consist mainly of coffee, woolen and cotton goods, and iron goods.

Galveston has railway communications with all parts of the country, and by lines of steamships with Liverpool, New York, New Orleans, and the ports of Texas as far as the Mexican boundary. These vessels engage to a large extent in direct trade with Great Britain and the continent of Europe, in the coffee trade with Rio Janeiro, and in the West Indies and Mexican trade. There are six cotton presses, with warehouses and yards occupying more than 40 acres of ground and storing more than 100,000 bales of cotton. There are ten miles of street railroads in the city; one savings bank and national banks with a capital of more than \$800,000, and a paid up capital of \$300,000. Galveston's taxable values were \$21,000,000 in 1889. Galveston has not been visited by any epidemic disease since the yellow fever scourge of 1867. In other respects it is considered a most healthful city, possessing a delightful climate, and in every way is an inviting city to live in, affording abundant opportunities for business and pleasure.

The following table shows the rainfall, temperature and barometric pressure:

Year.	Rain Fall.	Highest Temperature.	Lowest Temperature.	Mean Temperature.	Mean Bar. Pressure.
1875	46.66 in.	98.5°	24°	69.6°	30.068 in.
1876	70.59	97°	40°	70.9°	30.050 "
1877	42.99	96°	30°	68.7°	30.073 "
1878	67.47	97°	30°	70.2°	29.997 "

The population for 1850 was 4,177. In the next ten years it nearly doubled, so that the census for 1860 shows a population of 7,307; for 1870, 13,818; for 1880, 24,121.

Galveston is, without a doubt, destined to become one of the most important shipping ports of the United States. It is connected with the great railroad lines running into the interior and North and under proper management will afford a cheaper outlet for that great country than the overland railroad route. The great demand now is for improved harbor facilities. The people of Texas and Galveston recognize this demand, and at their earnest instigation the government is taking hold of the matter with vigor. An improved harbor is all that is required. Nature has done all that is possible to be done in furnishing shelter and protection and abundance of space. The competition for an excellent harbor would encourage, would build up still more rapidly this already fast growing city of our Southwest.

This competition would assert itself not only in the transportation of the products of the interior by way of Galveston, but also, and perhaps to a greater extent and more beneficially, in the regulating influence which it would exert over the rates charged by all the east and west railroads extending from Chicago to the Atlantic seaboard. The magnitude of the advantages which would be thus afforded to the commercial and industrial interests of the country, it is impossible accurately to compute or even

approximately estimate, but the great importance of such advantages is clearly apparent. In view of the vast area of country, the commercial and industrial interests of which would be directly subserved by the proposed improvement in the harbor of Galveston, and by the fact that such improvement would also, through competition, directly benefit a very large proportion of the whole country, it appears proper to characterize that project as a work of great national importance.

About \$1,500,000 were wasted by the government prior to the year 1886, in some tentative engineering experiments. The present plans and estimates were adopted in 1886, at which time Major O. H. Ernst was first assigned in charge of the work. Under his management the channel depth upon the outer bar was found to be 13 1/4 feet and that upon the inner bar 21 feet, both at mean low tide, which was in both cases an increase of 6 inches during the year 1888. The distance across the outer bar from 24 feet inside to 24 feet outside has diminished from 14,100 to 13,500 feet, a difference of 600 feet or about 4 per cent. The distance from 18 feet inside to 18 feet outside has diminished from 7,180 feet to 6,340 feet, a difference of 840 feet or nearly 12 per cent. The old mattress jetty, built previous to the year 1886, has continued to deteriorate. The average depth over the outer 5,000 feet of it was ten feet.

Of this work Captain Eads says: "A less channel than thirty feet should not be contemplated, inasmuch as cheap freights require vessels of deep draft, and there is no reason why such works should not be constructed at Galveston as would place her harbor within the reach of the largest carriers now contemplated. At least twenty feet would be required within two years after the work is begun, and about two or three feet each year thereafter until the thirty feet is obtained. The deepening would continue slowly under tidal action for several years thereafter, and I should expect it to reach at least thirty-five or possibly forty feet before a permanent regimen would be established through the channel. I have estimated the necessary works at Galveston to secure a permanent channel thirty feet deep at seven and three-quarters millions of dollars."

Why the government is directing its attention to Galveston and Galveston harbor instead of the other ports of Texas may be readily understood from the government estimates made in 1886. The channel depth over the bar at that time was:

Sabine Pass	8 feet
Galveston	13 1/4 feet
Aransas	8 1/2 feet
Brazos Santiago	5 feet

—all measured at mean low tide. Foreign vessels which now visit the Texas coast draw about twenty feet, and to accommodate them there should not be less than twenty feet depth of channel over the bar. It can be obtained by suitable improvements at Sabine, Galveston, and Aransas, but not at Brazos Santiago. For safe anchorage, these vessels require about twenty-four feet in the harbor. The area of water twenty-four feet deep is, at

Sabine	100 acres
Galveston	1,304 acres
Aransas	60 acres

The improvements designed to furnish twenty feet depth over the bar at these places have been begun. To complete them there remains to be appropriated, for

Sabine	\$2,379,000 00
Galveston	2,200,000 00
Aransas	1,471,000 00

Dividing these numbers by the number of acres of deep water, we find the cost per acre to reach the anchorage is, for

Sabine	\$23,790 00
Galveston	1,687 11
Aransas	24,516 17

The depth of twenty feet over the bar, which is sufficient to answer the most immediate pressing needs of Texas, is not sufficient to admit many large commercial vessels and ships of war. To accommodate these an extension of the improvements at Galveston is contemplated, designed to give a depth of thirty feet at a cost of four millions additional to the amount mentioned above. No thirty-foot channel over the bar has been projected at either of the other places. The area of water thirty feet deep is, at

Sabine	63 acres
Galveston	463 acres
Aransas	19 acres

The vast country, that presents a front to the sea of three hundred and twenty-six miles, and of which Galveston is the only outlet that can be utilized for the accommodation of large vessels, as the certificates of experienced men who have been engaged in the coasting trade for years will evidence, demands from the general government some recognition of its importance to the commerce of the western coast of the State, and but partially developed. Its population and productions are increasing with each succeeding year, and the time must inevitably come when Texas will assume grander proportions in all the essentials that can contribute to the prosperity of mankind. Its climate is salubrious and is blended with all the blessings and benefits that can be bestowed by fertile lands.

GALWAY, a maritime county in the province of Connaught, in the extreme west of Ireland, between 52° 54' and 53° 43' N. lat., and 7° 57' and 10° 20' W. long. It is bounded on the N. by Mayo and Roscommon; E. by Roscommon, King's County, and Tipperary; S. by Clare and the Bay of Galway; and W. by the Atlantic Ocean. The area comprises 2,447 square miles, or 1,566,354 acres, of which 90,230 are under water.

Surface.—The county is naturally divided by Lough

Corrib into two great divisions. The eastern, which comprehends all the county except the four western baronies, rests on a limestone base, and is, generally speaking, a level champaign country, but contains large quantities of wet bog. Its southern portion is partly a continuation of the Golden Vale of Limerick, so celebrated for its fertility, and partly occupied by the Slievebaughy Mountains. The northern portion of the division contains rich pasture and tillage ground, beautifully diversified with hill and dale. Some of the intermediate country is comparatively uncultivated, but forms excellent pasturage for sheep. The western division of the county has a substratum of granite, and is barren, rugged, and mountainous. It is divided into the three districts of Connemara, Jar-Connaught, and Joyce's Country; the name of Connemara is, however, often applied to the whole district. Its highest mountains are the grand and picturesque group of Binabola, or the Twelve Pins, which occupy a space of about 25 square miles, the highest elevation being about 2,400 feet. Much of this district is a gently sloping plain, from 100 to 300 feet above sea-level. Joyce's Country, further north, is an elevated tract, with flat-topped hills of from 1,300 to 2,000 feet high, and deep narrow valleys lying between them.

Coast.—Galway enjoys the advantage of a very extended line of sea-coast, indented by numerous harbours, which, however, are rarely used except by a few coasting and fishing vessels. Commencing at the coast of Mayo in the north are the Killeries, two bays which separate the counties of Galway and Mayo. The first bay on the western coast capable of accommodating large ships is Ballynakill, sheltered by Freaghillaun or Heath Island. Next in succession is Cleggan Bay, having Inishboffin in its offing. Streamstown is a narrow inlet, within which are the inhabited islands of Omev, Turbot, and Inishturk. Ardbear harbour divides itself into two inlets, the northern terminated by the town of Clifden, with excellent anchorage opposite the castle; the southern inlet has also good anchorage within the bar, and has a good salmon-fishery. Mannin Bay, though large, is much exposed, and but little frequented by shipping. From Slyn Head the coast turns eastward to Roundstone Bay, which has its entrance protected by the islands of Inishnee and Inishlacken. Next in order is Birterbuy Bay, studded with islets and rocks, but deep and sheltered. Kilkerrin Bay, the largest on this coast, has a most productive kelp shore of nearly 100 miles; its mouth is but 8 miles broad. Between Gorumma Island and the mainland is Greatman's Bay; and close to it Costello Bay, the most eastern of those in Connemara. The whole of the coast from Greatman's Bay eastward is comprehended in the Bay of Galway, the entrance of which is protected by the three limestone islands of Aran—Inishmore (or Aranmore), Inishmann, and Inisheer.

Rivers.—The rivers are few, and, except the Shannon, are of small extent. The Suck, which forms the eastern boundary of the county, rises in Roscommon, and passing by Ballinasloe, unites with the Shannon at Shannon bridge. The Shannon, which rises at the foot of Cuilcagh in the county of Cavan, forms the south-eastern boundary of the county, and passing Shannon Harbour, Banagher, Meelick, and Portumna, swells into the great expanse of water called Lough Derg, which skirts the county as far as the village of Mount Shannon. The Claregalway flows southward through the centre of the county, and enters Lough Corrib some 4 miles above the town of Galway. The Ballynahinch, considered one of the best salmon-fishing rivers in Connaught, rises in the Twelve Pins, passes through Ballynahinch Lake, and after a short but rapid course falls into Birterbuy Bay.

Lakes.—The Lakes are numerous. Lough Corrib extends from Galway town northwards over 30,000 acres, with a coast of 66 miles in extent. It has now been made navigable to Lough Mask (which lies chiefly in Mayo county) and to the sea at Galway. The lake is studded with many islands, some of them thickly inhabited. Near it is Lough Ross, which receives a large supply of water from streams, but has no visible outlet. The district to the west of Lough Corrib contains in all about 130 lakes, about 25 of them more than a mile in length. Lough Rea, at the town of the same name, is more remarkable for scenic beauty than for extent. Besides these perennial lakes, there are several low tracts, called turloughs, which are covered with water during a great part of the year.

Geology and Minerals.—The boundary line between the limestone and granitic district is easily discernible by the diminution of the verdant hue which distinguishes the latter. The high road from Galway to Oughterard nearly marks the division. All the country to the north and east of this limit is limestone, all to the south and west granite, excepting some detached masses of primitive limestone between Oughterard and Clifden, and some scattered portions of

other minerals, of great variety of appearance. The component rock of Binabola is quartz, in general distinctly stratified, or at least schistose. The position of its beds is various. Towards the western shore they are vertical, easily splitting by intervening mica plates, and affording good building stone. Limestone occurs in some places along the foot of these mountains. Round the base of this group are also gneiss and mica slate, with bands of hornblende and primitive mica. Along the north side of Lough Corrib to Ballynakill the mica slate and hornblende rise into mountains, and the limestone disappears. From Lough Mask to the Killeries is a transition country of greenstone and grauwacke slate covered by the Old Red Sandstone or conglomerate. The hill of Glan, on the shore of Lough Corrib, exhibits, in a small compass, all the formations which occur in the district. The western end is quartz, the north-eastern side mica slate; the middle is penetrated by beds of mica slate, containing hornblende and granular mica covered by thick beds of pyritous greenstone. On the south and east are granite and syenite, which runs under the sandstone conglomerate towards Oughterard, and this again passes under the flötiz limestone, which, beyond Lough Corrib, occupies the greater part of Connaught and Leinster. Along the borders of the flötiz limestone is a series of vast caverns, usually traversed by subterranean rivers. A fine gritstone, highly valued for making millstones, is raised near Dunmore. Crystalline sand, of a superior quality for scythe boards, occurs at Lough Coutra. Lead, zinc, copper, sulphur, and bismuth have been discovered in various parts of the western division of the county. Iron was raised at Woodford, and smelted until the timber was exhausted. The mountains of Slievebaughy, which separate Galway from Clare, are siliceous. In Connemara there is abundance of green variegated marble called serpentine; and a beautiful black marble, without spots or flaws, and susceptible of a high polish, is obtained near Oughterard. Mineral spas, mostly chalybeate, are abundant.

Climate and Agriculture.—The climate is mild and salubrious, but variable, and violent winds from the west are not uncommon. Frost or snow seldom remains long on the western coast, and cattle of every description continue unshod during the winter. The eastern part of the county produces the best wheat. Oats are frequently sown after potatoes in moorish soils less adapted for wheat. The flat shores of the bays afford large supplies of seaweed for manure. Limestone, gravel, and marl are to be had in most other parts. When a sufficient quantity of manure for potatoes cannot be had, the usual practice is to pare and burn the surface. In many places on the sea-shore fine early potatoes are raised in deep sea-sand, manured with sea-weed, and the crop is succeeded by barley. Those parts of the eastern district less fitted for grain are employed in pasturage. Heathy sheep-walks occupy a very large tract between Monivea and Galway. An extensive range from Athenry, stretching to Galway Bay at Kinvarra, is also chiefly occupied by sheep.

The total area under crop in 1878 was 214,065 acres, as compared with 235,168 in 1853. The following tables show the acres under the principal crops, and also the numbers of the different domestic animals, during those years:—

	Wheat.	Oats.	Barley, Pease, &c.	Potatoes.	Turnips.	Other Green Crops.	Meadow and Clover.
1878	4,416	53,205	8,095	50,694	14,041	8,910	75,333
1853	16,817	83,840	15,751	46,134	18,788	10,764	45,780

	Horses.	Asses.	Cattle.	Sheep.	Pigs.	Goats.	Poultry.
1878	28,599	14,384	169,002	652,778	57,314	10,927	751,116
1853	22,916	13,714	139,497	465,430	41,403	15,632	410,199

According to the returns of 1875-6, the total value of land, exclusive of the town of Galway, was £437,686, 15s., and the average value per acre was 6s. 11½d., as compared with 6s. 9d. for the province, and 13s. 3d. for the whole of Ireland. The county was divided among 1235 proprietors, of whom 332, or 27 per cent., held less than one acre. The following possessed more than 20 000 acres, viz:—Richard Berridge, 159,898; Marquis of Clanricarde, 49,025; Lord Dunsandle, 33,543; Allan Pollok, 29,366; Lord Clonbrock, 28,246; Sir Thomas J. Burke, 25,258; Earl of Clancarty, 23,896.

Manufactures.—Manufactures are not carried on beyond the demand caused by the domestic consumption of the people. Coarse friezes, flannels, and blankets are made in all parts, and sold largely in Galway and Loughrea. Connemara has been long celebrated for its hand-knit woollen stockings. Coarse linen, of a narrow breadth, called bundle linen, is also made for home consumption. A linen-weaving factory has been established at Oughterard. The manufacture of kelp, formerly a great source of profit on the western shores, is still carried on to some extent. Feathers and sea-fowls' eggs are brought in great quantities from the islands of Aran, the produce of the puffins and other sea-fowl that frequent the cliffs. Fish-

ing affords occupation to many of the inhabitants, but from want of capital is not prosecuted with sufficient vigour. In 1877 the number of vessels engaged was 451, with 1104 men and 58 boys.

Population.—The county includes one parliamentary borough, Galway; and three townships, Ballinasloe (part of which is, however, in the county of Roscommon), 4159; Loughrea, 3072; and Tuam, 4223. The largest of the villages are Gort, 1773; Clifden, 1313; Athenry, 1194; Headford, 870; Oughterard, 861; and Eyro-court, 747. The population in 1831 was 414,684; in 1851, 321,684; and in 1871, 248,458, of whom 122,496 were males and 125,962 females. In 1871 the number of Catholics was 239,902, and of Protestants 8556, of whom 7464 were Episcopalians and 615 Presbyterians. Of persons five years and upwards 173,361 were illiterate, a proportion of 56.9 per cent.; and 30,239 could speak Erse only, as compared with 41,572 in 1861. Emigration from this county has drafted off a very large number of its inhabitants. From the 1st of May 1851 to 31st December 1877 there were 104,691 emigrants, or an annual average of 3950.

Representation and Administration.—Two members of parliament are returned for the county, and two for Galway borough. There are in the county 35 petty-sessions districts, and part of another. Quarter-sessions are held at Ballinasloe, Clifden, Galway, Gort, Loughrea, Oughterard, Portumna, and Tuam. There are five poor-law unions wholly within the county, Galway, Loughrea, Mount Bellew, Portumna, and Tuam; nearly the whole of Clifden, Gort, and Oughterard; and parts of five others—Ballinasloe, Ballinrobe, Glennamaddy, Roscommon, and Scariff. The county is within the Dublin military district, and there are barrack stations at Loughrea, Dunmore, Portumna, Galway, Gort, and Oughterard. It is divided into 18 baronies.

Antiquities.—Amongst these are the round towers of Ardrahan, Ballygaddy, Kilbannon, Kilmacduagh, Meelick, and Murrough. Rathes are numerous, and several cromlechs are still to be seen in good preservation. The ruins of monastic buildings are also numerous. That of Knockmoy, about 6 miles from Tuam, said to have been founded in 1180 by Cathal O'Connor, was adorned with rude fresco paintings, still discernible, which were considered valuable as being the best authentic representations existing of ancient Irish costumes. Ancient castles and square towers of the Anglo-Norman settlers are frequently met with; some have been kept in repair, but the greater number are in ruins. The castle of Tuam, built in 1161 by Roderick O'Connor, king of Ireland, at the period of the English invasion, is said to have been the first building of this description of stone and mortar in Ireland. The remains of a round castle, a form of building very uncommon in the military architecture of the country, are to be seen between Gort and Kilmacduagh.

GALWAY, the county town, and a parliamentary borough, is also a county in itself, with an exclusive jurisdiction extending two miles on every side except the south. It stands on the northern shore of the Bay of Galway, on both sides of the river Corrib, which connects Lough Corrib with the sea. The space within the walls formed an oval of about 3426 square perches. Some of the streets are very narrow, and contain several curious specimens of old buildings, chiefly in the antique Spanish style, being square, with a court in the centre, and a gateway opening into the street. The finest of these is the pile of buildings known as Lynch's Castle. During the last few years many large shops have been built in the principal streets, and several handsome residences have been erected in the suburbs. St Nicholas church is the most remarkable building in the town. It is cruciform, 152 feet long by 126 broad, with a steeple rising over the nave, and the side aisles separated from the centre by Gothic pillars. It contains several antique monuments. The exchange, near the church, consists of an open corridor, 90 feet long by 28 broad, with a front of arches supporting an upper story, in which are apartments for holding the local courts, and for other public purposes. St Augustine's church (Roman Catholic), an edifice in the First Pointed style, was erected in 1859. The county court-house is an elegant and commodious building; near it are the county and town prisons. The town also contains a county infirmary, a union workhouse, a fever hospital, three monasteries, five nunneries, and two barracks. A grammar-school is in the immediate neighbourhood of the town. Queens College, built of beautiful grey limestone, is an elegant and extensive quadrangular structure in the Tudor Gothic style. Near the college is a national school. The shipping trade of Galway has for some time been gradually

increasing. In 1877 the number of British vessels that entered the port was 153, with a tonnage of 30,034; of foreign vessels 33, with a tonnage of 16,166. The number of British vessels that cleared was 136, with a tonnage of 29,827; of foreign vessels 27, with a tonnage of 13,225. The chief articles exported are agricultural produce, wool, and marble. There are a brewery, a distillery, a paper mill, a tannery, and several flour mills; and a company has recently been formed for the purpose of extracting iodine and marine salts from seaweed. The salmon fishery is of considerable value. Galway is divided into the old and new towns, and the maritime suburb of Claddagh, inhabited almost entirely by fishermen and their families, who have acquired or retained certain peculiar usages and habits of their own.

Little is known of the history of Galway until after the arrival of the English, at which time it was under the protection of O'Flaherty, who possessed the adjoining district to the west. On the extinction of the native dynasty of the O'Connors, the town fell into the hands of the De Burgos, the head of a branch of which, under the name of M'William Eighter, long governed it by magistrates of his own appointment. After it had been secured by walls, which began to be built in 1270, it became the residence of a number of enterprising settlers, through when it attained a position of much commercial celebrity. Of these settlers the principal families, fourteen in number, were known as the tribes of Galway. They were of Norman, Saxon, or Welsh descent, and became so exclusive in their relationships that dispensations were frequently requisite for the canonical legality of marriages among them. The town rapidly increased from this period in wealth and commercial rank, far surpassing in this respect the rival city of Limerick. Richard II. granted it a charter of incorporation with liberal privileges, which was confirmed by his successor. It had the right of coinage by Act of Parliament, but there is no evidence to show that it exercised the privilege. Another charter, granted in 1545, extended the jurisdiction of the port to the islands of Aran, permitted the exportation of all kinds of goods except linens and woollens, and confirmed all the former privileges. Large numbers of Cromwell's soldiers are said to have settled in the town; and there are many traces of Spanish blood among the population. Its municipal privileges were extended by a charter from James I., whereby the town, and a district of two miles round in every direction, were formed into a distinct county, with exclusive jurisdiction and a right of choosing its own magistrates. During the civil wars of 1641 the town took part with the Irish, and was surrendered to the Parliamentary forces under Sir Charles Coote; after which the ancient inhabitants were mostly driven out, and their property was given to adventurers and soldiers, chiefly from England. On the accession of James II. the old inhabitants entertained sanguine hopes of recovering their former rights. But the successes of King William soon put an end to their expectations; and the town, after undergoing another siege, again capitulated to the force brought against it by General Ginkell. In the beginning of the present century the walls were thrown down, and buildings erected on their site.

Galway is governed by a high sheriff, a recorder, local magistrates, and a board of 24 commissioners elected triennially. The area of the municipal borough is 955 acres. The population in 1861 was 16,967, and in 1871 15,597, of whom 14,424 were Roman Catholics. The parliamentary borough has an area of 22,493 acres, and a population of 19,843.

GAMA, VASCO DA (c. 1460-1524), the celebrated Portuguese navigator and discoverer, was born at Sines, a small sea-town in the province of Alemtejo. No one will deny that his name deservedly stands high in the roll of naval heroes; yet it cannot be doubted that he owes

the brilliancy of his reputation to his country's illustrious poet, Luiz de Camoens, by whom his discoveries in India and their results have been assigned the foremost place in the great national epic *Os Lusíadas*. Of Vasco's early history little is known. His descent, according to the *Nobiliario* of Antonio de Lima, is derived from a noble family which is mentioned in the year 1166; but the line cannot be traced without interruption farther back than the year 1280, to one Alvaro da Gama, from whom was descended Estevão da Gama, Alcaide Mór of Sines, whose third son, the subject of this notice, was born probably about the year 1460. About this period died Prince Henry the Navigator, son of João I., who had spent his life in fostering the study of navigation, and to whose intelligence and foresight must be traced back all the fame that Portugal gained on the seas in the 15th and 16th centuries. Explorers sent out at his instigation discovered the Western Isles, and unknown regions on the African coast, whence continually came reports (which by and by affected Da Gama's history) of a great monarch, "who lived east of Benin, 350 leagues in the interior, and who held both temporal and spiritual dominion over all the neighbouring kings," a story which tallied so remarkably with the accounts of "Prester John" which had been brought to the Peninsula by Abyssinian priests, that João II. steadfastly resolved that both by sea and by land the attempt should be made to reach the country of this potentate. In the hope of making this discovery, Pedro Covilham and Afonso de Payva were despatched eastward by land; while Bartholomeu Dias, in command of two vessels, was sent westward by sea. Neither of the landward travellers ever returned to his country; but Covilham, who, in his fruitless search for a mythical sovereign, reached the Malabar coast and the eastern shores of Africa, sent back to Lisbon, along with the tales of the rich lands he had visited, this intelligence, "that the ships which sailed down the coast of Guinea ought to be sure of reaching the termination of the continent by persevering in a course to the south." King João was now seized with an ardent desire of reaching these eastern countries by the route indicated by Covilham. That there was in truth such an ocean highway was confirmed by Dias, who shortly after returned (in 1487) with the report that when sailing southward he was carried far to the east by a succession of fierce storms, past—as he discovered only on his return voyage—what he perceived to be the southern extremity of the African continent, and to which, on account of the fearful weather he had encountered, he gave the name of the Cape of Storms, an appellation which to the king, who was then elated with high hopes of enriching his kingdom by the addition of eastern possessions, appeared so inauspicious that he changed it to that of Cape of Good Hope. The state of João's health, however, and concerns of state, prevented the fitting out of the intended expedition; and it was not till ten years later, when Manoel had succeeded to the throne, that the preparations for the great voyage were completed,—hastened, doubtless, by Columbus's discovery of America in the meanwhile. For the supreme command of this expedition the king selected Vasco da Gama, who had in his youth fought in the wars against Castile, and in his riper years gained distinction as an intrepid mariner. The fleet, consisting of four vessels specially built for this mission, sailed down the Tagus on the 8th July 1497, after prayers and confession made by the officers and crews in the presence of the king and court, in a small chapel on the site where now stands the church of S. Maria de Belem, afterwards built to commemorate the event. Four months later it cast anchor in St Helena Bay, South Africa, rounded the Cape in safety, and in the beginning of the next year reached Melinda. Thence, steering eastward, under the direction of a pilot

obtained from Indian merchants met with at this port, Gama arrived at Calicut, on the Malabar coast, on the 20th May 1498, and set up, according to the custom of his country, a marble pillar as a mark of conquest and a proof of his discovery of India. His reception by the zamorin, or ruler of Calicut, would have in all probability been favourable enough, had it not been for the jealousy of the Moorish traders who, fearing for their gains, so incited the Hindus against the new comers that Gama, after escaping from enforced detention on shore, was obliged to fight his way out of the harbour. Having seen enough to assure him of the great resources of this new country, he returned home in September 1499 with a glowing description of it. The king received him with every mark of distinction, created him a noble, and ordered magnificent fêtes to be held in his honour in the principal towns of the kingdom, "for he had brought back (not without severe loss in ships and in men) the solution of a great problem, which was destined to raise his country to the acme of prosperity." In prosecution of Gama's discoveries another fleet of 13 ships was immediately sent out to India by Manoel, under Alvarez Cabral, who, in sailing too far westward, by accident discovered Brazil, and on reaching his destination established a factory at Calicut. The natives, again instigated by the Moorish merchants, rose up in arms, and murdered all whom Cabral had left behind. To avenge this outrage a powerful armament of ten ships was fitted out at Lisbon, the command of which was at first given to Cabral, but was afterwards transferred to Gama on his urgent petition; for, "Sire," he said, "the king of Calicut arrested me and treated me with contumely, and because I did not return to avenge myself of that injury he has again committed a greater one, on which account I feel in my heart a great desire and inclination to go and make great havoc of him." In the beginning of 1502 the fleet sailed, and on reaching Calicut Gama immediately bombarded the town, enacting deeds of inhumanity and savagery too horrible to detail, and equalled only by the tortures of the Inquisition. Gama was naturally "very disdainful, ready to anger, and very rash;" but no peculiarities of disposition—nothing whatever—can excuse such acts as his, which have justly left a stain on his character that neither time nor the brightness of his fame as a navigator can in the slightest degree obliterate. From Calicut he proceeded in November to Cochin, "doing all the harm he could on the way to all that he found at sea," and having made favourable trading terms with it and with other towns on the coast, he returned to Lisbon in September 1503, with richly laden ships. He and his captains were welcomed with great rejoicings; "but to Dom Vasco the king gave great favours, and all his goods free and exempt; he granted him the anchorage dues of India, made him admiral of its seas for ever, and one of the principal men of his kingdom." Soon after his return Vasco retired to his residence in Evora, and for twenty years took no part in public affairs, either from pique at not obtaining, as is supposed by some, so high rewards as he expected, or because he had in some way offended Manoel. During this time the Portuguese conquests increased in the East, and were presided over by successive viceroys. The fifth of these was so unfortunate that Gama was recalled from his seclusion by Manoel's successor, João III., created count of Vidigueira, and nominated viceroy of India, an honour which in April 1524 he left Lisbon to fill. Arriving at Goa in September of the same year, he immediately set himself to correct, with vigour and firmness, the many abuses and evil practices which had crept in under the rule of his predecessors. He was not destined, however, to prosecute far the reforms he had inaugurated, for, on the Christmas-eve following his arrival he died, while at Cochin, after a short illness, and was

buried in the Franciscan monastery there. In 1538 his body was conveyed to Portugal and entombed in the town of Vidigueira, of which he was count, with all the pomp and honour due to one who had been the king's representative.

The important discoveries of Vasco da Gama had the immediate result of enriching Portugal, and raising her to one of the foremost places among the nations of Europe, and by degrees the far greater one of hastening the colonization and civilization of the East by opening its commerce to the great Western powers.

For further information the following works may be consulted.—*The Three Voyages of Vasco da Gama and his Vicereignty*, by Gaspar Correa (Hakluyt Society); *Calicut (i.e., Calicut), A Dutch Narrative of the Third Voyage of Vasco da Gama*, written by some unknown seaman of the expedition, printed at Antwerp about 1504, reprinted in facsimile, with introduction and translation, by J. Ph. Berjeau, London, 1875; *Discoveries of Prince Henry of Portugal*, by R. H. Major; *The Lusitads of Camoens*; Cooley, *History of Maritime Discovery*; Barros, *Decades*; Alvaro Velho, *Rotreiro da viagem que em descobrimento da India pelo cabo de Boa Esperança fez dom Vasco da Gama em 1499*, the manuscript of which is preserved at Coimbra, and a translation of which by Ferdinand Denis may be found in E. Charton's *Voyageurs Anciens et Modernes*, vol. iii., 1855; Castan Leda, *Historia do Descobrimento da India*, Coimbra, 1551 (largely based on Alvaro Velho's MSS.). (H. O. F.)

GAMALIEL (גמליאל, i.e., God is a rewarder, Γαμλιήλ), a Hebrew proper name, which occurs more than once in the Old Testament (Numb. i. 10; ii. 20), is repeatedly met with in the history of later Judaism. Of the persons designated by it the most important are enumerated below:—

1. GAMALIEL, or Rabban Gamliel the elder, as he is invariably called in the Talmud to distinguish him from his grandson, Rabban Gamliel or Gamliel of Jabneh (Jamnia), was the son of Rabbi Simeon, and the grandson of Rabbi Hillel. Of his biography little is known beyond the facts that, early in the 1st century, he lived and taught in Jerusalem, where Saul of Tarsus was for some time his pupil; and that he was a member of the Sanhedrim, which body he successfully counselled to moderation in their treatment of the followers of Jesus.¹ He appears to have died before the destruction of the city. The Talmudists speak of him as having enjoyed the confidence of Cypros, the wife of Agrippa, and as having been president of the Sanhedrim during the reigns of Tiberius, Caligula, and Claudius; but the latter representation at least is certainly unhistorical, as may be learned from the New Testament and from Josephus, where it is invariably the high priest who presides over the council. Gamaliel the elder is also represented by Jewish tradition as having in some respects modified the provisions of the law with respect to divorce and marriages of widows, and as having made some new arrangements with regard to the calendar; but there is reason to believe that in this last statement he has been mistaken for Gamaliel of Jabneh. The fact that he is spoken of in the records of Judaism as having been the first of the seven "rabbans" (rabban being a honorific form of the title rabbi) is of itself almost conclusive against the late and otherwise improbable Christian tradition to the effect that he ultimately became a Christian and received baptism at the hands of Peter and John (*Clem. Recog.*, i. 65; Photius, cod. 171, p. 199). Compare Ewald, *Gesch. d. V. Isr.*, vi. 256 sq.; Derenbourg, *Hist. de Palestine*, p. 239 sqq.; Schürer, *NTliche Zeitgesch.*, p. 458.

2. GAMALIEL of Jabneh ranks with his grandfather, Gamaliel the elder, as one of the seven great rabbans of the Talmudists. His father also was named Simeon. On the death of Rabbi Johanan ben Zaccai, Gamliel was chosen to succeed him as head of the famous school

¹ The criticisms of Baur and others upon the speech, as recorded in Acts v. 34-39, do not affect the general fact as now stated.

which had transferred itself to Jamnia or Jabneh shortly before the destruction of Jerusalem. For a considerable period after that event Jabneh became in some sense the metropolis of Judaism, and Gamliel, as head of the supreme judicial and legislative body which sat there, may be said to have been the first nasi or "prince" of the rabbinical period. An interesting account of his position as legislator will be found in chapter xx. of Derenbourg's *Histoire de Palestine*. As representing the Jewish nation and the Jewish faith, he visited Rome in the autumn of 95 A.D., and the Talmud abounds with references to the incidents of that journey. Gamliel was the friend of Rabbi Akiba, and the master of Aquila (the "Onkelos" of the Babylonian Talmud). He died about 115 A.D. (see Ewald, *Gesch. d. V. Isr.*, vii. 388).

3. A third GAMALIEL, son of Jehudah-ha-Nasi, is mentioned in *Aboth*, ii. 2, as having specially insisted on the necessity of combining with the study of the law some active employment in order to the maintenance of a healthy moral tone.

GAMBIA, GAMBRA, BA DIMMA, or FURA, an important river of Western Africa, which enters the Atlantic about 13° 50' N. lat. Its sources are in the central plateau of the Futa Jallon highlands, a tract of country about 240 miles inland, which also contains the head waters of the Senegal, the Faleme, the Rio Grande, and some tributaries of the Niger. Flowing almost due N. for the first 200 miles of its course, it turns somewhat abruptly to the W., and continues in that direction through a country of great fertility. Steamers can proceed up the river as far as Yaba Tenda; the channel remains navigable for boats 300 miles from the mouth to the falls of Barraconda; and above the falls it is again navigable, as was shown by Governor Macdonnell's expedition in 1851, for at least 160 miles farther. The principal affluent is the Neries, which, coming from the north, joins the main stream about 30 or 35 miles above the falls. At Fattatenda, a short distance below the falls, the river has a breadth, even in the dry season, of about 320 feet, with a depth of from 13 to 20 feet. In the rainy season it rises from 20 to 50 feet, and the whole country downwards to the sea is laid under water, and receives a rich alluvial deposit.

The British colony of Gambia comprises a considerable territory mainly on the left bank at the mouth of the river, Elephant's Island about 100 miles from the sea, and Macarthy's Island still further inland. The whole area under British authority is 21 square miles. The population in 1851 was stated at 5693, in 1861 at 6939, and in 1871 at 14,190 (7306 males and 6884 females). In the 15 years from 1860 to 1874 the total gross revenue was £268,232, making an annual average of £17,802; and the gross amount of public expenditure in the same period was £255,291, making an annual average of £17,019, or a total surplus of revenue over expenditure of £2941. In 1862, 1863, and 1864 the liabilities exceeded the assets by £3638, £4817, and £5492 respectively, but there is no funded debt. The Gambia settlement, which formerly cost the imperial revenue from £20,000 to £25,000 per annum, now provides for its own defence,—an armed police force, recruited mainly from the Mahometan tribe of the Houssas, having been substituted since 1869 for the imperial troops. The parliamentary grant, which had averaged about £4200 per annum from 1860 to 1867, was reduced to £1500 in 1868, and finally withdrawn in 1871, and all expenses are met by the local revenue. The Gambia district was originally united with Sierra Leone on the dissolution of the African Company in 1822; in 1843 it was made a separate colony, the first governor being Henry Frowd Seagram; in 1868 it was reunited to Sierra Leone; and it is now governed by an adminis-

trator. The capital of the colony is Bathurst, a town on the eastern side of St Mary's Island.

St Mary's Island lies at the mouth of the river on the south side, close to the mainland, from which it is separated by a stretch of mangrove swamp and a narrow arm of the river called Oyster Creek. It is about 15 miles in length by less than a mile in breadth, and consists of a slightly elevated plain of sandy soil, which in the dry season becomes a bed of hot and shifting dust. There are naturally not many trees on the island, though a few cocoa-nuts, palms, papaws, willows, bananas, oleanders, and guavas manage to maintain a precarious existence. The Barbados pride, however, flourishes luxuriantly (Captain Hewitt). Bathurst is on the whole a well-built town, the principal material employed being a dirty red sandstone coated with whitewash. It lies about 12 or 14 feet above the level of the river. The market house is built of iron, and the market place was planted with trees in 1869. Besides the Government house and the barracks, there is a hospital founded by General Macdonnell, a court-house, and an Episcopal church completed about 1869. The population of the town is of a very motley description, including, besides the white officials, and traders to the number of about 50, half-castes of all shades, liberated negroes, Jolloffs, Barras, and other local tribes. The part of the mainland immediately contiguous to St Mary's is known as British Combo, an area of about 6 miles long by from 2 to 3 miles broad having been secured by treaty with the king of Combo in 1853.

McCarthy's Island lies about 180 or 200 miles above St Mary's. It is about 5½ miles in length and 1 in breadth. There are two or three "factories," a considerable trading town, peopled partly by liberated Africans, a fort, a Methodist church, and a schoolhouse. Though this was the last spot actually in British possession, it was long understood by Gambia traders that they were under British protection much farther up the stream; but, according to the despatches of Lord Carnarvon in 1877, they must proceed at their own risk as soon as they advance beyond British territory. St James's Island, which was the seat of the British factory in the 18th century, is about 17 miles from St Mary's. It still bears traces of European occupation, but is gradually being washed away by the river.

The chief exports are ground nuts, wax, hides, ivory, gold dust, palm oil, and gum arabic; but even these are obtained in quantities that look ridiculously small when the natural richness of the country through which the Gambia flows is considered. At the close of the 18th century only two or three ships were employed in the trade; in 1839 no fewer than 239 merchant vessels visited the river; and in 1871 75 British and 154 foreign vessels entered, with a total tonnage of 51,853 tons. During the four rainy months, from July to October, the native trader conveys his employer's rice or corn up the river, and receives in exchange the pagans or country cloths; in November he barter these same cloths for ground nuts, hides, and wax; and for the rest of the year, till the rainy season comes round again, he supplies the natives with arms, powder, rum, Madras handkerchiefs, and other European productions. The French traders, however, who are gradually getting a large share of the commerce into their hands, have introduced the custom of money transactions, and the innovation is well received by the natives.

The trade in ground nuts is of comparatively recent development. In 1836 the value exported was only £288; in 1837 it reached £2053, and in 1840 no less than £15,209. In 1860 the value was £79,611, and in 1861 £101,060. The average quantity between 1850 and 1860 was 11,196 tons; between 1870 and 1877 it was 14,000 tons. The supply is greatly affected by the political state of the country in which the nuts are grown. Most of the necessary tillage is performed by the tribe of the Sera-Woullis, who come down from the interior in great numbers, and return home when they have earned what they desire. The French markets are the principal destination of the nuts. American traders deal mainly in hides, horns, and beeswax; and the honey is chiefly purchased for the German market. The Roman Catholics maintain a mission and a small convent in the Gambia, and the Wesleyans have long had a number of stations. The latter have done great service to education

in the colony,—their 10 schools, as far back as 1860, being attended by 1273 scholars. It was not till 1869 that, even at Bathurst, a Government school was established; but there are now several schools in connexion with the Episcopal church. The Roman Catholics began the erection of a large schoolhouse in 1873.

The Gambia was visited by the Carthaginian explorer Hanno, and it became early known to the Portuguese discoverers; but it was not till 1618 that English traders began to turn their attention to this quarter. In that year a company was formed for the exploration of the river. Richard Thompson was sent out in the "Catherine," and succeeded in reaching Kassar, a Portuguese trading town, but he never returned, and his fate is not known. Two years afterwards, Richard Jobson advanced beyond the falls of Barraconda; and he was followed, about 40 years later, by Vermuyden, a Dutch merchant. In 1723 Captain Stibbs was sent out by the African Company to verify Vermuyden's reports of gold; he proceeded 60 miles above the falls. The treaty of Versailles in 1763 assigned the right of trade in the Gambia to Britain, reserving the single port of Albreda for the French; while at the same time it assigned the Senegal to France, and reserved the port of Portendic for the British. By the treaty of Paris in 1851 this arrangement was re-established, and it remained in force till 1857, when an exchange of possessions was effected, and the Gambia became a purely British river. In 1870 there was a proposal to transfer the colony to the French; but it led to nothing more than a voluminous diplomatic correspondence.

See Astley's *Collection*, vol. ii.; R. R. Madden's Report to the Government in 1841; T. E. Poole, *Life in Sierra Leone and the Gambia*, 1850; L. Borel, *Voyage à la Gambie*, 1865; and the Parliamentary Papers relating to Her Majesty's Colonial Possessions.

GAMBIER, GAMBIE, or PALE CATECHU. See CATECHU.

GAMBIER, JAMES, BARON (1756–1833), English admiral, was born on the 13th October 1756, at the Bahamas, of which his father, John Gambier, was at that time lieutenant-governor. He entered the navy in 1767 as a midshipman on board the "Yarmouth," under the command of his uncle; and, his family interest obtaining for him rapid promotion, he was raised in 1778 to the rank of post-captain, and appointed to the "Raleigh," a fine 32-gun frigate. At the peace of 1783 he was placed on half-pay; but, on the outbreak of the war of the French Revolution, he was appointed to the command of the 74-gun ship "Defence," under Lord Howe; and in her he had an honourable share in the action off Ushant, on the 1st June 1794. In recognition of his services on this occasion, Captain Gambier received the gold medal, and was made a colonel of marines; the following year he was advanced to the rank of rear-admiral, and appointed one of the lords of the Admiralty. In this office he continued for six years, till, in February 1801, he, a vice-admiral of 1799, hoisted his flag on board the "Neptune," of 98 guns, as third in command of the Channel Fleet under Admiral Cornwallis, where, however, he remained for but a year, when he was appointed governor of Newfoundland and commander-in-chief of the ships on that station. In May 1804 he returned to the Admiralty, and, with a short intermission in 1806, continued there during the naval administration of Lord Melville, of his uncle, Lord Barham, and of Lord Mulgrave. In November 1805 he was raised to the rank of admiral; and in the summer of 1807, whilst still a lord of the Admiralty, he was appointed to the command of the fleet ordered to the Baltic, which, in concert with the army under Lord Cathcart, reduced Copenhagen, and enforced the surrender of the Danish navy, consisting of nineteen ships of the line, besides frigates, sloops, gunboats, and naval stores. This service was considered by the Government as worthy of special acknowledgment; the naval and military commanders, officers, seamen, and soldiers received the thanks of both Houses of Parliament, and Admiral Gambier was rewarded with a peerage.

In the spring of the following year he gave up his seat at the Admiralty on being appointed to the command of the Channel Fleet; and in that capacity he witnessed the partial, and prevented the total, destruction of the French fleet in Basque Roads, on the 12th April 1809. It is in

connexion with this event, which might have been as memorable in the history of the British navy as it is in the life of Lord Dundonald (see DUNDONALD), that Lord Gambier's name is now best known. A court-martial, assembled by order of a friendly Admiralty, and presided over by a warm partisan, "most honourably acquitted" him on the charge "that, on the 12th April, the enemy's ships being then on fire, and the signal having been made that they could be destroyed, he did, for a considerable time, neglect or delay taking effectual measures for destroying them;" but this decision was in reality nothing more than a party statement of the fact that a commander-in-chief, a supporter of the Government, is not to be condemned or broken for not being a person of brilliant genius or dauntless resolution. No one now doubts that the French fleet should have been reduced to ashes, and might have been, had Lord Gambier had the talents, the energy, or the experience of many of his juniors. He continued to hold the command of the Channel Fleet for the full period of three years, at the end of which time—in 1811—he was superseded. In 1814 he acted in a civil capacity as chief commissioner for negotiating a treaty of peace with the United States; for his exertions in which business, he was honoured with the Grand Cross of the Bath. In 1830 he was raised to the high rank of admiral of the fleet, and he died 19th April 1833.

Although he had the good fortune to attain the very highest service rank, Lord Gambier is assuredly not one of those admirals whose memory the British navy treasures or idolizes. His predilection was for a life on shore; and during the great war he so utilized his family interest that he remained for nearly half the time a member of the Admiralty. And whether afloat or ashore, he had neither the genius nor the strength of mind fitted for high command or high office. Personally he was a man of earnest, almost morbid, religious principle, and of undoubted courage; but the administration of the Admiralty has seldom given rise to such flagrant scandals as during the time when Lord Gambier was a member of it; and through the whole war, the self-esteem of the navy suffered no such wound as during Lord Gambier's command in the Bay of Biscay.

The so-called *Memorials, Personal and Historical, of Admiral Lord Gambier*, by Laſy Chatterton (1861), has no historical value. The life of Lord Gambier is to be read in Marshall's *Royal Naval Biography*, in Ralf's *Naval Biography*, in Lord Dundonald's *Autobiography of a Seaman*, in the Minutes of the Courts-Martial, and in the general history of the period.

GAMBOGE, the drug *Cambogia*, a gum-resin procured from *Garcinia Morella*, Desrous., var. *pedicellata*, a dioecious tree with leathery, laurel-like leaves, small yellow flowers, and usually square-shaped and four-seeded fruit (see R. Jamie, *Pharm. Journ.*, 3d ser., vol. iv. p. 802), a member of the natural order *Guttifera*, and indigenous to Cambodia (see CAMBODIA, vol. iv. p. 725), and parts of Siam and of the south of Cochin China, formerly comprised in Cambodian territory. The juice, which when hardened constitutes gamboge, is contained in the bark of the tree, chiefly in numerous ducts in its middle layer, and from this it is procured by making incisions, bamboo joints being placed to receive it as it exudes. Gamboge occurs in commerce in cylindrical pieces, known as pipe or roll gamboge, and also, usually of inferior quality, in cakes or amorphous masses. It is of a dirty orange externally; is hard and brittle, breaks with a conchoidal and reddish-yellow, glistening fracture, and affords a brilliant yellow powder; is odourless, and has a taste at first slight, but subsequently acid; forms with water an emulsion; and consists of from 20 to 25 per cent. of gum soluble in water, and from 70 to 75 per cent. of a resin, *gambogic acid*, soluble in alcohol and ether, and, according to Johnston,

of the formula $C_{20}H_{23}O_4$, together with moisture about 5 per cent., and a trace of ligneous fibre. Its commonest adulterations are rice-flour and pulverized bark. Some quantity of gamboge is shipped from Kämpot in Cambodia, but the principal places of export are Bangkok in Siam, and Saigon in Cochin China. Gamboge is a powerful hydragogue purgative, less drastic than elaterium and croton oil. Like aloes, it appears to exert its chief influence on the lower bowel (*Brit. and For. Med.-Chir. Rev.*, i., 1853, p. 128), and in combination with compound colocynth pill it has been recommended by Dr Symonds as one of the most efficient purgatives in torpor of the colon. The researches of Christison, Pabo, and Daraszkiwicz go to prove that gambogic acid alone is less cathartic than the same weight of gamboge; according to the last-mentioned experimenter and Schaur, the presence of bile in the intestines is requisite for the development of its action. In cerebral affections, as apoplexy, when great debility is not present, gamboge has proved to be a valuable counter-irritant purgative. It is sometimes employed as an anthelmintic, but appears to be devoid of any specific influence on entozoa. Some authorities regard it as decidedly diuretic in action. By Christison and others it has been found highly serviceable in dropsy. Abeille (quoted in *Brit. and For. Med.-Chir. Rev.*, 1853, ii. p. 279) administered it for that disease, in alcoholic solution, in divided doses of 6 grains per diem, increased by 2 grains daily, and given two hours prior or subsequent to meals. With the relief of the dropsy he observed that the patient's toleration of these large quantities ceased. As gamboge is apt to occasion vomiting and griping, it is usually administered in combination with milder remedies. It is an ingredient of the *pilula cambogiae composita* of pharmacy. In overdoses it acts as an acrid poison, provoking violent emesis and catharsis, and abdominal pain, coldness of the extremities, and ulceration and mortification of the intestines, eventuating in death. Gamboge is used as a pigment, and as a colouring matter for varnishes. It appears to have been first brought into Europe by merchants from the East, at the close of the 16th century. Bontius, writing in the year 1658, mentions it under the name of *guttagemou*, a word derived by Rost from the Malay *gutáh*, gum, and Javanese *jamu*, medicinal. By the Chinese gamboge (*tang-hwang* and *shih-hwang*) is understood to be "serpent-bezoar," a substance vomited up by serpents, or the product of a species of ratan, analogous to the tabasheer of the bamboo (F. P. Smith, *Contrib. towards the Mat. Med. . . of China*, 1871). Varieties of gamboge are yielded by *Garcinia Morella*, Desrous., a native of S. India and Ceylon, and by the Indian species *G. pictoria*, Roxb., and *G. travancorica*, Beddome. See Christison, "Obs. on a new variety of Gamboge from Mysore," *Pharm. Journ.*, ser. i. vol. vi. pp. 60–69, and "On the Gamboge Tree of Siam," *ib.*, vol. x. p. 235; F. Mason, "On the Gamboge of the Tenasserim Provinces," *ib.*, vol. vii. p. 398; Perret, *Materia Medica*, vol. ii. pt. ii.; D. Hanbury, "On the Species of *Garcinia* which affords Gamboge in Siam," *Trans. Linn. Soc.*, xxiv., 1864, 487–490; E. J. Waring, *Map. of Pract. Therapeutics*, 3d ed., 1871; J. L. de Lanéssan, "Étude sur le Genre *Garcinia* (Clusiacées) et sur l'Origine et les Propriétés de la Gomme Gutte," *Coll. des Thèses soutenues à la Faculté de Médecine de Paris*, 1872, vol. x., No. 63; Fliückiger and Hanbury, *Pharmacographia*, 1874; H. C. Wood, *A Treatise on Therapeutics*, 1874; Bentley and Trimen, *Medicinal Plants*, pt. xxx., pl. 33.

GAME LAWS. This expression is applied in England to a series of statutes of modern date, establishing a peculiar kind of property in wild animals. These statutes, it is well known, are regarded with great dislike by a large and important section of the people—partly on account of their alleged injurious economic effects, and partly on account of their harsh and exceptional character. It will be well to state first the principles of the common law, and then to show how far they have been superseded by recent legislation.

By the very nature of the case, wild animals cannot be made the subject of that absolute kind of ownership which is generally signified by the term property. The substantial basis of the law of property is physical possession, the actual power of dealing with things as we see fit, and we can have no such power over animals in a state of nature. Accordingly, the common law recognized nothing like property in wild animals, until they had, as it were, been reduced into possession. Wild animals reclaimed or confined become property, but the moment they escape from confinement the property is gone, and the rights of the owner are lost. Even bees, which might well be described as domesticated and not wild animals, do not become property until they are hived. "Though a swarm lights on any tree," says Bracton, "I have no more property therein than I have in the birds which make their nests thereon." The owner of a confined animal which escapes does indeed retain his property while he is in pursuit of the fugitive; i.e., no other person can, in the meantime, establish a right of property against him by capturing the animal, just as a swarm of bees "which fly from and out of my hive are mine so long as I can keep them in sight, and have power to pursue them." Again, the law recognized a right in wild animals *propter impotentiam*, i.e., when they were young and unable to move from place to place. With these exceptions wild animals were *res nullius*, capable of being made the property of any person reducing them into possession. A prior right to acquire property in such animals was, however, allowed to the owner (or occupier) of the soil. Thus it is said that "if A starts a hare in the ground of B, and hunts it and kills it there, the property continues all the while in B." B is said to have a right of property in the wild animals on his land *ratione soli*. But "if A starts a hare on the ground of B, and hunts it into the ground of C and kills it there, the property is in A, and not in B or C." That is to say, the so-called property in wild animals *ratione soli* consists in this, that if one of them is started and killed by a trespasser it belongs to the owner (or occupier) of the soil. If the animal goes to another man's land this inchoate right is transferred to the other man. And the inchoate right of the owner becomes an actual right of property only when the animal is both started and killed by the trespasser on the same man's land. Such right as the owner has belongs to the occupier when the land is given without reserve to a tenant for a term.

These principles, it will be observed, apply to all wild animals, and no distinction is made between game and other animals. The laws of the forest, however, established in derogation of the common law a different kind of property in certain classes of wild animals. For an account of these see FOREST LAW (vol. ix. p. 408). The forest code affected definite districts of the country, and the right which they protected was the exclusive right of hunting the animals of the forest within those districts.

The game laws as above defined have virtually taken the place of the forest laws. The latter protected the privilege of the king and his favourites to hunt certain animals in certain districts; the former have extended and protected the right of an owner of the soil to the chase of certain animals on his own estate. The means adopted have been to make trespass (in itself only a civil wrong) a criminal offence punishable with great severity, and to restrict, by a system of licences, the right as well of killing as of selling game. The principal Acts are 1 & 2 William IV. c. 32 (the Game Act), 9 Geo. IV. c. 69 (the Night Poaching Act), 23 & 24 Vict. c. 90 (Game Licences Act), and the Hares Killing Act, 11 & 12 Vict. c. 29. The Game Act repeals a large number of statutes on the subject, most of them passed in the 18th century. Game is defined to include "hares, pheasants, partridges, grouse, heath or moor game, black game, and