





THE

LOUISIANA PURCHASE OF 1803

A History from the Earliest Explorations to the Present Time of the Territory acquired by the Louisiana Purchase; together with Some Account of the Famous Men connected therewith; and of the Growth and Development of the States and Territories into which it has been divided



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The Louisiana Purchase of 1803¹

The Territory concerned. How it was settled; its cession from France to Spain, from Spain to France, and its sale by France to the United States.

THE English settlements along the Atlantic had covered the narrow strip of coast territory quite thoroughly before it was possible to think of expansion westward. Since about 1605 Canada had been undisputedly in the hands of the French. Their traders and missionaries had entered the present western United States; Marguette and Joliet (1673) and La Salle (1682) had explored the upper Mississippi river, and others, following their track, had explored most of the Mississippi valley and had built forts in various parts of it. About 1700 the French opened ground at the mouth of the Mississippi; D'Iberville (1702) founded Mobile and the French Mississippi Company (1718) founded the city of New Orleans. Consistent design, foiled at last only by failure of material, marks the proceedings of the French commanders in America for the next thirty years. New Orleans and Ouebec were the extremities of a line of well-placed forts which were to secure the whole Mississippi valley, and to confine the English settlements for ever to the strip of land along the coast bounded on the west by the Appalachian or Alleghany range of mountains, which is parallel to the coast, and has but one important break in its barrier, the opening through which the Hudson river flows. The practical genius of the French plans is shown by the fact that so many of these old forts have since become the sites of great and flourishing western cities : Natchez, Vincennes, Peoria, Fort Wayne, Toledo, Detroit, Ogdensburgh, and Montreal either are built on or are so near to the old

¹ From the article "United States, Part I., History and Constitution," in the Ninth Edition of the *Encyclopædia Britannica*. Copyright, 1888, by Alexander Johnston.

forts as to testify to the skill and foresight against which the English colonies had to contend. To this whole territory, extending from the mouth of the Mississippi to that of the St Lawrence, covering even the western part of the present State of New York, the name of New France was given. The English possessions, extending in hardly any place more than a hundred miles from the ocean, except where the Dutch had long ago planted the outpost of Fort Orange, or Albany, on the upper Hudson, were generally restricted to the immediate neighbourhood of the coast, to which the early population had naturally clung as its base of supplies.

The French difficulties were even greater than those of the English. The French people had never had that love of emigration which had given the English colonies their first great impetus. Even where the French settled they showed more of a disposition to coalesce with the native population than to form a homogeneous people. The French were commonly far stronger with the Indians than were the English; but, at the end of a hundred and fifty years, when the English colonists numbered a million and a quarter, all animated by the same political purposes, the population of all New France was only about 100,000, and it is doubtful whether there were 7500 in the whole Mississippi valley. The whole French system, wisely as it was designed, was subject to constant and fatal interference from a corrupt court. Its own organization was hampered by attempts to introduce the feudal features of home social life. A way was thus opened to exactions from every agent of the court, to which the people submitted with hereditary patience, but which were fatal to all healthy development. Perhaps worst of all was the natural and inevitable formation of the French line of claims. Trending westward from Ouebec to meet the northward line of forts from New Orleans, it was bent at the junction of the two parts, about Detroit, and its most important part lay right athwart the path of advancing English migration. The English wave was thus to strike the weaker French line in flank and at its weakest point, so that the final issue could not in any event have been doubtful. The French and Indian war probably only hastened the result.

There had been wars between the French and the English colonies since the accession of William and Mary, mostly accessory to wars between the mother countries. The colonies

Eighteenth-Century Treaties

had taken part in the wars ended by the peace of Ryswick (1697), the peace of Utrecht (1713), and the peace of Aix-la-Chapelle (1748). The alliance of the French and Indians made all these struggles wretched experiences for the English. The province of Canada became a prison-pen, where captives were held to ransom or adopted into savage tribes. Outlying settlements were broken up, or forced to expend a large part of their energy in watchful self-defence; and it required all the persistence of the English colonies to continue their steady forward movement. Nevertheless they even undertook offensive operations. They captured Port Royal in 1690, but it was given up to the French in 1697. They captured it again in 1710, and this time it was kept, with most of Acadia, which was now to be known as Nova Scotia. In 1745 the colonies took the strongest French fortress, Louisburgh, on Cape Breton Island, with very little assistance from the home Government. Their land expeditions against Montreal and Quebec were unsuccessful, the reason for failure being usually defective transport.

In the treaties which closed these wars, the interests of the colonies met with little consideration. The most notable instance of this was the 12th article of the treaty of Utrecht, by which an English company was secured the exclusive right to carry African slaves into American ports. Originally meant to obtain the Spanish trade in negroes, the company had influence enough to commit the crown to a steady support of the African slave-trade in its own colonies. Again and again the English legislatures in North America attempted to stop the slave-trade, and were prevented by the royal veto. This will serve to explain a passage in Jefferson's first draft of the American Declaration of Independence, as follows :---"He [the king] has waged cruel war against human nature itself. . . . Determined to keep open a market where men should be bought and sold, he has prostituted his negative for suppressing every legislative attempt to prohibit or to restrain this execrable commerce."

All parties seem to have felt that the peace of Aix-la-Chapelle was but a truce at the best; and the French court seems to have come at last to some comprehension of its extensive opportunities and duties in North America. With its tardy sympathy, its agents on the new continent began the erection of barriers against the great wave of English westward

migration which was just appearing over the crest of the Alleghanies. It was too late, however, for the English colonies were really able to sustain themselves against the French colonies and court together. Their surveyors (1747) had crossed the crests of the mountains, and had brought back appetizing accounts of the quality of the lands which lay beyond. The Ohio Company (1749), formed partly of Virginian speculators and partly of Englishmen, had obtained a grant of 500,000 acres of land in the western part of Pennsylvania (then supposed to be a part of Virginia), with a monopoly of the Indian trade. As the grant was completely on the western side of the Alleghanies, and was the first English intrusion into the Ohio valley, it behoved the French to meet the step with prompt action. Their agents traversed the Ohio country, making treaties with the Indians and burying lead plates inscribed with the lilies of France and a statement of the French claims. The erection of the Ohio Company's first fort (1752) brought on the crisis. The main line of French forts was too far away to be any check upon it. The French leaders therefore began to push a branch line eastward into the disputed territory. Their first work (1753) was put up at Presque Isle (now Erie), about 100 miles north of the Ohio Company's fort. The citadel of the disputed territory had been begun on the spot where Pittsburgh now stands, where the Allegheny and Monongahela unite to form the Ohio river. Governor Dinwiddie, of Virginia, had obtained the right to erect the fort by treaty with the Indians. From Presque Isle the French began running a line of forts south, through the present "oil district" of Pennsylvania, towards the headquarters of the English.

Washington was then a land-surveyor, barely of age; but he was the agent whom Dinwiddie selected to carry an ultimatum to the French at Presque Isle. After a perilous winter passage through the wilderness, he found that the French had no intention of evacuating their positions, and returned. Virginia at once (January 1754) voted money and men to maintain the western claims of the colonies; and Washington was sent with 400 provincial troops to secure the half-built fort at the head of the Ohio. The French were also pushing for that place. They won in the race, drove away the English workmen, and finished Fort Du Quesne, named after their governor. Washington, compelled to stop and fortify his position, won the first skirmish of the war with the French advanced guard, but was forced to surrender on terms (July 4, 1754). The usual incidents of a general Indian warfare followed for the rest of the year.

Both Governments began to ship regular troops to America, though there was no formal declaration of war until 1756. The year 1755 was marked by the surprise and defeat of Braddock, a gallant and opinionated British officer who commanded an expedition against Fort Du Quesne, by the complete conquest of Nova Scotia, and by the defeat of the French, under their principal officer, Dieskau, at Lake George, in New York, by a force of provincial troops under Sir William Johnson. In 1756 the greatest of French Canadian governors, Montcalm, arrived; and the tide of war went steadily against the English. The officers sent out by the home Government were incompetent, and they generally declined to draw on the colonists for advice. Montcalm found them an easy prey; and his lines were steadily maintained at the point where they had been when Washington surrendered at Fort Necessity. Pitt's entrance to the Newcastle ministry (June 1757) changed all this. For the first time the colonies found a man who showed a sympathy with them and a willingness to use them. Their legislatures were summoned into counsel as to the conduct of the war; and their alacrity in response was an augury of a change in its fortune. Incompetent officers were weeded out, with little regard to family or court influence. The whole force of the colonies was gathered up, and in 1758 was launched at the French. All western New York was cleared of the enemy at a blow; Fort Du Ouesne was taken and renamed Fort Pitt: Louisburgh, which had been restored to France at Aix-la-Chapelle, was again taken; and the only failure of the year was the dreadful butchery of the English in assaulting the walls of Ticonderoga. Louisburgh made an excellent point of attack against Ouebec, and Montcalm was forced to draw off nearly all his troops elsewhere for the defence of his principal post. The year 1759 was therefore begun by the capture of Ticonderoga and almost all the French posts within the present United States, and was crowned by Wolfe's capture of the towering walls of Quebec. In 1760, while George II. lay dying, the conquest of Canada was completed, and the dream of a great French empire in North America disappeared for ever.

The war continued through the first three years of George III., and the colonies took part in the capture of Havana after Spain had entered the struggle as an ally of France. The peace of Paris, which put an end to the war, restored Havana to Spain, in exchange for Florida, which now became English. France retired from North America, giving to Spain all her claims west of the Mississippi and that small portion east of the Mississippi which surrounds New Orleans, and to England the remainder of the continent east of the Mississippi. Spain retained for her territory the name of Louisiana, originally given by the French. The rest of the continent was now "the English colonies of North America."

THE CESSION BY SPAIN TO FRANCE¹

THE only advantage which Spain enjoyed at this period was comparative independence of France. The military plans of the Directory were unsuccessful during the absence of their greatest general in Egypt, and the second coalition gained successes in 1799 which had seemed impossible since 1793. But the return of Bonaparte, followed as it was by the fall of the Directory and the establishment of the Consulate, commenced a new epoch for Spain. As soon as the First Consul had time to turn his attention to the Peninsula, he determined to restore Godoy, who had already regained the affection of the Oueen, and to make him the tool of his policy. Maria Louisa was easily gained over by playing on her devotion to the house of Parma, and on October I, 1800, a secret treaty was concluded at San Ildefonso. Spain undertook to cede Louisiana and to aid France in all her wars, while Bonaparte promised to raise the Duke of Parma to the rank of king, and to increase his territories by the addition either of Tuscany or of the Roman Legations. This was followed by Godoy's return to power, though he left the department of foreign affairs to a subordinate. Spain was now more servile to France than ever, and in 1801 was compelled to attack Portugal in the French interests. Bonaparte was indignant against Portugal, partly because its fleet had aided his enemies in Egypt, and partly because its harbours offered great naval

¹ From the article "Spain," in the Ninth Edition of the *Encyclopædia* Britannica.

Under Napoleon I.

advantages to the English. The Spanish invasion, which was commanded by Godoy in person, met with no resistance, and the prince ventured to conclude a peace on his own authority, by which Portugal promised to observe a strict neutrality on condition that its territories were left undiminished. But Bonaparte resented this show of independence, and compelled Charles IV. to refuse his ratification of the treaty. Portugal had to submit to far harsher terms, and could only purchase peace by the cession of territory in Guiana, by a disadvantageous treaty of commerce, and by a payment of twentyfive millions of francs. This insult to his ally Bonaparte followed up by others. In the preliminary treaty with England he ceded the Spanish colony of Trinidad without even consulting the court of Madrid, while he sold Louisiana to the United States in spite of his promise not to alienate it except to Spain. For these humiliations Spain had to console itself with the empty honour of being the first signatory of the treaty of Amiens.

THE PURCHASE OF THE TERRITORY BY THE UNITED STATES¹

WHEN Jefferson took office in 1801 he succeeded to a task larger than he imagined. His party, ignoring the natural forces which tied the States together even against their wills, insisted that the legal basis of the bond was in the power of any State to withdraw at will. This was no nationality; and foreign nations naturally refused to take the American national coin at any higher valuation than that at which it was current in its own country. The urgent necessity was for a reconciliation between democracy and nationality; and this was the work of this period. An underlying sense of all this has led Democratic leaders to call the war of 1812-15 the "second war for independence"; but the result was as much independence of past ideas as of Great Britain.

The first force in the new direction was the acquisition of Louisiana in 1803. Napoleon had acquired it from Spain, and, fearing an attack upon it by Great Britain, offered it to the

¹ From the article "United States, Part I., History and Constitution," in the Ninth Edition of the *Encyclopædia Britannica*. Copyright, 1888, by Alexander Johnston.

United States for \$15,000,000. Jefferson and his party were eager to accept the offer; but the constitution gave the Federal Government no power to buy and hold territory, and the party was based on a strict construction of the constitution. Possession of power forced the strict-construction party to broaden its ideas, and Louisiana was bought, though Jefferson quieted his conscience by talking for a time of a futile proposal to amend the constitution so as to grant the necessary power. The acquisition of the western Mississippi basin more than doubled the area of the United States, and gave them control of all the great river-systems of central North America. The difficulties of using these rivers were removed almost immediately by Fulton's utilization of steam in navigation (1807). Within four years steamboats were at work on Western waters; and thereafter the increase of steam navigation and that of population stimulated one another. Population crossed the Mississippi; constantly increasing eddies filled up the vacant places to the east of the great river; and all sections of the country advanced as they had never advanced before. The "centre of population" has been carefully ascertained by the census authorities for each decade, and it represents the westward movement of population very closely. During this period it advanced from about the middle of the State of Maryland to its extreme western limit-that is, the centre of population was in 1830 nearly at the place which had been the western limit of population in 1770.

Biographies of Thomas Jefferson, James Monroe, and Robert Livingston. Napoleon's activities during this period.

THOMAS JEFFERSON¹

JEFFERSON, THOMAS (1743-1826), the third president of the United States, and the most conspicuous apostle of Democracy in America, was born April 2, 1743, at Shadwell, Albemarle county, in the State of Virginia, a region of which his father Peter Jefferson, an obscure and unlettered planter, was the third or fourth settler.

At the early age of five years Thomas was sent to an English school, and from that time until he finished his studies at William and Mary's College in 1762 appears to have enjoyed superior educational advantages, and to have turned them all to good account. He carried with him from college, at nineteen, a tolerably thorough reading knowledge of the Latin, Greek, and French languages, to which he added a familiarity with the higher mathematics and natural sciences only possessed at his age by men who have, as he had, a rare natural faculty for the prosecution of those studies. Soon after leaving college he entered the law office of Mr George Wythe, then at the head of the Virginia bar, and withal, Jefferson being judge, "the best Latin and Greek scholar in the State." In Mr Wythe he found a "faithful and beloved mentor in youth and most affectionate friend through life." In 1767, after five years' close application to the study of his profession, he was admitted to the bar. The death of his father in 1757 left Thomas, who was the eldest son, heir to the estate on

¹ The article "Thomas Jefferson," in the Ninth Edition of the *Encyclopadia* Britannica.

which he was born, and which yielded him an income of about $\pounds 400$ a year, a sum in those days sufficient to gratify all his tastes, and to give him, as he matured, the position of an independent country gentleman. At the time of his admission to the bar he is described by his contemporaries as 6 feet 2 inches in height, slim, erect as an arrow, with angular features, a very ruddy complexion, an extremely delicate skin, full deepset hazel eyes, and sandy hair, an expert musician (the violin being his favourite instrument), a good dancer, a dashing rider, and a proficient in all manly exercises. He was, and continued through life, frank, earnest, cordial, and sympathetic in his manner, full of confidence in men, and sanguine in his views of life.

Though mostly known to fame as a statesman, Jefferson's success as a lawyer showed that the bar had no rewards which were not fairly within his reach. He had sixty-eight cases before the chief court of the province the first year of his practice, and nearly twice that number the second. In the fourth, his register shows that he was employed in four hundred and thirty cases. During the eight years that he continued in active practice his income had enabled him to live like a gentleman, and to add a few hundred acres to his landed estate from time to time, until his inheritance of 1900 acres had become, in 1774, 5000 acres, and all paid for. But, while fired with the Virginian passion of the period for acquiring land, Jefferson does not appear to have shared the passion which usually accompanied it, of multiplying slaves to clear and till it. He was one of the first of English-speaking statesmen with foresight enough to discover the thunders with which the dark cloud of slavery was charged, and with courage enough to warn his countrymen against them. It does not appear that he ever acquired any slaves by purchase and as an investment.

In 1767 Governor Fauquier, the colonial governor of Virginia, died. The arrival of the new governor, Baron de Botetourt, in October 1768, was followed, according to usage, by the dismissal of the House of Burgesses, and a new election was ordered. Jefferson, offering himself as a candidate, was elected from the county of Albemarle, and continued to be annually re-elected until the House of Burgesses was closed by the revolution. His public career began, like that of some of the greatest parliamentarians before him, in a mortifying failure.

In conformity with a usage brought from the mother country of selecting one of the younger members to draft the reply to the governor's speech, this complimentary duty was devolved upon Jefferson. He confined himself too closely for the taste of the committee to the language of the resolutions which he was expected to amplify and glorify. His address was rejected, and the duty of preparing a substitute was confided to another member. This humiliation doubtless had some share in giving to his pen the parliamentary distinction usually won only by the tongue ; for he was no orator—indeed, though one of the foremost members of several deliberative bodies in his time, he can fairly be said to have never made a speech.

Jefferson's legislative duties were not destined to detain him long from his profession. The king having abandoned the policy of levying internal taxes, and directed instead that a duty upon certain leading articles of foreign commerce should be levied at the custom-houses in the colonies, in the spring of 1760 a messenger arrived at Williamsburg, then the seat of government of Virginia, announcing to the House of Burgesses the firm resolve of Massachusetts to resist these duties by all constitutional means, and asking the concurrence and cooperation of Virginia. On the third day of the session of the House of Burgesses four resolutions were adopted with substantial unanimity, in harmony with those adopted by Massachusetts. The first declared against taxation without representation; the second, that the colonies may concur and co-operate in seeking redress of grievances; the third, that sending accused persons away from their country for trial is an inexpressible complexity of wrong; the fourth, that they should send an address on these topics to the "father of all his people," besceching his "royal interposition." On the following day, and without waiting for an official copy of these resolutions to reach him, Governor Botetourt dissolved the House of Burgesses.

Thus in five days terminated, for the present, Jefferson's career as a legislator. But, though brief and crowned with no results to satisfy his ambition, history does not pronounce his first experience as a legislator inglorious, for it was illustrated by an effort, which was not the less honourable to him because it was unsuccessful, to ameliorate the condition of the African bondmen in Virginia. The law of those days forbade the manumission of a slave, except upon the condition that he

was immediately sent out of the State. Jefferson desired the repeal of this law. His efforts were not only unsuccessful, but they developed such a state of feeling upon the subject as to bring into grand relief the courage which even at that early day ventured to propose such a measure.

The day after the House of Burgesses dispersed, its members met at a public hall in the Raleigh Tavern in Williamsburg, and, following the example of Massachusetts, resolved, with a near approach to unanimity—(I) to be more saving and industrious; (2) never to buy any article taxed by parliament for revenue, except low qualities of paper which they could not dispense with; nor (3) to import any article from Britain or in British ships if they could help it, until the offensive Act was repealed; and (4) to save all their lambs for wool. Every man who signed the agreement was reelected, and every man who refused lost his election.

On February I, 1770, while Jefferson and his mother were absent from home, his house was burned down. He had, however, already begun clearing the grounds and preparing for the erection of a new residence at Monticello, which occupied no inconsiderable portion of his time and thoughts for the next two years, and which was destined to become, for more than half a century, the most distinguished seat of private hospitality in America. On the 1st of January 1772 he married Martha Skelton, a widowed daughter of a wealthy neighbour, and associate at the bar of Williamsburg, of large fortune in lands and slaves. The lady was very handsome, childless, fond of music, twenty-three; she proved to him a loving and devoted wife, and was the centre of a domestic circle, the joys of which seemed only to be intensified and consecrated by the distractions of his public life.

In the spring of 1773 Jefferson was appointed by the House of Burgesses a member of "a Committee of Correspondence and Inquiry for the Dissemination of Intelligence between the Colonies." The appointment of this committee responded to the necessity then beginning to be felt by all the colonies of making common cause against the pretensions of the Crown, and looked to a convention in which their united purposes might find expression. The resolutions which gave birth to this committee provoked an immediate dissolution of the House, but its members were all re-elected. Soon after they had resumed their sittings in the following spring, news

reached them of what is known in history as "The Boston Port Bill," by which the chief port of Massachusetts was to be closed to commerce on the 1st of June of that year (1774). The House of Burgesses thereupon set apart that day for fasting, humiliation, and prayer, thereby provoking from the governor another dissolution, May 20, 1774. This immediately led to the selection of delegates from the several counties to meet at Williamsburg in August, to consider the state of the colony, and to provide for an annual congress of the colonies. Jefferson was chosen a delegate to the State Convention, but, owing to sudden indisposition which overtook him on his way, was unable to attend. His influence there, however, was not to be wanting, for much of the interval between the dissolution of the House and the meeting of the Convention was devoted to the consideration and preparation of a series of instructions for the deputies who were to be sent to the General Congress, which was to meet at Philadelphia in September. In these instructions, which he had intended himself to propose, could he have been present, he maintained "that the relation between Great Britain and these colonies was exactly the same as that of England and Scotland after the accession of James and until the Union, and the same as her present relations with Hanover,-having the same executive chief, but no other necessary political connexion; and that our emigration to this country gave no more rights over us than the emigration of the Danes and Saxons gave to the present authorities of the mother country over England." These instructions, though too radical then for the purpose for which they were designed, were laid upon the table of the delegates, read by many, and published in a pamphlet entitled A Summary View of the Rights of America, and extensively circulated. It ran through edition after edition in England, after receiving such modifications (attributed to the pen of Burke) as adapted it to the purposes of the Opposition; and it procured for its author, to use his own language, "the honour of having his name inserted in a long list of proscriptions enrolled in a bill of attainder commenced in one of the two Houses of Parliament, but suppressed in embryo by the hasty course of events." This paper placed Jefferson among the leaders, if not at the head of the revolutionary movement in America-events rapidly ripening in the public mind its novel and startling doctrines. The Declaration of Independ-

ence two years later, of which he asked that his tombstone should testify as the greatest achievement of his life, was but a perfected transcript of the *Summary View*.

lefferson was the leading spirit in the succeeding sessions of the Virginia Convention; he was one of a committee of thirteen appointed to report a plan for arming Virginia; he was named a delegate to the General Congress, where he took his seat eight days after Colonel George Washington had been appointed commander-in-chief of the armies of the colonies; and he was placed upon the committee to draw up a statement of the causes which had impelled the colonies to take up arms against the mother country, and upon another committee to report on Lord North's "conciliatory proposition." In the winter of 1775-76 disastrous news arrived from England. The king in opening parliament had denounced the colonists as rebels, and recommended decisive coercive measures against them; and this was promptly followed by a law authorizing the confiscation of American vessels and cargoes, and those of all nations found trading in American ports, and the impressment of American crews into the British navy. This measure and the large vote by which it was passed instantly crystallized the colonies, and on the 11th June 1776 Congress appointed Jefferson, Adams, Franklin, Sherman, and Livingston to prepare a Declaration of Independence,

Jefferson at the request of his associates prepared a draft of the Declaration, which, after two or three verbal corrections by them, was taken up for consideration in the House on the 2nd of July. In the debate on the Declaration Jefferson took no part, "thinking it a duty to be on that occasion a passive auditor of the opinions of others, more impartial judges than he could be of its merits and demerits." Two or three expressions had been used which gave offence to some members : the words "Scotch and other foreign auxiliaries" were resented by some delegates of Scottish birth ; and the strictures on the king's repeated veto of colonial laws repealing the law which permitted the slave trade were disapproved by some of the southern delegates.

On the evening of the 4th of July 1776 the Declaration was reported back from the committee of the whole House, and agreed to. Circumstances have given an historical importance to this document somewhat disproportioned to its merits as a statement of the grievances of the colonies; for it seemed to

be the weapon that dismembered a great empire, and that gave birth to a nation of unlimited possibilities; it gave guarantees for the fame of its author which are possessed by no other production of an American pen; for more than a century it has been read to assembled multitudes in every considerable town in the United States on the anniversary of its adoption; and its style and sentiments have been the model for every people which since that time has sought to assert for itself the right of self-government.

Jefferson continued to participate actively in the efforts to organize the government of the confederation, and prepare it for the life-and-death struggle which was impending, until the 2nd of September, when he resigned, to take his seat in the legislature of Virginia, to which he had been elected, and where he thought his services would be most needed. " When I left Congress in '76," he says in his autobiography, "it was in the persuasion that our whole code must be reviewed. adapted to our republican form of government, and, now that we had no negatives of councils, governors, or kings to restrain us from doing right, that it be corrected in all its parts with a single eye to reason and the good of those for whose government it was framed." To this task he now devoted himself. Of the various measures introduced in furtherance of this purpose he says: "I considered four, passed or reported, as forming a system by which every fibre would be eradicated of ancient or future aristocracy, and a foundation laid for a government truly republican." These were-the repeal of the laws of entail, the abolition of primogeniture and equal partition of inheritances, the restoration of the rights of conscience and relief of the people from taxation for the support of a religion not theirs, and a system of general education. He tried to add to these, but without success, the introduction of trial by jury into the courts of chancery, and to provide for the gradual emancipation of the slaves. He did, however, introduce a bill, which passed without opposition, forbidding the further importation of slaves into the State-the only important change effected in the slave system of Virginia during the revolutionary period. The importance he attached to his work in Virginia at this time he showed by resigning his seat in Congress, and by declining the appointment tendered him by Congress in 1776, to go with Franklin to Paris, to assist in negotiating treaties of commerce and alliance with France.

In the third year of the war (1779), and just as the darkest and most threatening clouds were gathering over Virginia, Jefferson was elected governor. The enemy had decided to carry the war into the south. The commonwealth was almost defenceless, all her military resources having been exhausted in sustaining Washington's policy of driving the enemy out of the north. Arnold entered Richmond, recently become the capital, on the 5th of January 1781, and ravaged the place. The legislature, which had taken refuge at Charlottesville, were pursued and dispersed by Tarleton, who immediately sent a party to capture Jefferson at Monticello. He narrowly escaped, his pursuers being in sight of him as he mounted his horse and rode off to join his family. Though Monticello was spared by Tarleton's order, Jefferson's estate of Elk Hill, on the James river, was less fortunate. It was completely despoiled by the orders of Cornwallis. It was natural that the ineffectual resistance made to the enemy in Virginia should have exposed the governor's conduct to criticism, for few knew, as he did, that a more effective defence was impossible without weakening the northern army, and totally disarranging the plans upon which the commanderin-chief wisely relied for the ultimate success of the national defence. An investigation of his conduct was threatened; but when it was ascertained that he had been acting in harmony with the policy of Washington, the investigation was not only abandoned but the legislature shortly after the expiration of his term of office resolved unanimously "That the thanks of the general assembly be given to our former governor, Thomas Jefferson, for his impartial, upright, and attentive administration while in office. The assembly wish to declare in the strongest manner the high opinion which they entertain of Mr Jefferson's ability, rectitude, and integrity as chief magistrate in this commonwealth, and mean, by thus publicly avowing their opinion, to obviate and to remove all unmerited censure." Jefferson became sensible that in the exhausted condition of Virginia, without money, without equipment, without troops, without any currency except the products of the soil, no governor not a trained soldier could hope to retain the confidence of the people during the crisis, and therefore he determined to decline re-election.

In 1782 he was summoned by Congress to act as one of the plenipotentiaries to negotiate a treaty of peace with

the mother country, but the business was found to be so far advanced before he was ready to sail that his appointment was recalled, and we find him at the following winter session again occupying his seat in Congress, where, as chairman of the committee to which it was referred, he reported the definitive treaty of peace with England. At the succeeding session he introduced an elaborate report, and secured the adoption of the system of coinage which is still in vogue in the United States. In the same session he drafted the report of a plan for the government of the vast territory lying to the north-west of the Ohio river, which Virginia had ceded to the Federal Government in 1780. Among other provisions which he suggested, and which were adopted, was one big with a rebellion of far more threatening proportions than that which its author had just assisted in bringing to a successful issue. The clause in question provided "that after the year 1800 of the Christian era there shall be neither slavery nor involuntary servitude in any of the said States, otherwise than in punishment of crimes whereof the party shall be duly convicted to have been personally guilty." It was the attempt to organize States from this territory in defiance of this restriction that led to the war of 1861, and to the final, though costly, vindication of Jefferson's sagacity and forecast in 1783.

In 1784 Jefferson was again commissioned by Congress as minister plenipotentiary, this time to assist Franklin and Adams in negotiating treaties of commerce with European states. He joined his associates in Paris in July. The mission upon which he was sent proved somewhat premature. Jefferson, wisely judging that fuller and more correct information about America must precede any successful attempts to deal with European states to advantage, printed at his own expense, and distributed among his friends, some Notes on Virginia, which he had prepared two years before. It was in these notes that the oftquoted passage occurs: "I tremble for my country when I think that God is just; that his justice cannot sleep for ever; that, considering numbers, nature, and natural means only, a revolution of the wheel of fortune, an exchange of situations, is among possible events; that it may become probable by supernatural interference. The Almighty has no attribute that can take sides with us in such a contest." A very bad translation of a copy of the Notes which had found its way to France having made its appearance in Paris, Jefferson felt he

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had no longer any motive for trying to limit their usefulness to the few discreet friends to whom he had addressed them.¹

In January 1785 Dr Franklin, after eight years' residence at the French court, pressed his application to be relieved, and Jefferson was selected, as he gracefully put it in presenting his letters of credence, "to succeed him, for no one could *replace* him." Jefferson was exceedingly popular as a minister, and was fortunate in securing several important modifications of the French tariff in the interests of American commerce.

In the summer of 1789 Washington, who had been elected president of the United States under the new constitution, gave Jefferson leave of absence, and soon after his arrival in America, "as well from motives of private regard as a conviction of public propriety," tendered him the office of secretary of state. Reluctant as Jefferson was to leave Paris, he yielded at once to the wishes of the president, and entered upon the duties of his new office in March 1790. Alexander Hamilton, who was the head of the Federal party as distinguished from the Democratic, of which Jefferson was the most conspicuous representative, was appointed the secretary of the treasury. They represented the two great schools of political thought which contended for mastery in American politics, not only during Washington's administration, but for the succeeding sixty years, and until their differences were merged in the graver and more absorbing issues that grew out of the conflict between free and servile labour. Jefferson was an advocate of State sovereignty and of decentralization. He was strongly opposed to the leading features of the British constitution, and in cordial sympathy with the new school of politics which had recently begun to be felt in the government of France. His five years' residence in that country had greatly strengthened him in these views, and they more or less affected his treatment of all questions that came before him as a cabinet minister. Hamilton's great fear, on the other hand, was that the central government under the new constitution would be too weak, and he favoured all measures that tended to exalt and strengthen

¹ Jefferson took a very modest view of this book, and in a purely literary point of view he could not afford to take any other; but it was so thoroughly saturated with democratic-republican ideas, of which he was then the most complete living exponent, with the possible exception of Franklin, that it was widely and eagerly read, and no doubt did much to relax the hold the doctrines of divine right and of passive obedience had upon the educated classes of France, and measurably contributed to precipitate the great popular uprising in that kingdom, with which Europe was soon to be convulsed.

the executive, and to bring the government more in harmony with that of England. Washington very prudently gave the victory to the partisan of neither theory, though his sympathies were supposed to be more frequently with the Federal than with the Republican leader.

The most perplexing questions which occupied Jefferson's attention as secretary of state grew out of the war declared by France in 1793 against Holland and Great Britain. What should be the neutral policy, and what were to be insisted upon as the neutral rights of the United States? Upon this question both parties put forth their whole strength. The Republicans, under Jefferson's lead, pretty generally sympathized with the French, and were inclined to authorize privateers to be fitted out in American ports to cruise against English vessels. This policy was energetically and wisely resisted by the Federalists, who were for peace with all and entangling alliances with none. Jefferson advocated the propriety of receiving a diplomatic representative from the French republic. In this his advice prevailed, and Genest was promptly sent as minister. With more zeal than discretion he proceeded at once to fit out privateers, and empower French consuls in the United States to organize courts of admiralty to condemn prizes. This led to heated discussions in the cabinet, and finally to the recall of Genest. Partly from discontent with a position in which he did not feel that he enjoyed the absolute, which meant pretty much the exclusive, confidence of the president, and partly because of the embarrassed condition of his private affairs, due mainly to the ravages of war, Jefferson resigned his seat in the cabinet December 31, 1793, and retired to Monticello. There he remained till the fall of 1796, when he was made vice-president at the election which called John Adams to the presidency. The duties of this position being limited to presiding over the Senate during its sessions, Jefferson spent most of the four years of his official term in improving his estate, and by his counsels directing the policy of the party of which he was the acknowledged leader. The excesses of the Reign of Terror had worked a formidable reaction in America against the sympathizers with revolutionists in France. This, with the aggressive policy of the Directory, and the insulting reception given to the American envoys in Paris, for a time paralysed the Republican party. President Adams, mistaking the resentment felt in the United States

towards France for a popular reaction there against republicanism, was betrayed into a series of ill-considered measures, which were not long in telling upon the fortunes of his party. Among these measures the most unfortunate perhaps were the alien and sedition laws, the former empowering the president to expel from the country such aliens as he should deem dangerous, and the latter punishing as sedition, with fine and imprisonment, the printing or uttering malicious charges against the president or Congress. The Republicans commenced an active agitation against the laws throughout the country, which, co-operating with a strong and popular sympathy with the Republican doctrines, finally resulted in the election of Jefferson and Burr, the candidates of the Republican party, as president and vice-president, and the defeat of Adams and Pinckney, the candidates of the Federalists. Washington having died only a few months before, this election proved the coup de grâce of the Federal party, and established Jeffersonian Republicanism as the permanent policy of the country. Jefferson entered upon the duties of the presidency on the 4th of March 1801, and was re-elected for the term commencing March 4, 1805, by 143 out of 176 electoral votes. His administration of twice four years was characterized by the simplicity which distinguished his conduct in private life. He eschewed all pomp and ceremony designed artificially to distinguish the president from the people. His dress "was of plain cloth" on the day of his inauguration. Instead of driving to the capitol in a coach and six as had been the practice, he rode there on horseback, without a guard or even a servant in his train, dismounted without assistance, and hitched the bridle of his horse to a fence. Instead of opening Congress in the English fashion, with a speech to which a formal reply was expected, he sent his message by a private hand. Court etiquette was practically abolished, and the weekly levee with it. The code of precedence was essentially modified. Titles of honour were not recognized as such. "Excellency," "Honourable," and even "Mr" were distasteful to him. Between the president and governors of States he recognized no difference in rank, each being the supreme head of an independent state. " If it be possible," he said, "to be certainly conscious of anything, I am conscious of feeling no difference between writing to the highest and lowest being on earth."

In public official station he regarded himself purely as a

trustee for the public. He discontinued the practice of sending ministers abroad in Government vessels, nor would he have his birthday celebrated by state balls; he refused to appoint days of fasting and thanksgiving on the ground that they were religious rites, and no recommendation from him, therefore, could make them more or less binding upon the conscience. To secularize and republicanize the Government were the paramount purpose and the distinguishing feature of his administration. His cabinet, of which Madison and Gallatin were the pillars, was in thorough sympathy with Jefferson in his general policy, and its perfect harmony was uninterrupted. He gave his ministers his entire confidence. "If I had the world to choose from," he once said, "I could not change one of my associates to my better satisfaction." The first important act of his administration was to send four of the six vessels constituting the so-called navy of the republic to the Mediterranean to exterminate the Algerine pirates who for half a century had preyed upon the commerce of the world, thus initiating a series of events which in a few years rendered the commerce of the Mediterranean as safe as that of the English Channel. Possessed with a conviction of the supreme commercial importance of New Orleans, he directed negotiations to be opened with the French Government, which resulted in the purchase for \$15,000,000 of the territory of Louisiana, which had been ceded by Spain to France. Though the constitutional power under which this important transaction was consummated was far from clear, neither its validity nor its wisdom was ever seriously questioned; and it is now justly regarded by his countrymen as the crowning achievement of his administration, and none the less meritorious for the responsibility he deliberately assumed in bringing it to pass. The remainder of his administration derives most of its historic importance from his unsuccessful attempt to convict Aaron Burr, the late vice-president, of having engaged in treasonable projects in the south-west, and from his efforts to maintain, without war, the rights of neutrals on the high seas. Among the less conspicuous though scarcely less important measures of his administration were the careful exploration of the Western Territories; reducing the public debt, and practically extirpating from the country the then not unpopular delusion that a national debt is a national blessing; fortifying the seaports; reorganizing and rearming the militia; diminishing the

taxes; and extinguishing the Indians' titles by fair purchase, and promoting their emigration beyond the Mississippi. On the 4th of March 1809 he retired from the presidency, after an almost continuous public service of over forty years. He was pressed to allow himself to be re-elected for a third term, but refused unconditionally, though the legislatures of five States formally requested him to be a candidate.

Jefferson, whose private fortune had been seriously compromised by the interruptions of foreign commerce before and during his administration, and by the expenses incident to his representative position, lived seventeen years after his retirement, and to the last was the most considerable personage in the United States. His immediate successors in the presidency for the next sixteen years were his pupils and devoted personal friends, and rarely ventured upon any important step without the support of his approval. The employments of his closing years were in harmony with the dignified and patriotic purposes of his active life. Nothing that concerned the welfare of the country was a matter of indifference to him. He urged successfully the foundation of a university, and became one of its most efficient trustees. His correspondence during this period is regarded as one of the most interesting and instructive contributions to the early literature of the United States. He had inherited a wonderful constitution and herculean strength, neither of which did he ever abuse.

In the spring of 1826 the decline of his strength, which had been gradually increasing for two or three years, became more rapid, and on the 4th of July he expired, in the eightythird year of his age. John Adams, his predecessor in the presidency, by an impressive coincidence, died on the same day,—the fiftieth anniversary of an event imperishably associated with the names of both and with the fortunes of a nation.

JAMES MONROE¹

MONROE, JAMES (1758-1831), fifth president of the United States, was born 28th April 1758, in the county of Westmoreland, Virginia. According to the family tradition, their ancestors are traced back to a family of Scottish cavaliers descended from Hector Monroe, an officer of Charles I. At

¹ The article "James Monroe," in the Ninth Edition of the *Encyclopadia* Britannica,

the outbreak of the Revolutionary war, James Monroe was a student at the College of William and Mary, but left his studies in 1776 to join the continental army. He took part as lieutenant in the New Jersey campaign of that year, and was wounded at the battle of Trenton. The next year he served with the rank of captain on the staff of General William Alexander ("Lord Stirling"), but, thus being out of the line of promotion, he soon found himself without military employment. In 1780 he began the study of the law under the direction of Jefferson, then Governor of Virginia. His intimacy with Jefferson at this time had probably a controlling influence upon his subsequent political career. He continued through all vicissitudes to possess the friendship and support of both Jefferson and Madison.

In 1782 Monroe was in the State legislature, and from 1783 to 1786 was a member of Congress. On retiring from Congress he entered upon the practice of the law at Fredericksburg, and was again elected to the legislature. In the Virginia Convention of 1788 for the ratification of the constitution, he was among the opponents of that instrument; but his course was approved by the legislature of his State, who elected him United States senator in 1790 to fill the vacancy caused by the death of William Grayson. As senator he was a decided opponent of the Federalist administration. Nevertheless he was selected by Washington in 1794 as minister to France in place of Gouverneur Morris, a Federalist, recalled upon the request of the French Government. Being of the party who sympathized with the revolutionary struggle in France, it was expected that his appointment would be flattering to the Government of that country, and would also conciliate the French party at home. The Government of the National Convention received Monroe with open signs of favour, and on his part he expressed his own and his country's sympathy with the French Republic with so much enthusiasm that Washington deemed his language not in keeping with the neutral policy which the administration had recently proclaimed. At about the same time John Jay had negotiated a treaty of amity and commerce with England which gave great umbrage to France. It was alleged that the earlier treaty of 1778 with France was violated by the stipulations of the Jay treaty; and the Directory seemed disposed to make of this a casus belli. In this emergency it was believed

by Washington and his advisers that Monroe failed to represent properly the policy of the Government, and he was therefore recalled in 1796. In justification of his diplomatic conduct, he published the next year his View, a pamphlet of 500 pages. In 1799 he became governor of Virginia, and was twice re-elected. In the meantime, the Republican party had come into power, with Jefferson as president, and Monroe was again called upon to fill an important diplomatic station. He was commissioned on 10th January 1803 to act with Livingston, resident minister at Paris, in negotiating the purchase of New Orleans and the territory embracing the mouth of the Mississippi, which formed a part of the province of Louisiana, recently ceded by Spain to France. In view of the anticipated renewal of hostilities between England and France in 1803, Napoleon was anxious, for a consideration, to part with his new acquisition, which, in the event of a war with England, he would probably lose by conquest. The American commissioners met therefore with little difficulty in the accomplishment of their object. But, in the absence of instructions, they assumed the responsibility of negotiating the purchase not only of New Orleans, but of the entire territory of Louisiana-an event that is hardly second in importance to any in the history of the country. Monroe was next commissioned as minister to England to succeed Rufus King, who had resigned. In 1804 he undertook a mission to Madrid, with the object of negotiating the purchase of the Floridas; but in this he was unsuccessful, and returned to London in 1805. The next year he was joined in a commission with William Pinkney to negotiate a treaty with England to take the place of the Jay treaty, which expired in that year. Lords Auckland and Howick having been appointed on the part of England, a treaty was concluded on the last day of the year, which was perhaps more favourable to the United States than the Jay treaty; but, like the latter, it contained no provision against the impressment of American seamen. For this reason President Jefferson refused to submit it to the Senate for ratification, but sent it back for revision. In the meantime Canning had become foreign secretary in place of Fox, and refused to reopen the negotiation. Monroe returned to the United States in 1807, and, as in the case of his first French mission, he drew up a defence of his diplomatic conduct in England. In 1808 certain disaffected Republicans attempted to put

Monroe forward as the candidate for the presidency, but as Virginia declared in favour of Madison, Monroe withdrew his In 1810 he was again in the legislature of his native name. State, and the next year its governor. But in this year he was called from the State to the national councils, superseding Robert Smith as secretary of state in Madison's cabinet, and took an active part in precipitating the war against England in 1812. On the retirement of Armstrong, after the capture of Washington in 1814, Monroe assumed the duties of the war department in addition to those of the state department, and by his energy and decision infused something of vigour into the conduct of the war. He was elected president in 1816, and was re-elected in 1820 without opposition. The period of his administration (1817-25) has been called "the era of good feeling," for the reason that the party issues of the past were mostly dead, and new issues had not yet arisen. In the formation of his cabinet Monroe showed the soundness of his judgment, selecting for the leading positions J. Q. Adams, I. C. Calhoun, W. H. Crawford, and William Wirt. With these able advisers he devoted himself to the economic development of the country, which had been so long retarded by foreign complications. As president, moreover, he was able to accomplish in 1819 the acquisition of the Floridas, which as minister to Spain he had failed to do in 1804, and to define the boundary of Louisiana, which he had been the agent in But Monroe is best known to later purchasing in 1803. generations as the author of the so-called "Monroe doctrine," a declaration inserted in his seventh annual message, 2nd December 1823. It was the formulation of the sentiment, then beginning to prevail, that America was for Americans. One of the principles of the neutral policy of the country, which had been established with much difficulty, had been that the United States would not interfere in European politics; and now this policy was held to include the converse as a necessary corollary-that is, that Europe should not interfere in American politics, whether in North America or South America. The occasion of proclaiming this doctrine was the rumoured intervention of the Holy Alliance to aid Spain in the reconquest of her American colonies. President Monroe believed that such a policy entered upon by the allied continental powers of Europe would be dangerous to the peace and safety of the United States. He therefore declared that

"we would not view any intervention for the purpose of oppressing them (the Spanish American states) or controlling in any manner their destiny, by any European power, in any other light than as the manifestation of an unfriendly disposition toward the United States." This declaration, together with the known hostility of England to such a project, was sufficient to prevent further action on the part of the Alliance.

On the expiration of his presidential term Monroe retired to Oak Hill, his residence in London county, Virginia; but at the time of his death, 4th July 1831, he was residing in New York. He was married about 1786, and left two daughters. He was a man of spotless character; and, though not possessing ability of the first order, he ranks high as a wise and prudent statesman. His *Life* has been written by D. C. Gilman.

ROBERT R. LIVINGSTON¹

LIVINGSTON, ROBERT R. (1746-1813), American statesman, brother of Edward Livingston noticed above, was born at New York, November 27, 1746. He graduated at King's College, New York, at the age of nineteen, became a practitioner of law, and, in 1773, recorder of the city, but was soon displaced by loyalist influence because of his sympathies with the revolution. In 1776 he was a member of the committee of congress which drew up the Declaration of Independence, and in 1777 was a prominent member of the convention at Kingston, which framed the first constitution of New York. Upon the adoption of that instrument in the same year he became the first chancellor of the State, which office he held until 1801, whence he is best known as "Chancellor" Livingston. He administered the oath of office to Washington at his first inauguration to the presidency in New York, April 30, 1789. In 1801 he was appointed by President Jefferson as minister to France, and in 1803 effected in behalf of his Government the purchase from France of the vast territory then known as Louisiana, comprising the entire territory between the Mississippi and the Rocky Mountains, from the Spanish to the British possessions. This was, perhaps, the most important transfer of territory by purchase ever made, but none of those who

¹ The article "Robert R. Livingston," in the Ninth Edition of the *Encyclopædia* Britannica.

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participated in it realized its importance. Napoleon's agent obtained ten million francs more than he had been instructed to accept for the cession, and Jefferson and Livingston were at the time bitterly censured for rashly concluding so useless a purchase. In 1804 Livingston withdrew from public life, and after spending a year in travel in Europe, returned to New York, where he occupied his remaining years in promoting various improvements in agriculture. He also assisted Fulton in his invention of the steamboat. He died in February 1813.

NAPOLEON'S ACTIVITIES¹

BONAPARTE was still nominally only consul in the French republic. But the rupture with England furnished him with the occasion of throwing off the last disguise and openly restoring monarchy. It was a step which required all his audacity He had crushed Jacobinism, but two great and cunning. parties remained. There was first the more moderate republicanism, which might be called Girondism, and was widely spread among all classes and particularly in the army. Secondly, there was the old royalism, which after many years of helpless weakness had revived since Brumaire. These two parties, though hostile to each other, were forced into a sort of alliance by the new attitude of Bonaparte, who was hurrying France at once into a new revolution at home and into an abyss of war abroad. England too, after the rupture, favoured the efforts of these parties. Royalism from England began to open communications with moderate republicanism in France. Pichegru acted for the former, and the great representative of the latter was Moreau, who had helped to make Brumaire in the tacit expectation probably of rising to the consulate in due course when Bonaparte's term should have expired, and was therefore hurt in his personal claims as well as in his republican Bonaparte watched the movement through his principles. ubiquitous police, and with characteristic strategy determined not merely to defeat it but to make it his stepping-stone to monarchy. He would ruin Moreau by fastening on him the stigma of royalism; he would persuade France to make him emperor in order to keep out the Bourbons. He achieved this

¹ From the article "Napoleon I.," in the Ninth Edition of the *Encyclopadia* Britannica.

with the peculiar mastery which he always showed in villainous intrigue. . . . Controlling the Senate, he was able to suppress. the jury; controlling every avenue of publicity, he was able to suppress opinion; and the army, Moreau's fortress, was won through its hatred of royalism. In this way Bonaparte's last personal rival was removed. . . .

Throughout 1804 and the first part of 1805 the policy of Bonaparte is such as might be called insane, if he had had the ordinary objects of a ruler; it is explained by the consideration that he wants war, even if it should be war with all the world. He had acted in a similar way in 1798. In thinking that he should profit by war he was not mistaken. Had he only gone to war with the whole Continent at once, he would not, as the event proved, have overestimated his strength. But he was not, in the long run, a match for England and the Continent together; he made at starting the irremediable mistake of not dividing these two enemies. He seems indeed to have set out with a monstrous miscalculation which might have ruined him very speedily, for he had laid his plan for an invasion of England and a war in Europe at the same time. . . As it was, the signal failure of his English enterprise left room for a triumphant campaign in Germany, and Ulm concealed Trafalgar from the view of the Continent. . . . Positive conquest and annexation of territory too now went on as rapidly and as openly as in 1798. The new empire compared itself to that of Charlemagne, which extended over Italy and Germany, and on December 2, 1804, a parody of the famous transference of the empire took place in Notre Dame, the pope (Pius VII.) appearing there to crown Napoleon, who, however, took the crown from his hands and placed it himself upon his own head. Meanwhile the Italian republic was changed into a kingdom, which at first Bonaparte intended to give to his brother Joseph, but in the end accepted for himself. In the first months of 1805, fresh from the sacre in Notre Dame, he visited Italy and received the iron crown of the Lombard kings at Milan. Soon after the Ligurian republic was annexed, and a principality was found for his brother-in-law Bacciochi in Lucca and Piombino. By these acts he seemed to show himself not only ready but eager to fight with all Europe at once. . . .

Five years had passed since Napoleon had taken the field when the second period of his military career began. He now begins to make war as a sovereign with a boundless command

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of means. For five years, from 1805 to 1809, he takes the field regularly, and in these campaigns he founds the great Napoleonic empire. By the first he breaks up the Germanic system and attaches the minor German states to France, by the second he humbles Prussia, by the third he forces Russia into an alliance, by the fourth he reduces Spain to submission, by the fifth he humbles Austria. Then follows a second pause, during which for three years Napoleon's sword is in the sheath, and he is once more ruler, not soldier. . .

In 1811 the alliance of Tilsit gradually dissolves. Napoleon's Russian expedition is hardly to be regarded as a freak of insane pride. He himself regarded it as the unfortunate effect of a fatality, and he betrayed throughout an unwonted reluctance and perplexity. The truth is, he could not now stop. Upon the Continental system he had staked everything. He had united all Europe in the crusade against England, and no state, least of all such a state as Russia, could withdraw from the system without practically joining England. Nevertheless we may wonder that, if he felt obliged to make war on Russia, he should have chosen to wage it in the manner he did, by an overwhelming invasion. . . . The army with which he invaded Russia consisted of somewhat more than 600,000 men,—the French troops mainly commanded by Davoust, Oudinot, and Ney, the Italian troops by Prince Eugene, the Poles by Poniatowski, the Austrian contingent (33,000 men) by Schwarzenberg, the remaining German troops by Gouvion St Cyr, Reynier, Vandamme, Victor, Macdonald (who had the Prussian contingent), and Augereau. When we consider that the war of the Peninsula was at the same time at its height, and that England was now at war with the United States, we may form a notion of the calamitous condition of the world! . . .

In relating this war we have to beware of national exaggerations on both sides. On Napoleon's side it is absurdly said that he was only vanquished by winter, whereas it is evident that he brought the winter upon himself, first by beginning so late, then by repeated delays at Vilna, at Vitebsk, and most of all at Moscow. On the other side we must not admit absolutely the Russian story that he was lured onward by a Parthian policy, and that Moscow was sacrificed by a solemn universal act of patriotism. Wellington's policy of retrograde movements had indeed come into fashion among specialists,

and an entrenched camp was preparing at Drissa on the Dwina in imitation of Torres Vedras. But the nation and the army were full of reckless confidence and impatience for battle; only their preparations were by no means complete. The long retreat to Moscow and beyond it was unintentional, and filled the Russians with despair, while at the same time it agreed with the views of some of the more enlightened strategists. . .

His unresisted progress, and the abandonment by Barclay of one position after another, created the greatest consternation among the Russians, as well they might. Barclay was a German, and might well seem another Melas or Mack. A cry arose for his dismissal, to which the czar responded by putting old Kutusoff, who was at least a Russian, at the head of all his armies. This change necessarily brought on a great battle, which took place on September 6 near the village of Borodino. More than 100,000 men and about 600 pieces of artillery were engaged on each side. It ended in a victory, but an almost fruitless victory, for the French. . . .

This battle, the greatest after Leipsic of all the Napoleonic battles, was followed by the occupation of Moscow on September 14, which, to Napoleon's great disappointment, was found almost entirely empty. After a council of war held at Fili, Kutusoff had taken the resolution to abandon the old capital, the loss of which was held not to be so irreparable as the loss of the army. But, as with Old Russian craft he had announced Borodino to the emperor as a victory, the sensation produced upon the Russian public by the fall of Moscow was all the more overwhelming. Nor did the next occurrence, which immediately followed, at first bring any relief. Fires broke out in Moscow on the night after Napoleon's entrance; on the next night, by which time he was guartered in the Kremlin, the greater part of the city was in flames, and on the day following he was forced by the progress of the conflagration to evacuate the Kremlin again. But on the first intelligence of this catastrophe the destruction of Moscow was attributed in Russia to the French themselves, and was not by any means regarded as a crushing blow dealt at Napoleon by Russian patriotism. . .

Napoleon suddenly found that he had before him, not the simple problem he had solved so often in earlier life, but the insoluble puzzle he had first encountered in Spain. His failures in Egypt and in Spain had been more or less disguised. He

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was now in danger of a failure which could not be concealed, and on a far larger scale. . . . He reached Smolensk on November 9, when he might have been at Vilna. He marched by Orcza to the Berezina, which he struck near Borisoff. Here Tchitchagoff at the head of the Danube army confronted him, and two other Russian armies were approaching. Napoleon on his side was joined by what remained of the corps of Oudinot and Victor, who had held the line of the Dwina. But what was the army of Napoleon which was thus reinforced?

In July it had consisted of more than 250,000 men. It had suffered no decisive defeat and yet it amounted now only to 12,000; in the retreat from Moscow alone about 90,000had been lost. The force which now joined it amounted to 18,000, and Napoleon's star had still influence enough to enable him to make his way across the Berezina, and so escape total ruin and captivity. But December came on, and the cold was more terrible than ever. On the evening of December 6 a miserable throng, like a crowd of beggars, tottered into Vilna. . . .

Napoleon left the wreck of his army at Smorgoni on December 5 (as he had left his Egyptian army thirteen years before), travelling in a carriage placed upon a sledge and accompanied by Caulaincourt and Duroc. He had an interview with Maret outside Vilna, and then travelled to Warsaw, where he saw his ambassador De Pradt, who has left an account of his confused talk. Here, as in the famous 29th bulletin, published a little after, we observe that he consoles himself for the loss of his army by reflecting that his own health was never better-he kept on repeating this. Then he said, "From the sublime to the ridiculous there is but a step"; for the retreat from Moscow strikes him as ridiculous! From Warsaw he passed to Dresden, where he saw his ally the king of Saxony, and wrote letters to the emperor of Austria and to the king of Prussia. He then made his way by Erfurt and Mainz to Paris, where he arrived on December 18. . . April came, and Napoleon took the field again.

By rapidity and energy he was still able to take the offensive... The war which now commenced ended not only to the disadvantage of Napoleon, but, unlike any former war, it ended in a complete defeat of France, nay, in the

conquest of France, an event to which nothing parallel had been seen in modern Europe. Nor was this result attained by any political or revolutionary means, e.g., by exciting a republican or Bourbon party against Napoleon's authority, but by sheer military superiority. The causes of this remarkable result must be noted as we proceed. Meanwhile, we remark that the war, though technically one, is really three distinct wars. There is first the war with Russia and Prussia which occupies the month of May, and is concluded by an armistice on June 4. There is next a war with Russia, Prussia, and Austria, which begins in August and is practically terminated in October by the expulsion of Napoleon from Germany. Thirdly, there is an invasion of France by the same allied powers. This began in January 1814, and ended in April with the fall of Napoleon.

CHARACTER OF NAPOLEON¹

THERE is a saying attributed to Talleyrand, which hits the prominent characteristics of Napoleon's nature :--- "What a pity that so great a man was so ill brought up!" For he had genius and no breeding; he never shook off the adventurerelement in his life; nor had he that high sense of honour, truthfulness, and gentleness which go with true nobility of soul. With a frame of iron, Napoleon could endure any hardships; and in war, in artillery especially and engineering, he stands unrivalled in the world's history. His quick intelligence was altogether scientific in the colder and harder aspects of scientific knowledge. He took no interest in moral sciences or history, or the brighter works of imagination. Throughout we discern in him the precisian, the despot on exact principles. Even when he unbent among his intimate friends, his was "a tyrant's familiarity," with a touch of Oriental ferocity under it. He was ever on the watch against rivals, ever full of distrust, treating great men with a false and feline grace of manner, which seemed to be expecting a surprise. No one was ever so naturally untrue as he; he never hesitated to lie and to deceive; the most important despatches he would readily falsify, if he thought there was anything to be gained by it. There was in him a swiftness of intelligence which answered to

¹ From the article "France," in the Ninth Edition of the *Encyclopadia* Britannica.

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his hot and passionate nature; the true and solid balance was wanting. He could not rest, and knew not when he had achieved success. And this was immediately connected with another Oriental quality, his vast and unmeasured ambition, and the schemes and dreams of a visionary, which led him to the greatest errors of his life-his expedition to Egypt and his hopes of an Eastern empire, and his terrible attack on The same largeness of vision showed itself in his Russia. endeavours to reconstruct the map of Europe, and to organize anew the whole of society in France. He could have in his mouth the phrases and cries of the 18th century, and with them he knew how to charm mankind. Yet with this gift, and with his amazing power of influencing his soldiers, who sacrificed themselves in myriads for him with enthusiasm, there was a coldness of moral character which enabled him to abandon those who had given up all for him, and made him show shameless ingratitude towards those who had done him the greatest services. We can gauge a man's character by his complaints against others, for those complaints are always the reflexion of his own characteristics. Napoleon was ever inveighing against the deceit of Alexander, the treachery of the Germans, the perfidy of Pitt, the warfare of savages which he had to face; and the phrases represent the worst elements in his own character. He was, in fact, the successor and representative of the "I8th-century despots," the military follower of the Pombals, the Arandas, the Struenzees of the past. He had their unbalanced energies, their fierce resistance to feudalism and the older world, their ready use of benevolent and enlightened phraseology, their willingness to wade through blood and ruin to their goal, their undying ambition, their restlessness and revolutionary cagerness to reorganize society. Like them, with well-sounding professions, he succeeded in alienating the peoples of Europe, in whose behalf he pretended to be acting. And when they learnt by bitter experience that he had absolutely no love for liberty, and encouraged equality only so long as it was an equality of subjects under his rule, they soon began to war against what was in fact a worlddestroying military despotism. When the popular feeling was thoroughly aroused against him in Spain, in Germany, in England, his wonderful career was at last brought to an end.

Explorers of the Territory

Biographies of De Soto, La Salle, Marquette, Meriwether Lewis, and John Charles Frémont

FERDINANDO DE SOTO¹

DE SOTO, FERDINANDO (1496?-1542), a Spanish captain and explorer, who is frequently accredited with the honour of being the discoverer of the Mississippi, and is certainly one of the most remarkable of the Eldorado adventurers of the 16th century. He was born at Xeres de Caballeros, in Estremadura, of an impoverished family of good position, and was indebted to the favour of Pedrarias Davila for the means of pursuing his studies at the university. He commenced active life in 1519 by joining his patron in his second expedition to Darien, where he distinguished himself by his ability and the independence of his demeanour. In 1528 we find him exploring the coast of Guatemala and Yucatan, and in 1532 he led a reinforcement of 300 volunteers to the assistance of Pizarro in Peru. To him was due the discovery of the pass through the mountains to Cuzco; and in the capture of that city and in other important engagements he bore a brilliant part. After the completion of the conquest De Soto, who had landed in America with "nothing else of his own save his sword and target," returned to Spain with a fortune of "an hundred and fourscore thousand duckets," which enabled him to marry the daughter of his old patron Davila, and to maintain "all the state that the house of a nobleman requireth." The Emperor Charles V., to whom he had lent a portion of his wealth, appointed him governor of the island of Cuba, and adelantado or president of Florida, which was then the object of great

¹ The article "Ferdinando de Soto" in the Ninth Edition of the *Encyclopadia Britannica*.

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interest, as possibly another Peru. In 1538 he set sail with an enthusiastic and richly furnished company of about 600 men, of whom several had sold all that they possessed to furnish their equipment. Landing in May 1539 at Espiritu Santo Bay, on the west coast of the present State of Florida. the explorers continued for nearly four years to wander from one point to another, ever deceived in their expectations, and ever allured by the report of the wealth that lay beyond. The exact line of their route is in many places difficult to identify, but it seems to have passed N. through Florida and Georgia as far as 35° N. lat., and then S. to the neighbourhood of Mobile, and finally N.W. towards the Mississippi. This river was reached early in 1541, and the following winter was spent on the Washita. As they were returning in 1542 along the Mississippi, De Soto died (either in May or June), and his body was sunk in its waters. On the failure of an attempt which they made to push eastwards again, his men, under the leadership of Moscoso, were compelled in 1543 to trust themselves to the stream. A voyage of nineteen days brought them to the sea, and they then held along the coast to Panuco, in Mexico.

Of this unfortunate expedition three narratives are extant, of seemingly independent origin, and certainly of a very different character. The first was published in 1557 at Evora. and professes to be the work of a Portuguese gentleman of Elvas, who had accompanied the expedition : Relacam verdadeira dos Trabalhos q ho Gouernador do Fernado d'Souto & certos Fidalgos Portugueses passarom no d'scobrimeto da Provincia da Frolida. Agora nouamēte feita per hū Fidalgo Deluas. An English translation was published by Hakluyt in 1600, and another by an anonymous translator in 1686, the latter being based on a French version which had appeared at Paris in 1685 from the pen of Citri de la Guette. The second narrative is the famous history of Florida by the Inca, Garcilasso de la Vega, who obtained his information from a Spanish cavalier engaged in the enterprise; it was completed in 1591, first appeared at Lisbon in 1605 under the title of La Florida del *Ynca*, and has since passed through many editions in various languages. The third is a report presented to Charles V. of Spain in his Council of the Indies in 1544, by Luis Hernandez de Biedma, who had accompanied De Soto as His Majesty's factor. It is to be found in Ternaux-Compans's Recueil de

Pièces sur la Floride in the *Historical Collections of Louisiana*, Philadelphia, 1850, and in W. B. Rye's reprint for the Hakluyt Society of Hakluyt's translation of the Portuguese narrative.

ROBERT CAVELIER, SIEUR DE LA SALLE¹

LA SALLE, ROBERT CAVELIER, SIEUR DE (1643-1687), a French explorer in North America, was born at Rouen in November 1643. He became a settler in Canada, and about 1669, leaving his trading post at La Chine, above Montreal, he sought to reach China by way of the Ohio, supposing, from the reports of Indians, this river to flow into the Pacific. He made explorations of the country between the Ohio and the lakes, but, when Joliet and Marguette made it evident that the main river Mississippi emptied in the Gulf of Mexico, he conceived a vast project for extending the French power in the lower Mississippi valley, and thence attacking Mexico. He obtained extensive grants from the French Government, rebuilt Fort Frontenac, established a post above Niagara Falls, and built a small vessel, in which he sailed up the lakes to Green Bay. Thence, despatching his vessel freighted with furs, he proceeded with the rest of the party, in boats and on foot, to the Illinois river, near the head of which he began a post called Fort Crêve Cœur, and a vessel in which to descend the Mississippi. Not hearing of his vessel on the lakes, he detached Hennepin, with one companion, to ascend the Mississippi from the mouth of the Illinois, and, leaving Tonty, with five men, at Fort Crêve Cœur, he returned by land to Canada. Towards the close of 1681 La Salle, with a party in canoes, again reached the head of Lake Michigan, at the present site of Chicago, and, making the long portage to the Illinois, descended it to the Mississippi, which he followed to its mouth, where he set up a cross and the arms of France, April 9, 1682. La Salle fell sick on his voyage up the river, and sent on intelligence of his success, which was carried to France by Father Membré, and was published in Hennepin's work in 1683. When La Salle reached France, projects were taken up by the Government for an expedition against the rich mining country of northern Mexico. Plans were submitted by La Salle and by Peñalosa, a renegade Spaniard, who, while governor of New Mexico in 1662, had

¹ The article "La Salle" in the Ninth Edition of the Encyclopadia Britannica.

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penetrated apparently to the Mississippi. La Salle was accordingly sent out in July 1684, with four vessels and a small body of soldiers, ostensibly to found an establishment at the mouth of the Mississippi, but really to push on and secure a favourable base of operations, and gain the aid of the Indians against the Spaniards, while awaiting a more powerful force under Peñalosa. The design was so well masked, and subscquently misrepresented, that he is generally said to have been carried beyond the Mississippi by the treachery of Beaujeu, a naval officer commanding one of the vessels. After running along the coast, La Salle returned to Espiritu Santo Bay, Texas. There he landed his soldiers, but lost one vessel with valuable stores. He refused Beaujeu's offer to obtain aid for him from the West Indies, and when that officer, according to his orders, sailed back, La Salle put up a rude fort. Then for two years, from January 1685 to January 1687, he wasted the time in aimless excursions by land, never getting beyond the present limits of Texas, and making no attempt to explore the coast or reach the Mississippi with his remaining vessel. His colonists and soldiery dwindled away; no reinforcements or expedition under Peñalosa arrived; and in January 1687, leaving part of his force at Fort St Louis, he set out with the rest to reach Canada by way of the Mississippi to obtain relief. His harshness and arbitrary manner had provoked a bitter feeling among his followers, and he was assassinated on the 10th of March, near the Trinity river. Some of the survivors reached Tonty's post on the Arkansas, and returned to France by way of Canada. The party left at the fort were nearly all cut off by the Indians, a few survivors having been rescued by a Spanish force sent to root out the French.

For the various operations of La Salle, the chief works are Hennepin's *Description of Louisiana*, 1683; Le Clercq's *Establishment of the Faith*, 1691; Tonty's *Narrative* (1697), and Joutel's (1713); and the immense collection of documents published by Margry (3 vols. 8vo, Paris, 1875-78). Hennepin and Le Clercq's accounts were published partially in Shea's *Discovery of the Mississippi*, 1852, and recently entire. La Salle's early explorations have been discussed by Tailhan, Verreau, and Shea, historical scholars generally rejecting the claims set up by Margry. Parkman gives La Salle's whole career in his *Discovery of the Great West*, modified, however, greatly in his *La Salle*, Boston, 1879.

JACQUES MARQUETTE¹

MARQUETTE, JACQUES, a Jesuit missionary and explorer, was born in 1637 at Laon in France, and died May 18, 1675, on the banks of a small stream, now known as the Marquette, which has its mouth on the eastern shore of Lake Michigan. Having joined the Society of Jesus, he sailed for Canada in 1666, spent eighteen months in the vicinity of Three Rivers, founded the mission of Sault Sainte Marie on Lake Superior in 1668, and followed the Hurons to Mackinaw in 1671. It is mainly, however, as Joliet's companion in his voyage down the Mississippi in 1673 that Marquette holds a permanent position in the history of discovery in America.

His narrative, first published in Thevenot's *Recueil de Voyages* (Paris, 1681), is printed along with other documents relating to him in Shea's *Discovery and Exploration of the Mississippi Valley* (New York, 1852).

MERIWETHER LEWIS²

LEWIS, MERIWETHER (1774-1809), American explorer, was born near Charlottesville, Virginia, August 18, 1774. In 1794 he volunteered with the troops called out to suppress the "whisky insurrection," was commissioned as ensign in the regular army in 1795, and as captain in 1800, and was President Jefferson's private secretary from 1801 to 1803. On Jefferson's recommendation he was appointed by Congress to conduct, in connexion with Captain William Clarke, an expedition to the headwaters of the Missouri river, and thence across the mountains to the Pacific Ocean, the first extended exploration of the north-western portion of the United States. The States had as yet acquired no claim to this region, and the exploration was designed by Jefferson in the interests not only of geographical science but of territorial acquisition. Lewis and Clarke, setting out late in 1803 with twenty-eight men. spent the winter at the mouth of the Missouri. Early in the

¹ The article "Jacques Marquette" in the Ninth Edition of the *Encyclopædia* Britannica.

² The article "Meriwether Lewis" in the Ninth Edition of the *Encyclopædia* Britannica.

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spring the party embarked in several boats, and during the summer made the difficult ascent of the Missouri as far as 47° 21' N. lat., where the second winter was passed among the Mandan Indians. In 1805 the ascent of the Missouri was continued as far as the tributary which they named Jefferson river, which was followed to its source in the south-western part of what is now Montana territory. Procuring a guide and horses from the Shoshone Indians, they pushed westward through the mountains, and on October 7 embarked in canoes on a tributary of the Columbia river, the mouth of which they reached on November 15. They had travelled upwards of 4000 miles from their starting-point, had encountered various Indian tribes never before seen by whites, had made scientific collections and observations, and were the first explorers to reach the Pacific by crossing the continent north of Mexico. After spending the winter upon the Columbia, they made the return journey across the mountains and down the Missouri, reaching the Mississippi in September 1806. The reports of the Lewis and Clarke expedition attracted great attention at the time, and it has scarcely been exceeded in romantic interest by later explorations in any quarter of the globe. The leaders and men of the exploring party were rewarded with liberal grants of land, and Lewis was made governor of the territory of Missouri. In the unwonted quiet of his new duties his mind, always subject to melancholy, became unbalanced, and, while on his way to Washington, he committed suicide near Nashville, Tennessee, October 11, 1809.

JOHN CHARLES FRÉMONT¹

FRÉMONT, JOHN CHARLES (1813-1890), American explorer and politician, was born in Savannah, Ga., January 21, 1813. His father, a native of France, died when he was yet a boy, and his mother, a Virginian, removed to Charleston, S.C. He had a taste for mathematics, but was otherwise far from being a hard-working student; he was even expelled from Charleston College. Subsequently, however, he was given a degree, and passed an examination for a professorship in the United States navy; but he declined this appointment to give

¹ The article "John Charles Frémont " in the New Volumes of the *Encyclopædia Britannica*. Copyright, 1902, by The Encyclopædia Britannica Company.

his attention to civil engineering in connexion with railways. In the spring of 1838 he became assistant to the French explorer Nicollet, whom the war department employed to make a map of the country extending from the upper waters of the Missouri river to the British boundary line. Frémont showed great talent as an explorer in the five important expeditions he made in the north-west. The object of the first expedition was to obtain accurate knowledge as to the character of the territories of Nebraska and Wyoming, and especially of South Pass, the opening through the mountains on the way to Oregon (1842). The purpose of the second expedition (1843-44) was to explore the possible lines of communication between Missouri, Nebraska, Wyoming, Utah, Idaho, and Oregon, and find a way by land from the lower Columbia river to the Bay of San Francisco. The third expedition, begun in 1845, was designed to explore the great basin and the coast regions of California and Oregon, but it was changed by events connected with the Mexican war into a military and political conquest. From Oregon Frémont went to the Mexican province of California, and collected under his standard the scattered settlers who sided with the Americans in opposition to the Mexicans in the war then in progress. In less than thirty days he won the territory from the Mexicans, and on July 4, 1846, was chosen its governor. A few months later Mexican authority was withdrawn, and California thenceforth belonged to the United States. In 1848 Frémont undertook, at his own expense, to discover a passage to California *via* the headwaters of the Rio Grande, along a route subsequently followed by the Southern Pacific Railway. His fifth and last expedition, begun in 1853, was for the purpose of finding the best route for a national railway from the Mississippi valley to the Pacific Ocean. When, in 1850, California was admitted as a state, Frémont became one of her first two senators. But as he drew the short term he had only three weeks of service in the United States Senate, and he failed to obtain re-election on account of his antislavery opinions. In 1856 the newly-formed Republican party was in search of a popular anti-slavery man as candidate for the presidency, and Frémont, then only forty-three years old, was nominated by both the Republicans and the National Americans. It was still too soon, however, for an anti-slavery policy to win the confidence of a majority of the voters, and he was defeated by Buchanan. Frémont was in Europe when the Civil War began. He purchased for the Federal Government a large supply of arms from France, and was appointed major-general in the regular army, with headquarters in St Louis. His military training had not been sufficient to fit him for so high a command. He declared martial law, arrested secessionists and muzzled the opposition press; but as he lacked system and executive ability his affairs soon became badly involved, and he was subjected to damaging criticism. In August 1861 he announced his intention to emancipate the slaves of all Missourians in rebellion against the United States; but as this announcement was in advancement of public opinion. President Lincoln decided to annul it. In November 1861 Frémont was removed on account of the alleged extravagance and inefficiency of his management of military affairs. In compliance with popular sympathy he was placed in command of the mountain district south of the Ohio river, but his operations against "Stonewall" Jackson were not sufficiently successful to inspire confidence. In June 1862 his corps was incorporated in the Army of Virginia, and he asked to be relieved from service under its commander, General Pope. Thenceforth he held no command. Frémont's picturesque career and his anti-slavery ideas made him a favourite of the Republicans, who were discontented with Lincoln's administration, and, in May 1864, he was nominated as their candidate for the presidency, but he withdrew, lest his opposition to Lincoln might result in the election of a Democrat. After the war he was interested in the plan for a trans-continental railway between Norfolk, Va., and San Francisco, which proved to be a very unsuccessful financial enterprise. From 1878 to 1881 he was governor of the territory of Arizona. In his last years Congress authorized the president to appoint him major-general and placed him on the retired list. He died in New York on the 13th of July 1890. A volume of his memoirs, covering only the earlier part of his life, was published in 1886.

The Great River Systems

MISSISSIPPI¹

MISSISSIPPI.—The territory drained by the Mississippi river and its tributaries includes the greater part of the United States of America lying between the Alleghany Mountains on the east and the Rocky Mountains on the west, and has an area (1,244,000 square miles) considerably larger than all central Europe. The central artery through which the drainage of this region passes is called the Mississippi river for about 1300 miles above its mouth. The name is then usurped by a tributary, while the main stream becomes known as the Missouri. From its remote sources in the Rocky Mountains to the Gulf of Mexico the total length of the river is about 4200 miles. The other principal tributaries are the Ohio, the Arkansas, and the Red River, but the Yazoo and the St Francis often make dangerous contributions in seasons of flood. . . .

Below the influx of the Ohio the Mississippi traverses alluvial bottom lands liable to overflow in flood seasons. The soil is of inexhaustible fertility, producing large crops of corn in the northern portion, cotton in the middle district, and sugar, rice, and orange groves near the mouth. These bottom lands, averaging about 40 miles in width, extend from north to south for a distance of 500 miles, having a general southern slope of 8 inches to the mile. The river winds through them in a devious course for 1100 miles, occasionally on the east side washing bluffs from 100 to 300 feet in height, but usually confined by banks of its own creation, which, as with all sediment-bearing rivers of like character, are highest near the stream itself. The

¹ From the article "Mississippi" in the Ninth Edition of the *Encyclopadia* Britannica.

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general lateral slope towards the foot hills is about 6 inches in 5000 feet, but the normal fall in the first mile is about 7 feet. Thus apparently following a low ridge through the bottom lands, the tawny sea sweeps onward with great velocity, eroding its banks in the bends and rebuilding them on the points, now forming islands by its deposits, and now removing them as the direction of the flow is modified by the never-ending changes in progress. Chief among such changes is the formation of cut-offs. Two eroding bends gradually approach each other until the water forces a passage across the narrow neck. As the channel distance between these bends may be many miles, a cascade perhaps 5 or 6 feet in height is formed, and the torrent rushes through with a roar audible for miles. The banks dissolve like sugar. In a single day the course of the river is changed, and steamboats pass where a few hours before the plough had been at work. The checking of the current at the upper and lower mouths of the abandoned channel soon obstructs them by deposit, and forms in a few years one of the characteristic crescent lakes which are so marked a feature on the maps. . . .

The work of embankment began in 1717, when the engineer De la Tour erected a dyke or levee I mile long to protect the infant city of New Orleans from overflow. Progress at first was slow. In 1770 the settlements extended only 30 miles above and 20 miles below New Orleans; but by 1828 the levees, although quite insufficient in dimensions, had become continuous nearly to the mouth of Red River. In 1850 a great impulse was given to systematic embankment by the U.S. Government, which gave over to the several States all unsold swamp and overflowed lands within their limits to provide a fund for reclaiming the districts liable to inundation. The action resulting from this caused alarm in Louisiana, for the great bottom lands above were believed to act as reservoirs to receive the highest flood wave; and it was imagined that if they were closed by levees the lower country would be overwhelmed whenever the river in flood rose above its natural banks. The aid of the Government was invoked, and Congress immediately ordered the necessary investigations and surveys. This work was placed in charge of Captain (now General) Humphreys, and an elaborate report covering

the results of ten years of investigation was published just after the outbreak of the civil war in 1861....

The percentage of sedimentary matter carried in suspension by the water varies greatly at different times, but is certainly not dependent upon the stage above low water. It is chiefly determined by the tributary whence the water proceeds, but is also influenced by the caving of the banks, which is always excessive when the river is rapidly falling after the spring flood. In long periods the sedimentary matter is to the water by weight nearly as I to 1500, and by bulk as I to 2900. The amount held in suspension and annually contributed to the Gulf constitutes a prism I mile square and 263 feet high. In addition to this amount a large volume, estimated at I mile square and 27 feet high annually, is pushed by the current along the bottom and thus transported to the Gulf.

The mean annual succession of stages for long periods is quite uniform, but so many exceptions are noted that no definite prediction can safely be made for any particular epoch. The river is usually lowest in October. It rises rapidly until checked by the freezing of the northern tributaries. It begins to rise again in February, and attains its highest point about the 1st of April. After falling a few feet it again rises until, early in June, it attains nearly the same level as before. After this it rapidly recedes to lowwater mark. As a rule the river is above mid-stage from January to August inclusive, and below that level for the remainder of the year.

It has been established by measurement and observation that the great bottom lands above Red River before the construction of their levees did not serve as reservoirs to diminish the maximum wave which passed through Louisiana in great flood seasons. They had already become filled by local rains and by water escaping into them from the Mississippi through numerous bayous, so that at the date of highest water the discharge into the river near their southern borders was fully equal to the volume which the wave had lost in passing along their fronts.

In fine, the investigations between 1850 and 1860 established that no diversion of tributaries was possible; that no reservoirs artificially constructed could keep back the spring freshets which caused the floods; that the making

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of cut-offs, which had sometimes been advocated as a measure of relief, so far from being beneficial, was in the highest degree injurious; that, while outlets within proper limits were theoretically advantageous, they were impracticable from the lack of suitable sites; and, finally, that levees properly constructed and judiciously placed would afford protection to the entire alluvial region.

During the civil war (1861-65) the artificial embankments were neglected; but after its close large sums were expended by the States directly interested in repairing them. The work was done without concert upon defective plans, and a great flood early in 1874 inundated the country, causing terrible suffering and loss. Congress, then in session, passed an Act creating a commission of five engineers to determine and report on the best system for the permanent reclamation of the entire alluvial region. Their report, rendered in 1875, endorsed the conclusions of that of 1861, and advocated a general levee system on each bank. This system comprised-(I) a main embankment raised to specified heights sufficient to restrain the floods; and (2), where reasonable security against caving required considerable areas near the river to be thrown out, exterior levees of such a height as to exclude ordinary high waters, but to allow free passage to great floods, which as a rule only occur at intervals of five or six years. The back country would thus be securely protected, and a safe refuge would be provided for the inhabitants and domestic animals living upon the portion subject to occasional overflow. An engineering organization was proposed for constructing and maintaining these levees, and a detailed topographical survey was recommended to determine their precise location. Congress promptly approved and ordered the survey; but strong opposition on constitutional grounds was raised to the construction of the levees by the Government.

In the meantime complaints began to be heard respecting the low-water navigation of the river below the mouth of the Ohio. Forty-three places above the mouth of Red River afforded depths of less than 10 feet, and thirteen places depths less than 5 feet, the aggregate length of such places being about 150 miles. A board of five army engineers, appointed in 1878 to consider a plan of relief, reported that 10 feet could probably be secured by narrowing the wide places to about

3500 feet with hurdle work, brush ropes, or brush dykes designed to cause a deposit of sediment, and by protecting caving banks, when necessary, by such light and cheap mattresses as experience would show to be suited to the work. Experiments in these methods were soon begun upon the river above Cairo, and have since proved of decided benefit.

In June 1879 Congress created a commission of seven members to mature plans to correct, permanently determine, and deepen the channel, to protect the banks of the river, to improve and give safety to navigation, to prevent destructive floods, and to promote and facilitate commerce. Up to 1882 appropriations amounting to $\pounds_{1,285,000}$ were made to execute the plans of this commission, but with provisos that none of the funds were to be expended in repairing or building levees for the protection of land against overflow, although such levees might be constructed if necessary to deepen the channel and improve navigation. Acting under this authority, the commission have allotted considerable sums to repair existing breaks in the levees; but their chief dependence is upon contracting the channel at low water by promoting lateral deposits, and upon protecting the high-water banks against caving by mats of brush, wire, etc., ballasted where necessary with stone, -substantially the plans proposed by the army board of 1878.

The bars at the efflux of the passes at the mouth of the Mississippi have long been recognized as serious impediments to commerce. The river naturally discharges through three principal branches, the south-west pass, the south pass, and the north-east pass, the latter through two channels, the most northern of which is called Pass à l'Outre. The ruling depth on the several bars varies with the discharge over them, which in turn is controlled by the successive advances of the passes. In the natural condition the greatest depth does not exceed 12 or 13 feet. The first appropriation by Congress to secure increased depth was made in 1837, and was expended in an elaborate survey and in a system of dredging by buckets, but the plan of a ship canal was also discussed. At the next appropriation, made in 1852, a board of officers, appointed by the war department, recommended trying in succession—(1) stirring up the bottom by suitable machinery; (2) dredging by buckets; (3) constructing parallel jetties 5 miles long at the south-west pass, to be extended as found necessary; (4) closing lateral outlets, and (5) constructing a ship canal. A depth of

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18 feet was secured by the first plan, and was maintained until the available funds were exhausted. Under the next appropriation (1856) an abortive attempt was made to apply the plan of jetties to the south-west pass. This failed from defects in execution by the contractors, but a depth of 18 feet was finally secured by dredging and scraping. The report of 1861 discussed the subject of bar formation at length. Although it approved the plan of jettics and closure of outlets as correct in theory, the stirring up of the bottom by scrapers during the flood stages of the river (six months annually) was recommended by it as the most economical and least objectionable. After the war this recommendation was carried into effect for several years with improved machinery, giving at a moderate annual cost a depth at times reaching 20 feet at extreme low water, but experience indicated that not much more than 18 feet could be steadily maintained. This depth, entirely satisfactory at first, soon became insufficient to meet the growing demands of commerce, and in 1873 Major Howell, the engineer in charge, revived the project of a ship canal. The subject was discussed carefully by a board of army engineers, the majority approving a ship canal. In 1874 Congress constituted a special board, which, after visiting Europe and examining similar works of improvement there, reported in favour of constructing jetties at the south pass, substantially upon the plan used by Mr. Caland at the mouth of the Meuse; and in March 1875 Captain J. B. Eads and associates were authorized by Congress to open by contract a broad and deep channel through the south pass upon the general plan proposed by this board. This contract called for the "maintenance of a channel of 30 feet in depth and 350 feet in width for twenty years" by "the construction of thoroughly substantial and permanent works by which said channel may be maintained for all time after their completion." The jetties were to be not less than 700 feet apart. The sum of £1,080,000 was to be paid for obtaining this channel, and £412,000 for maintaining it for twenty years. In addition, the contractors were authorized to use any materials on the public lands suitable for and needed in the work. The south pass was 129 miles long. It had an average width of 730 feet and a minimum interior channel depth of 29 feet. The distance from the 30-foot curve inside the pass across the bar to the 30-foot curve outside was 11,900 feet. The minimum depth at average flood tide on the bars was about

8 feet. The discharge at the mouth was about 57,000 cubic feet of water per second, transporting annually about 22 million cubic yards of sediment in suspension to the Gulf. A small island and shoal existed at the head of the pass, the channel there having a minimum depth of 17 feet. The work was begun on June 2, 1875, and has been so far successful that during the year ending June 30, 1882, a channel was maintained having a least depth of 30 feet between the jetties and extending through the bar. Its least width was 20 feet, the average being 105 feet. The 26-foot channel had a least width of 200 feet, except for a few days. . .

MISSOURI RIVER¹

MISSOURI RIVER, the main western branch of the Mississippi river, U.S.A. It rises in three streams in the Rocky Mountains of South-western Montana, the Jefferson, Madison, and Gallatin rivers, which unite at the foot of Gallatin Valley, thence the river flows north, out of the mountain region into the plains, which it traverses in a course at first north-east, then east, flowing down the general slope. Entering North Dakota the river turns gradually to the south-east, then south, and again south-east, traversing both North and South Dakota. It forms the eastern boundary of Nebraska and part of Kansas, and crosses Missouri in an easterly course to its junction with the Mississippi a few miles above St Louis. Its entire length is 3475 miles, and it drains an area of 527,155 square miles, or more than one-sixth of the area of the United States, excluding Alaska. As its longest and largest affluent, it is properly the main source of the Mississippi. Of the three sources of the Missouri, the middle stream, Madison river, rises in Yellowstone National Park, and is fed by geysers and hot springs. Yellowstone river, a right-hand tributary, rises just south of Yellowstone National Park, flows through it, and joins the Missouri at the eastern boundary of Montana. On this stream, within the park, are Yellowstone Lake, the Great Falls (300 feet high), and the cañon, features which constitute some of the finest scenery of the United States. In the Dakotas many small but long streams join it, among them the Little Missouri

¹ The article "Missouri River" in the New Volumes of the *Encyclopædia* Britannica. Copyright, 1902, by The Encyclopædia Britannica Company.

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from the Bad Lands, and the Cheyenne from the Black Hills. In Nebraska come the muddy waters of the Platte, which rises in two large branches in Colorado. At Kansas City the Missouri is joined by Kansas river, a stream of the plains. On the left the Missouri is fed by Sun, Marias, and Milk rivers, which rise in Mission Range in Western Montana, and farther down by the James, the Big Sioux, and many smaller streams. Owing to the vast amount of detritus which its waters collect in its long course over the plains, the Missouri is at all times thick with mud, and well deserves its familiar cognomen of "Big Muddy." The Missouri is navigable at high water to the Great Falls, near the city of that name in Montana; and even now, in spite of the competition of the railways, carries a large amount of freight. Upon it are situated many cities, the principal of which are Kansas City, Mo.; St Joseph, Mo.; and Omaha, Neb.

Development of the Country

How it has been made into Territories and States. Detailed Descriptions of those Divisions.

LOUISIANA¹

LOUISIANA, one of the Southern States of the American Union, situated on the lower course and debouchment of the Mississippi river. It is bounded S. by the Gulf of Mexico, W. by Texas, N. by Arkansas, and E. by Mississippi. Its western boundary is a line through the middle of Sabine lake and river, as far north as the 32nd parallel, whence it follows the meridian of the point of intersection of the river with that parallel. The northern boundary is the parallel of 33°. The eastern boundary is the mid-channel of the Mississippi river, as far south as the 31st parallel, whence it follows that parallel eastward to the middle of Pearl river, and passes down that stream to the Gulf. The area of the State, according to a late determination made by the Census Bureau, is 48,720 square miles, of which 1060 consist of land-locked bays, 1700 of inland lakes, and 540 of river surface, leaving 45,420 square miles as the total land area of the State.

The average elevation of the State is only 75 feet, and no part of it reaches 500 feet above sea-level. The most elevated portion is near its northern border. The surface is naturally divided into two parts—the upland, and the alluvial and coast swamp regions. Each of the larger streams, as well as a large proportion of the smaller ones, is accompanied by a belt of bottom land, of greater or less width, lying low as regards the stream, and liable to overflow at times of high water. These bottom lands form collectively what is known as the alluvial

¹ From the article "Louisiana" in the Ninth Edition of the *Encyclopædia* Britannica. Copyright, 1882, by Henry Gannett.

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region. It extends in a broad belt down the Mississippi, from the mouth of the Ohio to the Gulf of Mexico, and up the Ouachita and its branches and the Red River, to and beyond the limits of the State. Its breadth along the Mississippi within this State ranges from 10 to 50 or 60 miles, and that along the Red River and Ouachita has an average breadth of 10 miles. Through its great flood-plain the Mississippi river winds upon the summit of a ridge formed by its own deposits. In each direction the country falls away in a succession of minor undulations, the summits of the ridges being occupied by the streams and bayous. Nearly all of this vast flood-plain lies below the level of high water in the Mississippi, and, were it not for the protection afforded by the levees, with which most of the course of the stream is lined, every considerable rise of its waters would inundate vast areas of fertile and cultivated land.

Stretching along the coast, and extending inland to a varying distance, ranging from 20 to 50 or even 60 miles, is a low, swampy region, the surface of which is diversified only by the slight ridges along the streams and bayous which traverse it, by occasional patches of slightly elevated prairie, and by live oak ridges. It is in and along the borders of this coast swamp region that most of the sugar-cane and rice produced in the State are grown.

The low regions of Louisiana, including the alluvial lands and the coast swamps, comprise about 20,100 square miles, or nearly one-half the area of the State. The remainder consists of uplands of prairie and forest. The borders of these uplands are generally defined by lines of bluffs of no great height.

The principal rivers are the Mississippi, which flows nearly 600 miles through and along the border of the State, the Red River, the Ouachita or Washita, Sabine, and Pearl, all which, excepting the last, are navigable at all stages of the water. Besides those streams which may properly be called rivers, the State is intersected by "bayous," several of which are of great importance both for navigation and for drainage. They may be characterized as secondary outlets of the rivers. . . .

The lakes of the State are mainly comprised in three classes. First come the lagoons of the coast, many of which are merely land-locked bays, whose waters are salt, and which rise and fall with the tides. Of this class are Pontchartrain,

Borgne, Maurepas, and Sabine, and indeed all or nearly all those situated in the region of the coast swamps. These are simply parts of the sea which have escaped the filling-in process carried on by the great river and the lesser streams. A second class, large in numbers but small in area, is the result of "cut-offs" and other changes of channel in the Mississippi, and, to a small extent, in the Red River. . . . A third class may be mentioned, namely, those upon Red River and its branches which are caused by the partial stoppage of the water by the "raft" above Shreveport. . . .

The climate of the State is semi-tropical; the mean annual temperature ranges from 60° to 75° , changing approximately with the latitude. The mean temperature of the hottest month is about 85° , while that of the coldest month ranges in different parts of the State from 45° to 60° . The temperature rarely, if ever, falls below 0° Fahr., while the heats of summer reach 105° in some parts. The rainfall is very heavy along the coast, exceeding 60 inches annually, but decreases inland, and is not more than 50 inches in the northern districts.

This large amount of moisture, together with the high temperature and the fertile soil, suffices to cover the greater part of the State, and particularly the alluvial regions and the coast swamps, with the most luxuriant sub-tropical vegetation, both arborescent and herbaceous. . . For the beauty and fragrance of its flowers Louisiana is justly celebrated. Its bottom lands and its upland prairies are decked with them in tropical profusion. Prominent among them in abundance are roses, magnolias, jasmines, camellias, and oleanders. Most fruits common to a semi-tropical region are to be found here, either native or cultivated, such as oranges, olives, figs, peaches, and plums. . .

History.—The early history of the exploration of Louisiana forms one of the most interesting chapters in the annals of the country. It was first visited in 1541 by De Soto, of the Spanish Government service. This daring explorer, landing on the coast of Florida, made his way through the pathless forests and almost impassable swamps to the Mississippi, and even penetrated many leagues west of it, finally leaving his bones upon its shores. In 1673 Marquette and Joliet, starting from the settlements in Canada, descended the great river from northern Illinois to the mouth of the Arkansas. In 1682 La Salle descended the Mississippi, also starting from the French

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settlements in the Canadas. He navigated the river from the mouth of the Illinois to the Gulf. Returning to France, he originated a scheme for colonizing the country, and succeeded in obtaining from France the desired concessions, and in collecting a company of colonists, which set sail from Rochelle on the 24th of July 1684. Owing to the difficulty of obtaining correct longitudes at sea, the vessel missed the mouth of the Mississippi, and finally landed on the shore of Matagorda Bay, in Texas, where they established a colony. From this point La Salle started to make his way overland to Canada, but was treacherously murdered by his companions. Shortly after his death the colony disappeared.

The first successful attempt at settlement within the State was made by the French under the leadership of Iberville in 1700. The colony was located at a point on the Mississippi about 38 miles below the present site of New Orleans, now known as "Poverty Point." At first it was by no means prosperous, and it was only after the treaty of Utrecht that it appears to have gained ground. At that time there were not over five hundred Europeans in the whole territory of Louisiana as then constituted; the greater part were in what is now the State of Louisiana, the others being scattered at a few little posts along the Mississippi and Illinois rivers. Immediately after the treaty of Utrecht the king of France granted the whole territory of Louisiana to Antoine Crozat, ceding to him all the territories watered by the Mississippi and its tributaries below the mouth of the Illinois, with all the privileges of hunting, fishing, commerce, mining, &c., which might arise in this new territory. Crozat appointed Cadillac governor of the Affairs, however, went badly under the new adminiscolony. tration, and after a succession of governors, the whole district fell into the hands of John Law, the originator of the famous "Mississippi scheme." Desiring to control, among other commercial monopolies, the colony of Louisiana, Law found it an easy matter to obtain the charter and privileges from Crozat, who was only too glad to relinquish them in his favour. A company was formed under the name of the "Western Company." Grants made to it were for twenty-five years. Subscribers to the stock were allowed to pay three-fourths of the purchase money in the depreciated bonds of France, onefourth only of the subscription being asked for in coin. Bienville, brother of Iberville, and a man possessing great

influence in the colony, was appointed governor. One of his first acts was to found the city of New Orleans on its present site. During the year 1718, 7 vessels were sent out with stores and emigrants, numbering in all about 1500 persons. The following year 11 ships were despatched, and 500 negroes from the Guinea coast were imported. In 1721, 1000 white emigrants arrived, and 1367 slaves.

In the meantime the Western Company had obtained from the regent power to join with it the East India Company grants, and its name was changed to that of the India Company. This inflated scheme burst in due time, but the misfortunes of the company did not check the prosperity of the colony. The year 1721, which was that following the financial ruin of the former, witnessed the greatest immigration to the colony which it had ever received. The company retained its organization and its grant of Louisiana until 1732, when the province reverted to the crown. At that time the population of the colony was said to have been 5000 whites and 2000 slaves; but a census taken fifteen years later shows a population of only 4000 whites.

In 1762, by a secret treaty, the province was transferred from France to Spain. This treaty was not made public until a year and a half after it was signed, and Spain did not obtain possession until 1769. Meanwhile, in February 1763, by a treaty made between France and Spain on the one hand and Great Britain and Portugal on the other, the portion of Louisiana lying east of the Mississippi from its source to the river Iberville, and thence along the middle of the Iberville and the lakes Maurepas and Pontchartrain to the sea, was ceded to Great Britain. In this treaty, by implication, Louisiana was made to extend to the sources of the Mississippi, and this is the view commonly held. The province was governed by Spain till the year 1800, in the meantime making little or no progress owing to the narrow and oppressive policy pursued towards it by the home Government. By the treaty of 1783 with Great Britain, the United States were placed in possession of the eastern bank of the Mississippi river, as far down as the 31st degree of latitude, while Spain held possession of the other bank, and had complete possession of the river below the 31st parallel.

From the time of the first settlement in the valley of the Mississippi and its tributaries, the importance of the river

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as a means of transportation to the seaboard, and the almost absolute necessity of possessing the country about its mouths, were recognized by the United States. As settlements increased in the valley and spread down the river, and as the hostile policy of Spain became more and more plainly developed, the feelings of the settlers became stronger against the restrictions of the Spanish Government. In 1800, however, Spain ceded the territory back to France, and in 1803 it was sold to the United States by Napoleon, in order to prevent it from falling into the hands of Great Britain. The price was 60,000,000 francs, with a stipulation that the United States should assume the claims of its citizens against France (French spoliation claims), which were estimated to amount to \$3,750,000. The province which thus came into the possession of the United States was of vast though ill-defined territorial extent.

In 1804 nearly all of what is now the State of Louisiana was erected into a territory, under the name of Orleans. In 1810 this was increased by the addition of the south-eastern portion, east of the Mississippi river, and in 1812 it was admitted as a State under its present name, and with its present boundaries. During the war with Great Britain, which followed shortly after, a battle was fought for the possession of New Orleans, between the British forces under Pakenham and the American army under Jackson, in which the former were signally defeated. Up to 1860 the development of the State was very rapid, especially in the direction of agriculture and commerce.

Upon the outbreak of the civil war the State promptly joined its fortunes with the Southern Confederacy. Its act of secession from the Union was passed December 23, 1860, and from that time until the final suppression of the rebellion the State government was in the hands of the Confederates, although for the last two years of the war its territory was held in the main by the Federal forces. In the early part of the war the State suffered but little, but in April 1862 Admiral Farragut with a powerful fleet succeeded in passing Forts Jackson and St Philip, which defended the approaches to New Orleans, and captured the city, thus compelling the evacuation of the forts. The navigation of the Mississippi being secured by this means and by operations from the north, the State was at the mercy of the Federal Government.

At the close of the war, on the reorganization of the State government, the administration fell into the hands of the ignorant negro classes, led by unscrupulous whites, and an unfortunate state of affairs ensued, which was brought to an end only by the arbitrary and forcible assumption of power by the better elements of society. This occurred in 1877, and since that time the State has prospered markedly in all material respects.

MISSOURI¹

MISSOURI, a central State of the American Union, lying almost midway between the Atlantic and the Rocky Mountains, British America and the Gulf of Mexico. Its eastern boundary is the Mississippi, separating it from Illinois, Kentucky, and Tennessee. North and south its boundaries with Iowa and Arkansas respectively are mainly coincident with the parallels of 40° 30' and 36° 30' N. lat.; but a small peninsula between the Mississippi and St François rivers stretch 34 miles farther south between Arkansas and Tennessee. The western border, with Nebraska, Kansas, and the Indian Territory, is nearly coincident with the course of the Missouri to the junction of that stream with the Kansas, and then follows the meridian of 17° 40' W. of Washington (94° 43' W. of Greenwich). The area of the State is 65,350 square miles, the extreme length from north to south 282 miles, the extreme width 348 miles. Missouri is divided into a northern and southern portion by the Missouri river, flowing 400 miles in a generally easterly direction from its junction with the Kansas to the point 12 miles above St Louis where it unites with the Mississippi. Northern Missouri has a surface broken and hilly, but not mountainous. It is mainly prairie land, well watered by streams, and fit for agriculture; but there is a good deal of timber in the eastern parts, especially along the bold bluffs of the two great rivers. Southern Missouri is almost equally divided between timber land in the east and prairie in the west. In its south-western portion rises the table-land of the Ozark hills (highest point 1600 feet above the sea). The Osage, the Gasconade, and other streams flow northward and eastward into the Missouri. The south-eastern

¹ From the article "Missouri" in the Ninth Edition of the *Encyclopædia* Britannica.

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lowlands form an undulating country, readily drained after rain, with fertile ridges generally running north and south, occasional abrupt isolated hills, forests of oak, hickory, elm, maple, ash, locust, willow, persimmon, pecan, chestnut, and cherry trees, and in the lowest parts swamps and morasses. High rocky bluffs extend along the banks of the Mississippi from the mouth of the Meramec river to Ste Genevieve, rising sometimes precipitously to the height of 350 feet above the water, and low bottom lands with many lakes and lagoons extend from Ste Genevieve to the Arkansas border. The south-cast corner of the State is 275 feet above the sea, the north-cast corner 445 feet, and the north-west corner 1000 feet.

Climate.-The climate of Missouri, lying as it does far from the ocean and unprotected by mountain ranges, is one of extremes in heat and cold, moisture and drought. The Ozark range is high enough to influence the climate locally, but not to affect that of the whole State. The mean summer temperature for the ten years 1870-80 ranged from 75° in the north-west of the State to 78°.5 in the south-east; but the thermometer has been known to rise to 104°. The winter temperature averaged 33°.87 for the whole State, varying from 28°.5 in the north-west to 30°.5 in the south-east. In some winters the temperature hardly falls to zero; in others 20° below zero have been registered. The Mississippi at St Louis freezes over once in four or five years; but this is partly caused by the accumulations of floating ice coming down from the north. The river has closed as early as the first week in December, and, again, has remained open until the last week in February. It is in cold seasons sometimes passable for the heaviest teams. The Missouri river is often closed during the whole winter. The mean annual temperature of the State varies from 53° to 58°. The climate is, on the whole, dry; for, in spite of the abundant rains, especially in the spring, evaporation is so rapid that the atmosphere is rarely overloaded with moisture. April is the driest month. The greatest amount of rain falls in the south-eastern part of the State. An unusual amount of fair weather, prevailing clearness of sky, general salubrity of soil and climate, are chief among the natural advantages of this great State.

Geology.—The stratified rocks of Missouri belong to the following divisions : Quaternary, Tertiary, Carboniferous,

Devonian, Silurian, and Archæan. The Quaternary system comprises the drift, 155 feet thick; the bluff, 200 feet above the drift; then the bottom prairie, 35 feet thick; and on the surface the alluvium, 30 feet in thickness. Clays with strata of sands, marls, and humus form the alluvial bottoms of the two great rivers of the State, and make up a soil deep, light, and incomparably rich. Beneath the alluvium is found the bottom prairie, made up also of sands, clays, and vegetable moulds. This formation is found only in the bottom lands of the Missouri and Mississippi rivers, and more abundantly in those of the former. Numerous and well-preserved organic remains are found in the bottom prairie, including the shells found in great quantities in the bluff and remains of the mastodon and many trees and plants. Below this formation, resting upon the drift, is the bluff. This rests upon the ridges and river bluffs, and thus is topographically higher, although geologically lower, than the bottom prairie. It is composed chiefly of a grey siliceous marl, coloured sometimes to a deep brown or red by the stains of oxide of iron. This formation extends along the bluffs of the Missouri from Fort Union to its mouth, and is found capping those of the Mississippi from Dubuque to the mouth of the Ohio. It is sometimes 200 feet thick; at St Joseph it is 140, at Booneville 100, at St Louis 50, in Marion county only 30 feet. This formation has interesting fossils (*Elephas primigenius*, &c.). The drift, the lowest of the Quaternary system, appears in the altered drift, the boulder formation, made up largely of the igneous and metamorphic rocks, with rocks from the Palæozoic strata upon which the others rest. Large boulders, five or six feet in diameter, are found, usually of granite or metamorphic sandstone; no fossils except a few logs in the altered drift have been found in this formation. The Tertiary formation in Missouri is composed of clays, shales, iron ores, sandstone, and sand, and extends along the bluffs and bottoms of the southeast part of the State. Iron ore is found in this formation in great abundance; sand of the best quality for glass-making and clays for pottery and stoneware also abound. Below the Tertiary bed are found rocks which strongly resemble Cretaceous beds found in other places in the United States. These strata are in such a state of irregularity and disturbance as to indicate the occurrence of some great movements after their deposition and before the formation of the Tertiary strata.

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The Upper Carboniferous system, or coal measures, made up of sandstone, limestone, marl, coal, and iron ores, covers an area of more than 23,000 square miles in Missouri, occupying the western and northern portions of the State. The supply of bituminous and cannel coals found here would seem to be well-nigh inexhaustible. In the Lower Carboniferous rock are found many varieties of limestone and sandstone. Among these are the Upper Archimedes Limestone, 200 feet; Ferruginous Sandstone, 195 feet; Middle Archimedes Limestone, 50 feet; St Louis Limestone, 250 feet. The Devonian system is represented by limestone in Marion, Ralls, Pike, Callaway, Saline, and Ste Genevieve counties, among which occur the Chouteau Limestone, 85 feet; Lithographic Limestone, 125 feet; Onondaga Limestone, 100 feet. Of the Upper Silurian series are the following formations :- Lower Helderberg, 350 feet; Niagara Group, 200 feet; Cape Girardeau Limestone, 60 feet. Prominent among the Lower Silurian formations are the Trenton Limestone, 360 feet; the Black River and Bird's Eye Limestone; and the Magnesian series. The last-named series is valuable both in a scientific and an economic sense. It covers much of the southern and south-eastern portions of the State, and in it are found vast deposits of lead, zinc, copper, cobalt, iron ores, and marble. The Archæan rocks occur below the Silurian deposits, and contain siliceous and other slates in which no fossils are found. The porphyry rocks of this formation also contain iron ores.

History.—On the 9th April 1682 the French voyager and discoverer La Salle took possession of the country of Louisiana in the name of the king of France. Its limits were quite indefinite, and included the present territory of Missouri (see Louisiana). The first settlements of Missouri were made in Ste Genevieve and at New Bourbon, but uncertainty exists as to the exact date. By some the year is fixed at 1763, by others, and by many traditions, as early as 1735. St Louis was settled by Pierre Laclede Liguest, a native of France. The site was chosen in 1763, and in February 1764 Auguste Chouteau went at the order of Liguest to the spot previously selected, and built a small village. For a long time the settlements were confined to the neighbourhood of the river. On the 31st of October 1803, the Congress of the United States passed an Act by which the president was authorized

to take possession of the territory according to the treaty of Paris, and the formal transfer of Lower Louisiana was made on 20th December 1803. In 1804 Congress divided the territory into two portions. The northern part, commonly called Upper Louisiana, was taken possession of in March 1804. In June 1812 Missouri was organized as a Territory, with a governor and general assembly. The first governor (1813-1820) was William Clarke. In 1818 Missouri applied for admission to the Union as a State. Two years of bitter controversy followed, which convulsed the country and threatened the dissolution of the Union. This controversy followed a resolution introduced into Congress which had in view an anti-slavery restriction upon the admission of Missouri to the Union. This was at last settled by the adoption of the "Missouri compromise," which forbade slavery in all that portion of the Louisiana purchase lying north of 36° 30' except in Missouri, and on 19th July 1820 Missouri was admitted to the Union. A convention to frame a constitution had already been called, and the constitution then adopted remained without material change until 1865. The first general assembly under the constitution met in St Louis in September 1820, and Alexander M'Nair was chosen governor in August. The seat of government was fixed at St Charles in 1820, and removed to Jefferson City, the present State capital, in 1826. The first census of the State was taken in 1821, when the number of inhabitants was found to be 70,647, of whom 11,254 were slaves. In the Black Hawk war in 1832, the Florida war in 1837, and the Mexican war in 1846 Missouri volunteer troops did their share of the work. In the troubles in Kansas, and the bitter discussion upon the question of slavery, Missouri was deeply involved. A strong feeling in favour of secession showed itself in many parts of the State. Governor Jackson, in his inaugural address on the 4th of January 1861, said that Missouri must stand by the slaveholding States, whatever might be their course. The election of a majority of Union men, however, as delegates to a convention called to consider the affairs of the nation, showed that public sentiment was hostile to secession, and the convention adjourned without committing the State to the secession party. United States troops were soon gathered at St Louis, and forces were also sent to Jefferson City, and to Rolla. Governor Jackson fled from the capital, and summoned

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all the State troops to meet him at Booneville. General Lyon defeated these troops, 17th June 1861, and soon most of the State was under the control of the United States forces. The State convention was reassembled. This body declared vacant the offices of governor, lieutenant-governor, and secretary of state, and filled them by appointment. The seats of the members of the legislature were also declared vacant. Governor Jackson soon issued a proclamation declaring the State out of the Union, and Confederate forces were assembled in large numbers in the south-western part of the State. General Lyon was killed at the battle of Wilson's Creek near Springfield, and General Fremont, commanding the department of the west, decreed martial law throughout the State. For a year matters were favourable to the Confederates, and at the opening of 1862 their troops held nearly half the State; but in February a Federal force under General Curtis drove General Price into Arkansas. He returned in 1864, and overran a large part of the State, but was finally forced to retreat, and but little further trouble arose in Missouri during the war. Missouri furnished to the United States army during the war 108,773 troops. In 1865 a new constitution was adopted by the people. In 1869 the XV. Amendment to the United States constitution was adopted by a large majority. In 1875 still another State constitution was drawn up by a convention called for that purpose, and ratified by the people, and is now the fundamental law of the State.

ARKANSAS¹

ARKANSAS, one of the south-western States of the North American Union, situated between lat. 33° and 36° 30' N., and long. $89^{\circ} 45'$ and $94^{\circ} 40'$ W., with an area of 52,198 square miles. It is bounded N. by Missouri, E. by Tennessee and Mississippi, from which it is separated by the Mississippi River, S. by Louisiana, and W. by the Indian territory. It belongs to the great basin of the Mississippi, being watered by that river and by several of its main tributaries, which are all more or less navigable. Of these the principal are the St Francis, in the north-east; the White River with its affluents, the Cache, Little Red, and Black Rivers in the north; and notably the

¹ From the article "Arkansas" in the Ninth Edition of the Encyclopædia Britannica.

Arkansas, which, entering the State at Fort Smith, traverses it in a south-easterly direction until it joins the Mississippi at Napoleon. The southern part of the State is watered by the Washita in the east, and by a bend of the Red River in the west. The eastern part of the State, bordering on the Mississippi, is low and swampy, and is annually overflowed. Westward the country gradually attains a greater elevation, passing off into hills and undulating prairies, which lead up to the Ozark Mountains, beyond which, again, an elevated plain stretches towards the Rocky Mountains. The Ozark Mountains do not exceed 2000 feet in height, and the only other great masses of elevation are the Black Hills and the Washita Hills. A geological survey of the whole territory was commenced at the State expense by Dr David D. Owen in 1857, and two volumes of Reports were published in 1858 and 1860. In the district north of the Arkansas River, the three leading formations are the "mill-stone grit, with its associate shales and conglomerate; the subcarboniferous limestone and its associate chert, shales, and limestones; and the magnesian limestones, and their associate sandstones, calciferous sand-rocks and chert, belonging to the lower Silurian period." The mineral products are reported to be very considerable, "including zinc, maganese, iron, lead, and copper; marble, whet and hone stones, rock-crystal, paints, nitre-earths, kaolin, granite, freestone, limestone, marls, greensand, marly limestones, grindstones, and slate." The zinc ores are said to compare very favourably with those of Silesia, while the argentiferous galena produces a high average percentage of silver. Of coal, anthracite, and lignite, there are abundant supplies. A great number of mineral and thermal springs occur in various parts of the State, the most remarkable and most frequented groups lying to the south of the Arkansas in Hot Springs county. The heat of several attains 146° or 148° Fahr. Among what are called natural curiosities may be mentioned the sandstone dam across Lee's Creek in Crawfurd county, the Mammoth Spring in Fulton, which is supposed to have underground connection with Howel's Valley in Missouri, and is said to pour forth its water "at the rate of 8000 (?) barrels per minute," the Bee Rock in White county, and the crystalline productions of Magnet Cove. It need hardly be said that there is great variety of soil in such a State as Arkansas. Along the river "bottoms" the alluvium is dark, rich, and

deep, and yields excellent crops. The chief crops cultivated are maize, wheat, cotton, and tobacco, as well as apples and other fruits. There is a natural flora of great richness, a complete list of which is given in Dr Owen's second Report. The trees and shrubs most frequently occurring are poplars, oaks, pines, sweet-gum, sycamore, black locust, ash, elm, hickory, dog-wood, elder, palma-christi, black spice, papaw, mockernut, wild vine, &c. The fauna of Arkansas includes the buffalo, eland, red-deer, beaver, otter, hare, racoon, wild turkey, goose, and quail, as well as bears and wolves among the mountains. The climate of the lower districts is decidedly unhealthy, largely on account of the lack of wholesome water; but in the upper regions it is quite salubrious. Hitherto Arkansas has been mainly agricultural, but it is rapidly advancing in the development of its mineral wealth, in the extension of its railway communication, in the embankment and guidance of its rivers, in the reclaiming of its waste but fertile lands, in the progress of manufactures and industries, and in the establishment of educational and benevolent institutions. At the census of 1870 the population amounted to 484,471, comprising 362,115 whites and 122,169 coloured persons. In 1860 the population amounted to 435,450, so that an increase of more than 10 per cent. has taken place between these two periods, principally in the white population. The capital is Little Rock, originally a French settlement, situated on the Arkansas River, and occupying a very central position in the State. . . Arkansas was first colonized by the French, in the 17th century, and in 1720 Louis XV. made a grant of land on the Arkansas to the well-known John Law, but this led to no results of importance. In 1763 the territory was handed over to Spain, but returned to France in 1800. In 1803 it was purchased by the United States, along with the rest of what was then called Louisiana, and was established as a separate non-Indian territory in 1819. It was received into the Union as a slave State in 1836; and during the American Civil War, 1861-65, its convention sided with the Confederate States, joining that organization May 6, 1861.

IOWA¹

IowA, one of the north-western States of the American Union. Its boundary lines are—on the S. and N. the parallels $40^{\circ} 36'$ and $43^{\circ} 30'$ of N. lat., on the E. the Mississippi river, and on the W. the Missouri and Big Sioux rivers. The south-eastern corner projects slightly below the parallel of $40^{\circ} 36'$, the boundary following the Des Moines river down to its mouth. The neighbouring States are: Minnesota on the north, Wisconsin and Illinois on the east, Missouri on the south, and Nebraska and Dakota on the west. The length of the State from north to south is about 200 miles, and its greatest breadth from east to west 300 miles. Its area is 35,228,800 acres, or 55,045 square miles.

The State lies entirely within the prairie region of the Mississippi valley, and has a level or undulating surface. Its mean height above the sea is 925 feet, ranging from 500 in the south-east to 1700 in the north-west. About 24,600 square miles of the area rise less than 1000 feet above sea-level.

The surface presents very little relief. A broad elevation (1700 feet at the north boundary, and decreasing gradually southwards) separates the waters of the Mississippi from those of the Missouri. The position of this "divide" is, for the most part, near the western border of the State, giving to the branches of the Mississippi long courses and an easy fall, while those of the Missouri have comparatively short courses and a rapid fall. Near their sources, those branches, both of the Mississippi and Missouri, flow in broad, shallow valleys. Farther down their courses, however, bluffs develop, and increase gradually in height, while the valleys in general become narrower. The bluffs bordering the valley of the Mississippi range in height from 200 to 400 feet, the valley between them being usually from 4 to 8 miles in width, although in a few places, as at Dubuque, they close in upon the river on both sides. On the Missouri, the bluffs range from 200 to 300 feet in height, enclosing a bottom land 5 to 12 miles in width.

Rivers and Lakes.—The Mississippi and Missouri are the only navigable rivers. They have ample depth of water for all purposes of inland navigation. . . .

¹ From the article "Iowa" in the Ninth Edition of the *Encyclopædia Britannica*.

Geology.—The geology of the State is remarkably simple; excepting in the north-western quarter, where the formations are so covered with Quaternary drift as to be unrecognizable, there is from north-east to south-west a succession of belts, from the Lower Silurian to the top of the Carboniferous, varying in breadth and extending north-west and south-east. The Silurian occupies but a comparatively small area in the north-eastern corner. A strip of Devonian follows, 40 to 50 miles in width, extending from Davenport on the Mississippi north-westward to the northern boundary. The south-western half of the State is overlaid by the different members of the Carboniferous formation, with here and there fragments of Cretaceous beds, which have survived the enormous erosion to which the surface has everywhere been subjected.

Minerals.—It is estimated that about 7000 square miles are underlaid by the Coal-measures. Within this area coal beds of workable thickness and quality have been found at Fort Dodge, Moingona, Des Moines, and Oskaloosa, where they are being extensively worked. The coal is bituminous, no anthracite having been found in the State. The northeastern part of Iowa is included within the great lead region of the Upper Mississippi; and, although the palmy days of the mines of that region are over, the product is yet very important. The ore, which is galena, is found in pockety deposits in the limestones of the Silurian formation. These deposits vary immensely in size, and in general extend to no great depth, and therefore cannot be relied upon for permanence.

Climate.—The climate resembles in its essential features that of the rest of the prairies States, excepting that towards the west the aridity of the atmosphere and the decreased rainfall characteristic of the great plains begin to be perceptible. The annual rainfall ranges from 24 to 44 inches, with an average of about 36 inches, the south-eastern portion receiving the greatest amount, and the western part the least. The mean annual temperature ranges from 42° to 52° Fahr., the summer mean from 66° to 79° , and the winter mean from 14° to 27°, showing a difference between the summer and winter temperatures of 52° . The highest single observed temperatures have been 95° to 105° , and the lowest 18° to 33° below zero, an extreme range of about 125° . The southeastern portion has the mildest and most equable temperature,

as well as the greatest rainfall. Northward and westward the temperature becomes lower and extremes greater.

Soil.—The soil is extremely fertile, whether drift, bluff, or alluvial. The drift, whose name explains its origin, covers the greater part of the State. It is a dark loam, I to 2 feet in depth, and of almost inexhaustible fertility. The bluff soil or loess occupies the country bordering upon the valley of the Missouri. . .

History.—Iowa was originally a part of the Louisiana purchase. In 1834 all that part of the United States lying west of the Mississippi river and north of Missouri, including the present area of Iowa, was placed under the jurisdiction of the Territory of Michigan, and two years later the Territory of Wisconsin was created, including what is now Iowa. In 1838 Iowa itself was made a Territory, and on December 28, 1846, it was admitted to the Union as a State. At the time of the Louisiana purchase, this region was occupied by the Sioux, Sac and Fox, and Iowa tribes of Indians. The first white settlements within the State were made along the Mississippi in 1833,—Fort Madison, Burlington, and Dubuque being the first points occupied. From these points settlement spread westward, and the growth of the Territory and State has from that time been rapid and steady.

MINNESOTA¹

MINNESOTA, one of the north-western States of the American Union, extending from 43° 30' N. lat. to the British Possessions (about 49° N. lat.), and from Wisconsin and Lake Superior on the east to Dakota on the west, between the meridians of 89° 39' and 97° 5' W. long. Its area, including half of the lakes, straits, and rivers along its boundaries, except Rainy Lake and Lake of the Woods, amounts to 83,365 square miles.

The surface of Minnesota is diversified by few elevations of any great height. In general it is an undulating plain, breaking in some sections into rolling prairie, and traversed by belts of timber. It has an average elevation above sea-level of about 1000 feet. The watershed of the north (which determines the course of the three great continental river systems)

¹ From the article "Minnesota" in the Ninth Edition of the Encyclopædia Britannica.

and that of the west are not ridges or hills, but elevations whose The southern and central inclination is almost insensible. portions of the State are chiefly rolling prairie, the upper part of which is crossed from N.W. to S.E. by the forest belt known as the Big Woods,—a stretch of deciduous forest trees with an area of about 5000 square miles. North of the 47th parallel, the great Minnesota pine belt reaches from Lake Superior to the confines of the Red River valley, including the region of the headwaters of the Mississippi and its upper tributaries, as well as those of the Superior streams. North of the pine region there is but a stunted growth of tamarack and dwarf pine. In the north-east are found the rugged elevations of the granite uplift of the shores of Lake Superior, rising to a considerable height; while in the north-west the surface slopes away to the level prairie reaches of the Red River valley. The surface elevation of the State varies from 800 to 2000 feet above sea-level. A short line of hills in the north-east reaches the latter altitude, while only the valleys of the Red River, the Mississippi, and the Minnesota fall below the former.

Geology and Soil. . . . The great central zone, from Lake Superior to the south-western extremity of the State, is occupied by granitic and metamorphic rocks, succeeded, in the south-east, by narrower bands of later formation. Within the great Azoic area lies the central watershed of the continent, from which the St Lawrence system sends its waters towards the Atlantic, the Mississippi towards the Gulf of Mexico, and the Red River of the North to Hudson's Bay. These primordial rocks carry back the geologic history of Minnesota to pre-Silurian times. They form in the north-east, in the neighbourhood of Lake Superior, an extremely rough and hilly country, but as they reach the central and south-western portions of the State they for the most part disappear beneath the surface drift. This central belt is succeeded, on the south and east, by a stretch of sandstone, partially the true red Potsdam and partially a similar but lighter-coloured stratum, which some have proposed to designate the St Croix Sandstone. Isolated beds of sandstone are found in various parts of the State. The northwestern corner, stretching east from the Red River valley, is believed to be Cretaceous; but the great depth of drift and alluvium, disturbed by no large rivers, prevents a positive conclusion. The Lower Magnesian limestone underlies the extreme south-eastern portion of the State, and extends along

the west side of the Mississippi to a point a little below St Paul; thence it takes a course almost semicircular, and finally passes out of the State at the south-western boundary. The Trenton limestone occupies a large field in the south and south-east; it comes to the surface in long irregular bands, and an island of it underlies the cities of Minneapolis and St Paul with the adjacent districts. The Galena limestone, the Masquoketa shales, the Niagara limestone, and the rocks of the Devonian age in turn prevail in the other counties of the south and east; while the existence of the St Peter sandstone would scarcely be known but for its outcropping along the bluffs of the Mississippi, and at the famous waterfall of Minnehaha. From these various formations numerous kinds of stone valuable for building purposes are obtained. The grey granite of St Cloud is extremely hard and enduring. The Lower Magnesian furnishes two especially handsome building stones,-the pink limestone known as Kasota stone, and the cream-coloured stone of Red Wing, both easily worked, and hardening by exposure to atmospheric changes. Naturally, from its location underneath the principal cities of the State, the Trenton limestone is the most widely used. Sand suitable for glass-making, and argillaceous deposits abound. The clays which make up so large a portion of the surface drift of the State are almost wholly of glacial origin. Overlying the deposits of sand, gravel, boulders, and clay is, in most portions of the State, a sandy loam, very finely divided, rich in organic matter, deep brown or black in colour, and of the greatest fertility. It is this soil which has given to the State its reputation for productiveness. Its depth varies from 2 to 5 feet in various parts of the State, and it has been described by Dr Owen as "excellent in quality, rich as well in organic matter as in those mineral salts which give rapidity to the growth of plants, while it has that durability which enables it to sustain a long succession of crops."

Rivers and Lakes.—The State holds a unique place with reference to the great water systems of the continent. The Mississippi takes its rise in Lake Itasca, north of the centre of the State. Before it leaves the State limits it becomes a great river, half a mile wide, and from 5 to 20 feet deep. It drains with its tributaries all the southern and central portions and a large area of the northern part of the State. It is navigable as far as St Paul, and at Minneapolis the falls of St Anthony

afford unrivalled facilities for manufacturing. Of the many affluents of the Mississippi the most important is the Minnesota, which after a course of about 440 miles flows into the main stream at Fort Snelling, 3 miles above St Paul. The source of the Minnesota is but I mile from Lake Traverse, the origin of the Red River of the North, and it is navigable during the high-water season for about 238 miles. Its principal tributaries are the Blue Earth, Chippewa, Redwood, Lac qui Parle, and Pomme de Terre. The Red River system drains the northwestern part of the State, and its waters finally pass into Hudson's Bay, as also do those from the country drained by streams flowing to the Rainy Lake river and the lakes along the northern boundary line. East of this lies the region tributary to Lake Superior and the St Lawrence system. This comprises an area within the State estimated at 9000 square miles. Its principal river is the St Louis. There are altogether about 2796 miles of navigable water in Minnesota.

The number of lakes is estimated at seven thousand. They are of all sizes, and are found chiefly in the northern two-thirds of the State. . .

Climate.-The State lies so far north as to have a low mean annual temperature, and so far inland as to have the characteristic continental climate. Its elevation above sealevel gives an agreeable rarefaction to the atmosphere, and makes the prevalence of fogs and damp weather unknown. Between June and January there is an annual variation from the summer heat of southern Ohio to the winter cold of Montreal. The winter, usually commencing in November, and continuing till near the end of March, is not a period of intense continued cold, but is subject to considerable variations. As a rule, the comparative dryness of the atmosphere neutralizes the severest effect of excessive cold. The snowfall is extremely light during most of the winter, but as spring approaches precipitation becomes greater, and there are frequently heavy snowfalls in February and March. The change from winter to summer is rapid, vegetation sometimes seeming to leap into full and active growth within the space of a few weeks. The summer months bring days of intense heat, but, with comparatively rare exceptions, the nights are deliciously cool. . . .

Agriculture .--- The leading industry of the State is agri-

culture. The character of the surface soil varies in different parts of the State with the character of the underlying strata. The fertile land comprises about three-fourths of the entire area of the State. The drift soil proper of the south and centre, including the Minnesota valley and the greater part of that of the Mississippi, contains silica and calcareous matter, and is interspersed with alluvial river bottoms. The limestone soil, in which there is a large calcareous element, lies chiefly on the western slope of the Mississippi. The Red River valley consists of an argillaceous mould, rich in organic deposits. Around Lake Superior, wherever arable land is to be found, it is marked by a rich trap soil. North of the central fertile area, and in the neighbourhood of the sources of the Mississippi, is much swampy land, susceptible of easy drainage, with a large tract of sand and other drift detritus, unfavourable to production. Maize and potatoes flourish, and the uplands, which support hardwood ridges, are suited to general agriculture. To the extreme north the surface, while indicating mineral wealth, is utterly unfit, except in occasional isolated areas, for purposes of tillage.

Wheat has hitherto been the staple product of the State. Soil and climate are such as to ensure a large average yield, while the superior quality of the grain has given it a wide reputation. The other cereals are also cultivated with success. The tendency to diversify agriculture, especially in the southern part of the State, has been stimulated by several partial failures of the wheat crop, the locust invasions, and the competition of the farther north-west. . . .

History.—Missionary efforts and the trading spirit first induced white men to venture as far into the unexplored northwest as the boundaries of what is now the State of Minnesota. The earliest accounts of its natural features and native tribes appear in the Jesuit writings. The "Relations" of 1670-71 allude to the Sioux or Dakotas. In 1678 a company was formed for trading with this tribe. Du Luth was leader of this expedition, and later on went from Lake Superior to the Mississippi by canoe. But the first published account is that of Louis Hennepin, a Recollect monk, who, in 1680, visited the falls of St Anthony, and gave them their name, from that of his patron saint. For a century the only visitants of the wild region were a few missionaries, and a number of fur traders who found the profit of the journey to more than

counterbalance its perils and hardships. To the latter class belong Perrot, who reached the Mississippi by way of the Fox and Wisconsin in 1684, and founded at Lake Pepin the first trading post in the State, and Le Sueur, a Canadian, who ascended the great river from its mouth, and established another post above Lake Pepin. Captain John Carver, the explorer of the country of the upper Mississippi, visited the falls of St Anthony in 1766, being the first British traveller who reached the spot. On March 20, 1804, Upper Louisiana was organized, consisting of Arkansas, Missouri, Iowa, and a large portion of Minnesota. From this time onwards the progress of exploration was rapid, and settlement followed in its train. The first really extensive exploration of any large part of what is now Minnesota was made between 1817 and 1823, by Major S. H. Long, of the United States engineer corps, in command of a Government expedition. About the same time the Red River received its first visitant. Thomas Douglas, earl of Selkirk, an Englishman of eccentric character, went, in 1817, to what is now Winnipeg, by way of York river. Having been struck with the agricultural possibilities of the region about the Red River of the North, he induced a colony of Swiss farmers to settle there. These were disappointed in the country, and unused to the severity of the climate, so that they finally removed to the vicinity of St Paul and contributed to the earliest development of the agricultural industry of the State. In 1821 Colonel Snelling built, at the junction of the Minnesota and Mississippi rivers, a stronghold which he named Fort St Anthony. The name was changed to Fort Snelling in his honour, in 1824, and the fort is still an important post as a base of supplies for the newer north-west. The first steamboat made its appearance at the head of navigation in 1823. The settlement of St Paul, one of the oldest towns as well as the capital, is commonly dated from 1846, at which time there were a few shanties on its site. Population now began to arrive in constantly increasing numbers, and on March 3, 1849, a bill passed Congress for organizing the Territory. It was proposed at one time to name it Itasca, but the name Minnesota, meaning "sky-tinted water," and originally applied to the river bearing that title, was finally retained. The western boundary of the territory was fixed at the Missouri river. The population was but 4057, the largest town had but a few hundred inhabitants,

and a large part of the soil of the State still belonged to the Indians. But progress now began in earnest. A constitution was adopted in 1857, and on May 11, 1858, Minnesota was admitted as a State. . . .

One of the first acts of the new State was the issue of the railroad bonds noticed above. Soon after came the civil war. Within two months of Lincoln's first call for troops the first Minnesota regiment, over one thousand strong, was mustered into service. By August of 1862 ten regiments had been called for and furnished. In all, the State supplied to the armies of the Union 25,052 men, or about one-seventh of its entire population at the outbreak of the war.

In the meantime there occurred, in 1862, the horrible outbreak known as the Sioux massacre. Settlements were cut off, isolated settlers murdered, and even a strong post like Fort Ridgely was attacked. The outbreak spread over a large portion of the State; several severe engagements were fought; and it was not until the State had a thoroughly equipped military force ready for the campaign that the Indians begun to flee or to give themselves up. By this time over 700 persons had been murdered, 200, chiefly women, taken captive; eighteen counties were ravaged, and 30,000 people were homeless. The property loss was not less than \$3,000,000.

During these local and national disturbances the material prosperity of the State was unabated. Notwithstanding the heavy cost of the civil war and the Sioux massacre, the census of 1865 showed a population of 250,099. Railroad construction began to be energetically carried forward; in 1870, 329 miles were made and 1096 miles were in operation; a road to Lake Superior was completed, and the Northern Pacific was fairly under way. In 1873-76, and to some extent in 1877, successive visitations of locusts destroyed the crops of the south-western counties. The sufferers were relieved by the State. . . .

KANSAS¹

KANSAS, the central State of the American Union, lies between 37° and 40° N. lat. and between 94° 38' and 102° W. long. It is bounded on the N. by Nebraska, on the E. by Missouri, on

^I From the article "Kansas" in the Ninth Edition of the *Encyclopædia* Britannica.

the S. by Indian territory, and on the W. by Colorado. The State is nearly rectangular in shape, with a breadth of about 210 miles from north to south, and a length of 400 miles from east to west. It contains an area of 81,318 square miles, or 52,043,520 acres.

Kansas is an undulating plain, gently sloping from west to east, at an average of nearly 7 feet per mile. There is also an inclination from north to south, as indicated by the course of the rivers, which flow southerly as well as easterly, but never northerly or westerly, except for short distances from local The mouth of the Kansas river, at the east line of the causes. State, is 750 feet above the sea-level; the average altitude of the western boundary is about 3500 feet. The broad prairie surface is diversified by an endless succession of valleys and woodlands. The great central valley is traversed by the Kansas or Kaw river, which, inclusive of the Smokyhill branch, extends the entire length of the State. Lateral valleys on the north are formed by the Saline, Solomon, Republican, and Blue rivers, and other smaller streams. Another broad valley is formed in the southern half of the State by the Arkansas river, with lateral valleys on the north, traversed by the Walnut, Little Arkansas, Pawnee Fork, and other streams. The south-eastern portion contains the important Neosho valley, and the smaller valleys of the Osage and Verdigris. In the extreme south-west and along the southern boundary are the valley of the Cimarron, and a network of the southern tributaries of the Arkansas. Numerous small affluents of the Missouri enrich and diversify the northeastern quarter of the State. The streams of Kansas are usually fed by perennial springs, and, as a rule, the eastern and middle portions of the State are well watered. The western part is more elevated, and water is less abundant.

Geology and Minerals.—The surface presents three distinct geological sections. The eastern portion of the State belongs to the Carboniferous system, in which are found inexhaustible beds of valuable bituminous coal, often at shallow depths or cropping out on the surface. The central portion belongs to the Triassic formation, with magnesian limestone, ferruginous sandstone, and gypsum as the representative rocks. Magnesian limestone, known as dolomite, is especially plentiful along the Blue, Republican, and Neosho rivers and their tributaries. This beautiful stone, resembling white, grey, and cream-coloured marble, is exceedingly useful for building purposes. It crops

out in the bluffs in endless quantities, and is easily worked. The western portion of the State belongs to the Cretaceous formation, in which chalks and a species of native quicklime are very prominent in the river bluffs. The white and creamcoloured chalks are much used for building purposes, but the blue is usually too soft for exposure to the weather. The quicklime as quarried from the bluffs slakes perfectly, and with sand makes a fairly good mortar, without calcination or other previous preparations. Lead-mines are extensively worked in the south-eastern portion of the State, and prosperous towns and cities are growing up in connexion with these mines. In the central region, salt is produced from wells, and appears in occasional marshes. Salt industries are carried on at Solomon City, near the mouth of the Solomon river, and an excellent brine is obtained at Junction City. The salt of the south-west is found in beds and dry incrustations, varying in thickness from a few inches to 2 feet. The salts of Kansas are remarkably free from lime and other impurities. Gypsum is found in beautiful crystalline form in extensive quarries. . . . The lignite found near the Colorado line makes a valuable domestic fuel.

Climate.—The climate of Kansas is exceptionally salubrious. Extremes of heat and cold occur, as in all open prairie countries, but as a rule the winters are dry and mild, while the summer heats are tempered by the perpetual prairie breezes. The summer nights are invariably cool and refreshing. The mean annual temperature at Fort Riley for twenty-three years ending December 1874 has been 53°. The highest temperature there during the same period was 98° and the lowest 12° below zero. The average annual rainfall at the city of Lawrence for six years (1875-1880) was 32.68 inches, the heaviest rainfalls occurring in May, June, July, and August, the lightest in November, December, January, and February.

Soil.—The soil of the upland prairies is generally a deep rich clay loam, of a dark colour. The bottom lands near the streams are a black sandy loam; and the intermediate lands, or "second bottoms," show a rich and deep black loam, containing very little sand. These soils are all easily cultivated, free from stones, and exceedingly productive. There are exceptional spots on the upland prairies composed of stiff clay, not as easily cultivated, but very productive when properly managed and enriched. In the early history of the country

the prairies were covered with the short "buffalo grass," very nutritious for pasturage, on which immense herds of buffalo and other animals subsisted, but utterly unfit for hay. With the disappearance of the buffalo, and as the country is settled and cultivated, the short buffalo grass gives place to the tall blue stem and other bladed grasses valuable alike for pasture and hay. Timber is abundant along the streams in the eastern section of the State, but is less plentiful in the central portion, and very scarce in some parts of the west. The varieties of timber embrace oak, elm, black walnut, cottonwood, mulberry, box, elder, willow, hickory, sycamore, white ash, and other hard and soft woods. . . .

Agriculture.—The bright climate and pure atmosphere are admirably adapted to the growth of the apple, pear, peach, plum, grape, and cherry. The smaller fruits also, with scarce an exception, flourish finely. Trees never suffer from sodden or water-soaked roots, and very seldom from the winter's cold, when reasonable judgment and care have been exercised in selecting and managing the grounds. . .

Manufactures.—There is perhaps no tract of country of equal extent better supplied with available water power than Kansas. The streams are fed by living springs, and the inclination of the country insures uniformly rapid currents. Most of the streams maintain a good flow of water in the driest seasons, and in case of heavy rains many of them "underflow" the adjacent bottom lands, saturating the permeable substratum of the country with the surplus water, which in time drains out and feeds the subsiding streams. . .

History.—Kansas belongs to that immense tract of country, purchased by the American Government from France in 1803, known as the Louisiana purchase. Prior to 1854 it was in the hands of various Indian tribes, some native, and others which had been removed from the older States. It was organized and opened for settlement as a territory by Act of Congress in May 1854, in the midst of a heated contest on the slavery question. The slaveholders and the friends of freedom at once began a vigorous contest for the occupancy and control of the new territory, and thus it was that Kansas became the vanguard in the great struggle which resulted in the overthrow of slavery in the United States. Before the formal beginning of the war, societies were organized by the rival settlers and their friends in the States on both sides of

the slavery question, and even rival legislatures were elected and convened. The discussions frequently resulted in personal violence, and the greatest excitement prevailed till the breaking out of the civil war. Kansas was admitted into the Union as a State in January 1861, and took an active part in furnishing troops for the suppression of the rebellion. The State was frequently invaded, and the city of Lawrence was sacked and burned in August 1863. Since the overthrow of slavery, Kansas has shared fully in the general progress of the country.

NEBRASKA¹

NEBRASKA, a central State of the American Union, lies between 40° and 43° N. lat.; the Missouri flows along its eastern side, the most easterly point being 95° 25' W. long., and the boundary line separating it from Wyoming on the west is 104° W. long. It is bounded on the S. by Colorado and Kansas, on the E. by Missouri and Iowa, on the N. by Dakota, and on the W. by Wyoming and Colorado. The width of the State from north to south is $208\frac{1}{2}$ miles, the length from east to west 413 miles, and the area 76,647 square miles, or 49,054,080 acres.

The greater part of Nebraska is a plateau. . . . There are no mountains, but in the northern and western parts there are some ridges and a few lofty hills. Generally the slopes are gentle, but occasionally precipitous, and in rare cases there are cañons with perpendicular sides. The lands of three-fourths of the State are gently rolling. The surface owes its present form mainly to erosion. Between all the forms of upland surface the transition is gradual. The bottom lands and valleys are the most conspicuous modifying features of the surface. They are huge shallow troughs, varying in breadth from a quarter of a mile on the smaller streams to 23 miles on the Platte and the Missouri. Their numerous terraces, like broad steps, gradually lead to the bordering uplands, which in turn are varied in height and form. Occasionally it is hard to determine where the bottom ends and the bordering bluffs begin, but generally both forms are clearly outlined. The innumerable tributaries that creep quietly into the main

¹ From the article "Nebraska" in the Ninth Edition of the Encyclopædia Britannica.

bottoms greatly complicate and beautify the forms of land-The number of these valleys is very great, the scape. Republican alone having more than four hundred tributaries. Not less than 25 per cent of the entire surface of the State is composed of well-watered valleys. . . . Most of these bottom lands, though composed of the richest vegetable mould and alluvium modified by loess materials, are perfectly dry, and rarely subject to overflow. A clear conception of the topography can only be obtained by crossing the State at right angles to the courses of the valleys. . . . South of the valley of the Niobrara, and commencing in 100° W. long., are the noted sand-hills. They vary in height from a few yards to several hundred feet. Almost every form of wind sculpturing is found, but the conical predominates. Though formerly naked, these hills have recently become covered with grasses which are fixing the sands, and preserving their curious crater-like forms. They extend to the head of the forks of the Loup river, covering an estimated area of 8000 square miles.

The average mean temperature of the summer months-June, July, and August-in eastern Nebraska is 73° Fahr. At the North Platte it is slightly higher. Excepting a small section in the north-western part, the whole State is included between the summer isotherms of 72° and 76°. The mean temperature of the autumn months-September, October, and November—is 49°. As excessive rains rarely fall during these months, the comparatively high mean temperature renders the autumn season long and delightfully mild. The isotherm of 20° during the winter months-December, January, and February-embraces all of Nebraska except the north-west corner, where the temperature is slightly lower, and the southeast corner, where it is slightly higher. The spring months-March, April, and May—have a mean of 47° Fahr. The mean of the whole year is in the southern half of the State 55°, in the northern half $52\frac{1}{2}^{\circ}$. Rarely does the temperature in midsummer rise to 100°. In twelve years the thermometer fell below zero on an average thirteen times a year. The lowest point ever reached was 32° below zero. The heat of summer is constantly modified by breezes. Owing to the dryness of the atmosphere the cold is not felt more when the thermometer registers -20° than in moist regions when it marks only zero. . . . The atmosphere is wonderfully clear and pure throughout the year; objects can be seen at a great

distance, and clouds when formed are outlined with exceptional clearness.

The rainfall in eastern Nebraska is abundant. At the Missouri it averages 40 inches a year; 100 miles farther west 32 inches; 200 miles west of the eastern boundary 30 inches. Beyond this point it more rapidly lessens until the North Platte is reached in western Nebraska, where the average is only 20 inches. In the end of May, or in early June, when the "big rise" of the Missouri and the Platte occurs, a rainy season invariably commences which lasts from three to eight weeks. As this is the time when crops most need rain, destructive droughts are rare in eastern Nebraska. . . .

The name Nebraska signifies land of broad rivers. Chief of all is the Missouri, which flows in a tortuous course for 500 miles along its eastern boundary, and is navigable for 2000 miles above Omaha. Next in importance is the Platte, which flows through the whole length of the State from west to east. Rising in lakelets in the Rocky Mountains, fed by snows, its entire length approximates 1200 miles. When it enters the State it is already a broad and rapid, though shallow, river, flowing over a sandy bed. At North Platte it forks, one branch being known as the South and the other as the North Platte. . . .

That, as explained above, the soils of the State are among the best in the world, chemical analysis and experience alike confirm. Experience has not yet settled the question whether the alluvium of the valleys or the loess of the uplands is the more valuable. Grasses and corn (maize) are the principal products. Corn, especially, is a rarely failing crop. The root crops that grow in temperate latitudes thrive amazingly. Eastern Nebraska is eminently adapted to the growth of apples, which here attain a size, colour, and flavour rarely equalled elsewhere. Grapes, plums, and cherries do equally well. Peaches, though not so sure as the former, are successfully grown south of the Platte. The strawberry nowhere reaches a better size or more luscious flavour than here. Other small fruits do almost equally well. The spontaneous growth of nutritious grasses, the ease with which cultivated varieties are grown, and the enormous yield of corn render the State peculiarly adapted for the raising of cattle, horses, sheep, and hogs. The stock industry is growing rapidly, and is at present doing most to enrich the people. No industry promises better

results, however, than the planting of new forests, to which many people are devoting themselves with the most gratifying success. . .

History.---Nebraska was probably first visited by Europeans in 1541, in July of which year the Spanish general and explorer Coronado penetrated from New Mexico to a country which he called Ouivira, and described as lying about the 40th parallel, and abounding in buffalo, which corresponds with the region of the Platte. It was then occupied by powerful Indian tribes, whose chief ruler was Tatarax. It was subsequently revisited by Padilla, a Franciscan friar who had accompanied Coronado, and who here lost his life. No more records of visits to this region are chronicled for two hundred years. About the middle of the eighteenth century French missionaries from Canada came to the Missouri, and still later a few traders found their way here. It constituted a portion of the Louisiana territory which was purchased by Jefferson from France in 1803. At that time Indian tribes still occupied the whole At some earlier period a more civilized race lived region. here who made pottery and skilful carvings, built houses and fortifications, and reared mounds which often contain the ashes of their dead. When Nebraska came into possession of the United States the Sioux Indians were most numerous. The Pawnees, Otoes, and Omahas were next in numbers and in importance. These powerful tribes have all become reduced in numbers by disease, constant wars, and privations. The Sioux, who early gained the ascendency over the other tribes, resided in north-eastern Nebraska. The eastern part of the South Platte region was occupied by the Otoes, and the western part by the Pawnees, between which tribes there were constant boundary disputes.

The first settlement by whites was made in 1847 at Bellevue on the Missouri, 9 miles south of Omaha. Here a trading post of the American Fur Company was conducted by Colonel Peter A. Sarpy, a Frenchman distinguished by his knowledge of the Indians, his courage, and his enterprise. The Mormon emigration, begun in 1847, traversed several paths, one of which lay through Nebraska, which thus first became generally known throughout the country. During the overland traffic to California that commenced in 1849, depôts of supply were established at Bellevue, Plattsmouth, Nebraska City, and in the interior at Fort Kearney.

The Act constituting Nebraska a distinct Territory, and opening its lands to settlement, was approved May 30, 1854. Its area then embraced 351,558 square miles, extending from the 40th parallel to British America on the north, its eastern line connecting the Missouri river on the south-east with the Red River on the north, and its western line being the summit of the Rocky Mountains. In 1861 Nebraska was shorn of its extended territory by the cutting off of portions of it to form Dakota and Colorado Territories. In 1863 it was still further reduced by the formation of Idaho Territory. These curtailments left Nebraska a purely prairie State. During the first five years after the organization of the Territory the settlements rapidly increased along the Missouri. Great numbers who rushed to Pike's Peak in 1859 when the gold excitement was at its height, on their return, disappointed and disgusted, stopped and opened farms in the State. This had the effect of starting settlements in the interior. The bottom lands of the Missouri and its tributaries had first been occupied, and it was supposed that the uplands were of inferior fertility. Now. however, these so-called "bluff lands," composed of loess materials, began to be cultivated, cautiously at first, until experiment proved them to be of the choicest character. Pioneers then began to push out from the rivers, at first only a few miles, but finally wherever lands could be obtained, without regard to the presence or absence of bottom lands. In 1863 the Union Pacific Railroad and in 1864 the Burlington and Missouri River Railroad began to sell portions of their lands in Nebraska, received from the general Government; and this became a most potent factor in turning a tide of emigration into the State.

At the breaking out of the civil war in 1861 the population of the Territory comprised less than 30,000. Yet Nebraska furnished to the Union army during the war 3307 officers and men, including two companies of scouts, partly composed of Indians.

In 1866 the legislature prepared a constitution for a State government, which a vote of the people confirmed by a small majority, though the opponents of the measure claimed that it was obtained by fraud. The first legislature under the State constitution met July 4, 1866. The bill to admit Nebraska as a State was passed over the president's veto, and proclaimed on March I, 1867.

The first capital of Nebraska was at Bellevue. It was removed to Omaha in 1855, where it remained until Nebraska became a State, when it was taken to Lancaster, a town of half a dozen houses, whose name was then changed to Lincoln. . . .

NORTH DAKOTA¹

NORTH DAKOTA, one of the north-western group of states of the American Union, lies between 96° 25' and 104° W. and 45° 55' and 49° N. It has an extreme length east and west of 360 miles, an extreme width north and south of 210 miles, and an area of 70,795 square miles. Its vast expanse of level or rolling prairies is well supplied with surface water by several river systems and numerous small lakes. The most important rivers are the Red river of the North along the eastern border of the state, the Missouri in the western portion, and the Sheyenne and James in the central portion. The surface features of the state may in a general way be classified as follows : plains of the Red river valley, highlands of the Pembina and Turtle mountains, the rolling prairies of the central region, and the western Coteau of the Missouri. The uniformly level character of its surface, the absence of uplifts, and the lack of deep erosion over the greater part of the state have given it no very marked geological features. The formations occurring include rocks of the Archæan, Cambrian, Silurian, Cretaceous, and Tertiary ages, as well as glacial drift and alluvial deposits. The Dakota sandstone of the Cretaceous group is especially important as being the water-bearing stratum of the Great Artesian belt, occupying a large part of the state. Many of the clay deposits of the Cretaceous and Tertiary formations, particularly those near Dickinson, Stark county, are remarkably pure, and are utilized in the manufacture of excellent fire and pressed brick. To the same formations belong the immense beds of lignite coal extending west of the Missouri river, from north of the Great Northern Railway into South Dakota. In portions of the Red river valley the drift and alluvial deposits attain a depth of 300 feet, giving a remarkably strong subsoil and a deep and rich upper soil of black vegetable mould. These deposits thin out westwards, with the gradually

¹ From the article "North Dakota," in the new volumes of the *Encyclopædia Britannica*. Copyright, 1902, by The Encyclopædia Britannica Company.

increasing altitude, till the high rolling prairies of the central portion of the state are reached. . . .

Climate.-The climate is remarkably dry, cool, and invigorating. The temperature occasionally rises to 95° F. in summer, and occasionally falls to -40° in winter, but neither the exceptional heat of summer nor the exceptional cold of winter entails the discomfort attending a similar range of temperature in more humid climates. The summer nights are always cool. The mean temperature at many signal stations in the state for July and January, the hottest and coldest months, during the years 1892-98 inclusive, was 68.9° and 3.7° F. respectively. The mean temperature for the year was 39°. The average precipitation is 17.23 inches a year, ranging from more than 20 inches in the extreme eastern part to less than 10 inches in the extreme western. Fully three-fourths of the precipitation occurs during the growing season (April to August inclusive), and is sufficient for successful dry farming as far west as the 100th meridian. Beyond that meridian, save in localities of exceptional rainfall, the country is better adapted to stockraising than to agriculture.

Agriculture.---Agriculture is the leading industry in the eastern half of the state, as stock-raising is in the western half. In 1900 there were in the state 45,332 farms, containing altogether 15,542,640 acres, of which about 62 per cent was improved land. The total value of farm property was \$255,266,751, comprising land, improvements, and buildings, \$198,780,700; implements and machinery, \$14,055,560; and live stock, \$42,430,491. The total value of farm products in the preceding year was \$64,252,494. The leading crops are wheat, oats, barley, flax, rye, corn, and potatoes. The most important crop is wheat. Spring wheat is grown exclusively, mostly of the Scottish Fife variety, and ranking as No. 1 Hard the best grain known to the market. Apples, pears, and peaches are not grown to any extent, but all the small fruits wild and domestic grasses, and all root crops are grown in great profusion and of excellent quality. . . .

Population.—The population in 1880 of that part of Dakota territory embraced in the present state of North Dakota was $36,909 \left(\frac{5}{10}$ to the square mile); the population in 1890 was $182,719 \left(2\frac{5}{10}$ to the square mile); and in 1900 it was $319,146 \left(4\frac{5}{10}$ to the square mile), showing an increase for the decade of 74.7 per cent. Of the population in

1890, 101,590 were males, 81,129 females; 101,258 nativeborn, 81,461 foreign-born; 7980 Indians, 373 negroes. Of the population in 1900, 177,493 were males, 141,653 females; 206,055 were native-born, 113,091 foreign-born; 311,712 were white, 286 negroes, 180 Chinese and Japanese, 6968 Indians. Fargo (population in 1900, 9589) and Grand Forks (population in 1900, 7652), the leading towns, are the centres of a large wholesale and retail trade. Bismarck, the capital (population in 1900, 3319), is situated near the centre of the state, at the junction of the Northern Pacific Railway with the Missouri river.

History.—Dakota was a part of the Louisiana purchase of 1803. It was organized as an independent territory in 1861. The territory was divided by Act of Congress, 22nd February 1889, and North Dakota admitted as a state 2nd November of the same year. In politics the state has been uniformly Republican, except in 1892, when it was carried by the combined Democrats and Populists by a plurality on the Presidential ticket of 181.

SOUTH DAKOTA¹

SOUTH DAKOTA, one of the north-western states of the American Union, about 360 miles long, with an average width of about 225 miles; it contains 77,850 square miles.

Geography and Geology.—The surface of the state, with the exception of the Black Hills in the south-west corner, is generally rolling prairie. The land east of the Missouri river is fertile and well adapted to agriculture, that west of the river is drier, more broken, and well suited to stock-raising. No timber is found in the state outside the Black Hills, except along the banks of the rivers and streams. The Black Hills, where the timber has not been cut off, are covered with pine. The timber along the rivers and streams is ash, elm, cottonwood, and box elder. Oak and black walnut are also found. The greater portion of the state is of Cretaceous formation, with some Tertiary deposits in the southern part. The Black Hills are a distinct formation. Discoveries are constantly being made of gold and silver in this part of the state. In 1899,

¹ From the article "South Dakota," in the new volumes of the *Encyclopædia Britannica*. Copyright, 1902, by The Encyclopædia Britannica Company.

312,962 ounces of fine gold and 145,600 ounces of silver were mined; and mines of mica, gypsum, and bituminous coal of good quality have been also opened and developed. Natural gas has been discovered in different parts of the state, especially in Hughes, Sully, and McCook counties, and is being utilized to some extent for heating and illuminating. Quartzite sandstone and other kinds of building rock are found in abundance in various parts of the state. In 1899, 50,000 barrels of very excellent cement, equal in strength and endurance to the best Portland cement, were manufactured at Yankton from the chalk rock and clays found in abundance along the bluffs of the Missouri river.

Agriculture.—Of the agricultural products, wheat is the staple crop, and has a world-wide reputation as producing the best of flour; 41,889,380 bushels were grown in 1899, valued at \$20,957,917. The yield of corn in the southern part of the state and on the Missouri bottom lands frequently averages 75 bushels to the acre; 32,402,540 bushels were grown in 1899, valued at \$7,263,127... An artesian basin has been developed in the central portion of the state at a depth of from 500 to 1100 feet, which is being utilized for irrigation, and in some localities for manufacturing. Though there is a period of low temperature during mid-winter, the climate is dry and bracing....

Population.-The census of 1890 gave the population of South Dakota alone as 328,808, being an increase during the preceding ten years of 234.6 per cent. In 1900 the population was 401,570, an increase for the decade of 72,762, or 22.1 per cent. approximately that of the country as a whole. The average number of persons to the square mile was, in 1900, 5.2, as compared with 4.3 in 1890. There were, in 1900, 134 incorporated cities, towns, and villages in South Dakota, of which 25 had more than 1000 inhabitants, 12 more than 2000, and only 2 more than 5000. These two were Sioux Falls, with 10,266, and Lead City, with 6210 inhabitants. The capital, Pierre, had 2306 inhabitants. The death-rate of the entire state in 1900, on the basis of the number of deaths reported to the census enumerators in that year, was about 7.7. Of the total population in 1900, 216,164 (53.8 per cent) were males and 185,406 females; 313,062 (78 per cent) were native-born and 88,508 foreign-born; 380,714 (94.8 per cent) were white and 20,856 were coloured,

of whom 465 were negroes, 165 Chinese, 1 Japanese, 20,225 Indians. Although there are numerous settlements of Scandinavians, Germans, Dutch, Bohemians, and other nationalities, the American element is being rapidly increased by the immigration of farmers from Iowa, Wisconsin, Illinois, and other states, who, having sold their farms at high prices, go west to buy equally good lands at a cheaper rate. Great numbers of Indians have abandoned their tribal relations and are taking their lands in severalty.

History and Politics .- The state formed a part of the Louisiana purchase, and a portion of it was at one time included in Minnesota territory, and later formed a part of the territory The territory of Dakota was organized in 1861, of Nebraska. and included the present states of North and South Dakota and a large portion of Wyoming and Montana. It contained less than 5000 white inhabitants. In 1870 that part of the territory that is now the state of South Dakota contained 11,776, and in 1880, 98,268, an increase for the decade of 734.5 per cent. The first constitutional convention met at Sioux Falls in October 1883, and drafted a state constitution, which was adopted by the people and presented to Congress for approval; but no action was taken. On 22nd February 1889 Congress passed an Enabling Act, under which South Dakota was admitted as a state, 3rd November 1889. The former large Indian reservations west of the Missouri river have been subdivided and large portions thrown open to settlement.

The state is Republican in politics, but was carried for Mr. Bryan and the Populist ticket in 1896 by a majority of a few hundreds, and in 1898 a Populist governor was elected by a small majority, though the Republican Congressmen and the balance of the state ticket were elected by a large one. In 1900 the state went Republican by a plurality of 14,986. Three important amendments to the constitution were submitted to the voters at the election of 1898. One of them, involving the initiative and referendum systems of legislation, was adopted by a majority of 7331; another, involving women's suffrage, was defeated by a majority of 3285; and the third, involving the dispensary liquor system founded on that of South Carolina (see *Liquor Legislation*), was adopted by a majority of 1643; the Legislature of 1898-99, however, instead of enacting any legislation to put the amendment in force, passed a resolution

submitting to the voters its appeal, which was carried in the election of 1900. The civil and penal codes, as well as civil and criminal codes of procedure, are similar to those adopted in California, and are founded on those favourably reported by the Code Commissioners of New York.

MONTANA¹

MONTANA . . . is limited on the N. by British Columbia, on the E. by Dakota, on the S. by Wyoming and Idaho, and on the W. by Idaho. Its boundaries, as established by statute, are as follows :---on the N., the 49th parallel; on the E., the 27th meridian west of Washington, or the 104th west of Greenwich; on the S. and W. the boundary follows the 45th parallel from the 27th meridian west to the 34th meridian west, then turns south along the latter meridian to its point of intersection with the continental watershed, thence along the crest-line of this watershed westward and north-westward until it reaches the Bitter-root Mountains; it then follows the crest of this range north-westward to the point where it is crossed by the 39th meridian west, which it follows north to the line of British Columbia. The total area is about 146,080 square miles—an approximate estimate, as the boundary along the continental watershed and the Bitter-root Mountains has not been exactly surveyed. The average elevation above sea-level has been estimated at 3000 feet.

Topographically, Montana may be separated into two great divisions—that of the plains comprising the eastern two-thirds, and that of the mountains comprising the western portion. The former, a monotonous rolling expanse, broken only by the beds of the few streams which traverse it, and by a few small groups of hills, extends over nine degrees of longitude in a gentle uniform slope, rising from 2000 feet above the sea at the eastern boundary to 4000 at the base of the Rocky Mountains. Except along the streams and upon the scattered groups of hills, this section is entirely devoid of forest-growth of any kind. Vegetation is limited to the bunch grasses, artemisia, and cacti. The grasses are the most abundant and luxuriant near the mountains, where the rainfall is greatest.

¹ From the article "Montana," in the Ninth Edition of the *Encyclopædia* Britannica.

The mountain section . . . is composed, in general terms, of a succession of ranges and valleys running very uniformly somewhat in a north-west and south-east direction. The mountains vary in height from 8000 to 10,000, even in isolated cases reaching 11,000 feet, with mountain passes 6000 to 8000 feet above the sea. Towards the north the ranges become almost continuous, forcing the streams into long and circuitous courses in order to disentangle themselves from the maize of mountains, while, on the other hand, the ranges of the south-western part . . . are much broken, affording numerous low passes and water-gaps.

In the mountainous part . . . are the head waters of the Missouri (Atlantic basin) and Clark's Fork of the Columbia (Pacific basin). The former rises in the south-west . . . in three large branches, the Jefferson, Madison, and Gallatin, which meet at the foot of the Gallatin valley at a point known as the "Three Forks of the Missouri." Here the Missouri is a good-sized stream, fordable with difficulty even when the current is lowest. From this point to its mouth navigation is possible when the stream is not below its mean height; it is interrupted only at the Great Falls of the Missouri, near Fort Benton, above which, however, it is practically little used for navigation. Its other principal tributaries in its upper course are the Sun, Teton, Marias, Musselshell, and Milk rivers, all of which vary much in size with the season—the last two being nearly or quite dry near their mouths in the fall of the year. The Yellowstone, one of the most important tributaries of the Missouri, has nearly all its course in Montana, and is navigable for small steamers as far as the Crow Agency, except when the water is low. Clark's Fork of the Columbia is formed by the junction of the Flathead and the Missoula or Hellgate river. The former rises in the mountains of British Columbia and flows nearly south through Flathead Lake to its point of junction with the Missoula. The latter rises opposite the lefferson river and flows north-westward, receiving on its way several large affluents. Below the point of junction of these streams, Clark's Fork flows north-west along the base of the Bitter-root Mountains into Idaho. This stream is very rapid, and is not navigable. Its course, as well as those of most of its tributaries, passes through narrow valleys, the surrounding country being well watered and covered with dense forests of Conifera.

Geology.—Most of the mountain area belongs to the Eozoic and Silurian formations. Along the base of the mountains is a Triassic belt of variable width. Succeeding this is a broad area of nearly horizontal Cretaceous beds, followed by the Tertiary formation, which covers nearly one-third of the Territory. These recent formations are interrupted here and there by volcanic upheavals.

Climate.—The climate of Montana differs almost as greatly in different parts . . . as that of California. In the northwest it resembles that of the Pacific coast. The westerly winds blowing off the Pacific do not meet with as formidable a barrier as farther south, and consequently are not chilled, or deprived of so large a proportion of their moisture. The result is that the north-western portion of Montana enjoys a mild temperature and a rainfall sufficient for the needs of agriculture. The valleys of the Kootenai, Flathead, Missoula, and Bitter-root can be cultivated without irrigation with little danger of loss from drought. Farther east and south the rainfall decreases. In the valleys of the upper Missouri, the Jefferson, Madison, Gallatin, and the upper Yellowstone irrigation is almost everywhere required, as well as over the broad extent of the plains. . . . The rainfall ranges from 10 to 15 inches annually; in the north-western corner it rises to 25.

The general temperature is comparatively mild for the latitude, the elevation above the sea being decidedly less than that of the average of the Rocky Mountain region. The mean annual temperature ranges from 40° to 50° Fahr., but the variations are very great and violent. Frosts and snowstorms are possible during every month of the year, so that agriculture and stock-raising are more or less hazardous. On the other hand, the ordinary extremes of temperature are not so great as in more arid portions of the country. . .

History.—The Montana country was originally acquired by the United States under the Louisiana purchase. It became successively a part of Louisiana Territory, of Missouri Territory, of Nebraska Territory, and of Dakota... The exploration of this region commenced with the celebrated expedition of Lewis and Clark in 1803-06. Between 1850 and 1855 it was traversed and mapped by a number of exploring parties, having in view the selection of trans-continental railroad routes. ... The first settlers entered the Territory in 1861, discovered placer

gold on Little Prickly Pear Creek, and shortly after built the city of Helena. Later, the placers at Bannack were discovered, and a small "rush" to the Territory commenced. In 1863 the rich placers at Alder Gulch were brought to view, and miners and adventurers swarmed in from all parts. Then it was that the early social history of California was repeated on a smaller scale in Montana. The lawless elements assumed control, and for many months neither life nor property was safe. Indeed, for a time the community was in a state of blockade; no one with money in his possession could get out of the Territory. Finally, the citizens organized a "Vigilance Committee" for self-preservation, took the offensive, and after a short sharp struggle rid the community of its disturbing After the exhaustion of the placers, the population elements. decreased, owing to the migration of the floating mining class; but their place was soon taken by more permanent settlers.

COLORADO¹

COLORADO, one of the United States of North America. Boundaries: N., Wyoming and Nebraska; E., Nebraska and Kansas; S., the Indian Territory and New Mexico; and W., Utah. Latitude, between 37° and 41° N.; longitude, from 102° to 109° W. Breadth, N. to S., about 280 miles; length, E. to W., about 380. Area estimated at 106,500 square miles or 68,160,000 acres. Population, 120,000.

Mountains.—This territory is traversed from north to south by the great continental chain of the Rocky Mountains, and according to its orographical configuration may be divided into a mountain district, a hill district, and a plain district. The principal range of these mountains bears the name of the Sawatch Range. It consists of a solid mass of granite, has an average elevation of I 3,500 feet, presents a broad and massive outline, and has a mean breadth of from fifteen to twenty miles. It is really a prolongation of the Sierra Madre of Mexico, and up to about 40° N. lat. it forms the dividing line between the Atlantic and the Pacific versants. Beginning at the south we have the following peaks :—Mount Bowles, I4,106 feet ; twelve miles northward, Mount Howard, I4,208 ; eleven miles to the north-cast, La

¹ From the article "Colorado," in the Ninth Edition of the *Encyclopadia* Britannica.

Plata Mount, 14,126; seven miles from La Plata, Grizzly Peak, 13,786, and Mount Elbert, 14,150; and six miles from Mount Elbert, Massive Mountain, 14,192. For about eighteen miles north of this last elevation the range is comparatively low, but it rises again in the great terminal peak of the Holy Cross, which attains a height of 13,478 feet, and owes its name to the figure emblazoned on its summit by the white lines of its snowfilled ravines. Second only in importance to the Sawatch range are the Elk Mountains, which strike off from it in a south-west direction, and extend for a distance of upwards of thirty miles. They are geologically interesting for the almost unexampled displacement of the strata of which they are composed, and the apparent confusion which has thence arisen. Among the most remarkable of its separate summits are Italian Mountain, 13,431 feet in height, so called because it displays the red, white, and green of the Italian national colours; Whiterock Mountain, 13,847 feet; Teocalli Mountain, 13,274; Crested Butte, 12,014; Gothic Mountain, 12,491; Snow Mass, 13,961; Maroon Mountain, 14,000; Castle Peak, 14,106; Capitol, 13,992, and Sopris Peak, 12,972. Of less importance, but still distinct and well defined, are the Wet Mountains in the south-east, the Raton Mountains in the south, and the Uncompany Mountains in the south-west. The eastern series of elevations which abut on the region of the plains are known as the Front Range, and present a fine bold outline, broken by several peaks of about 14,000 feet or upwards in height. One of the most remarkable features of the orography of Colorado is the unusual development of its upland valleys, or "parks," to use the term that has become distinctively their own. The four most extensive are known respectively as the North, the Middle, the South, and the San Luis; the last is by far the finest of the four. They stretch almost in a line from the southern to the northern boundary of the State, just on the western side of the Front Range, and occupy an average breadth of 50 miles. The San Luis Park is, as it were, an "immense elliptical bowl" with an area of 9400 square miles, bounded on the E. by the Wet Mountains and the Sangre de Cristo range, and on the W. by the Sierra de San Juan, which is part of the great Sierra Miembres. Its surface is nearly as flat as a lake, and it almost certainly was at one time the bed of a great inland sea. The centre of the northern part, which bears the distinctive title of the Rincon,

is still occupied by a considerable sheet of water, fed by nineteen mountain streams, and accustomed in the winter to overflow a large stretch of the neighbouring savannah. The southern part, which continues onwards into New Mexico, is traversed by the Rio del Norte and several of its tributaries.

Rivers .- Of the rivers of the Atlantic versant, the most important are the South Platte, the Arkansas, and the Rio Grande del Norte; those of the Pacific are all members of the great Colorado River. The South Platte has its head waters in Buckskin Mountain, and its earlier tributaries flow from the slopes of the northern part of the Front Range. At its source at Montgomery it has a height above the sea of 11,176 feet; at its exit from the upper cañon it is still 7623, but by the time it reaches Denver it is only 5176. The Arkansas rises in the same district, at a height of 10,176 above the sea, in Tennessee Pass, but as it leaves Chalk Creek has come down to 7877. In the upper part of its course it passes through a cañon from 1000 to 1500 feet in depth. The Rio Grande del Norte has its head waters in the Sawatch range and the Sangre de Cristo range, and flows south through the valley San Luis Park. The river, which gives its name to the State, belongs to the territory only by some of its most important tributaries, of which it is sufficient to mention the Bear River and the Gunnison and Grand River, which unite before they pass into the territory of Utah. The numerous minor "creeks" which feed the main streams must not be forgotten in forming an idea of the main features of the country. . . .

The climate of Colorado is remarkable for its regularity and salubrity. During the day the thermometer not unfrequently rises to 90° in summer, but the nights are always cool and dewless. In winter the weather is generally mild-the lowest thermometric marking being only 7° below zero, in Middle Park 15°, and in Denver 13°. Snow often lies deep in the higher inhabited districts, but in the lowlands it is never more than 10 or 12 inches, and it disappears again almost immediately. All through the year the atmosphere is so dry and light that butcher meat can be preserved by the simplest process Between July and October there is very little of desiccation. rain, day after day bringing a bright and cloudless sky. "An air more delicious to breathe," says Bayard Taylor, "cannot anywhere be found; it is neither too sedative nor too exciting, but has that pure, sweet, flexible quality which seems to support

all one's happiest and healthiest moods." For asthmatic and consumptive patients it exercises a restorative influence which cannot be disputed; and the State consequently promises to become an extensive sanatorium for the eastern districts of the continent. The only flaw in the climate of Colorado is its violent storms of wind, and in some parts of the country heavy falls of hail. It would seem, however, that the humidity is on the increase; and, whatever be its cause, the change is quite perceptible since the colonization of the territory. The Cache à la Poudre, for instance, is said to be yearly increasing in volume, and streams which formerly dried up in the summer now maintain a continuous flow. Among the secondary hygienic advantages of which Colorado can boast, the mineral wells hold an important place. They occur in various parts of the country, and belong to different classes. Chalybeate waters are found at Manitou, Carlisle, and Red Creek; soda springs at Manitou, Trinidad, and Cañon City; sulphur springs at Fairplay, on the Navajo River, and at Idaho springs; and thermal springs, partly sulphur and partly soda, exist at Pagosa, in the Middle Park, in Seguache County, at Wagon Wheel Gap, and at Del Norte. Manitou is already becoming a fashionable watering-place ; the fountains and the surrounding land were purchased by a company in 1870; and in 1873 there were already six large hotels and numerous private residences erected round the spot. . . .

Vegetation.-The mountains of Colorado were, till a comparatively recent date, richly clothed with forest; but owing partly to natural causes, and still more to the lavish consumption and reckless destruction of the early settlers, the quantity of growing timber in the State is exceedingly small, and before long, if restorative measures are not adopted, the Colorado demand for wood will require to be supplied from without. Whole mountain sides often present the appearance of monstrous cheavaux-de-frise, the dead trunks of the windthrown pines being tossed about in all directions. The principal trees, after the pine, are the so-called hemlock and cedar, the cotton-wood, and the aspen (or Populus tremuloides). The minor flora of the country is exceedingly rich; and especially in the plain region the abundance of flowers is amazing. "The colour of the landscape," says Dilke, "is in summer green and flowers; in fall time yellow and flowers; but flowers ever."

Agriculture,—Wherever irrigation can be obtained the soil of eastern Colorado is well fitted for agriculture. Wheat, oats, and barley afford heavy crops; potatoes succeed except in the extreme south, and owing to the dryness of the atmosphere are easily kept; onions vie in size and flavour with any in the continent; beans might be grown more extensively, but they suffer from the attacks of a small insect, possibly a species of Haltica; and almost all the garden products of the same latitude in Europe can be satisfactorily cultivated. The wheat affords a very white dry flour, and competes with the finest in the markets of the world. The yield often reaches forty or fifty bushels per acre, and in exceptional cases considerably exceeds this amount. In the higher districtsthe parks and the mountain-valleys-a greater proportion of ground is devoted to pasture either of sheep or cattle. The native grasses are of excellent quality as fodder; and during the winter the natural hay that has withered where it grew is preferred by the cattle to the best that can be furnished by the labours of the husbandman. In certain districts the pastoral departments of husbandry have had to be abandoned, owing to the presence of poisonous plants, the most important of which seems to be Oxytropis Lamberti; but these districts are of very limited extent. The cost of pasturing is merely nominal, as the cattle can be driven over extensive districts, under the charge of Mexican or Indian herdsmen. Wool can be produced for ten cents per lb., and a four-year-old steer for ten dollars. . .

History.—Recent explorations have shown that the western parts, at least, of the Colorado territory were at one time inhabited by a native American race of considerable civilization, who were perhaps connected or even identical with the Moquis of the regions further south. The first important European mission was that of Vasquez Coronado, despatched from Mexico in 1540. In 1821 the Rocky Mountains were visited by S. T. Long, the American engineer; and part of the northern district was pretty fully explored by Captain J. C. Fremont during the great expedition of 1843. It was not till 1858 that the Indian tribes were disturbed in their sparsely-peopled hunting-grounds; but in that year the discovery of gold by W. G. Russell, a Georgian, on the banks of the River Platte, near the present city of Denver, attracted general attention, and bands of pioneers poured in from Kansas, Nebraska, and Missouri.

During 1860, 1861, and 1862 there was a continuous stream of immigration; Denver, Black Hawk, Golden City, Central City, Mount Vernon, and Nevada City were all founded in 1859; next year saw the rise of Breckenridge, Empire, and Gold Hill; George Town and Mill City were added in 1861, and Ward District was settled in 1862. In 1861 the region was organized as a territory in accordance with the wish of the inhabitants, who had held a convention at Denver in 1859; its area was declared to include 47,657,000 acres previously assigned to the territories of Utah and Kansas, 10,262,400 from that of Nebraska, and 8,960,000 from New Mexico, making a total of 66,880,000. The first governor was William Gilpin, a Pennsylvanian by birth and a Quaker in religion, who has done a great deal for the development of the territory, and was the originator of the scheme by which it was made to include part of both slopes of the Sierra. From 1862 to 1865 the natural progress of immigrational movement was checked, partly by the great national struggle, and partly by the local Indian war which broke out in 1864, and for a time rendered the routes extremely unsafe, and even threatened the existence of the new settlements. Many of the sites, indeed, were deserted, and large numbers of the miners left the country. In this way Empire greatly decayed, and Gold Dirt and Bakerville absolutely disappeared. Happily it was only the Indians of the plains who took part in the attacks, and though they numbered from 10,000 to 15,000, they were quickly quelled. In 1865 the immigration again flowed on; and it was found that at the census of 1870 the population was 39,864 citizens, distributed into 9358 families, and inhabiting 10,009 houses. The proportion of males to females was 24,820 to 15,044. Since that date the population has very rapidly increased, and it was estimated at 120,000 in 1874. Colorado was received into the Union as a State in 1877.

WYOMING¹

WYOMING . . . is nearly rectangular in shape, having as its boundaries the 41st and 45th parallels of N. latitude and the 27th and 34th meridians west of Washington. South of it are Colorado and Utah; on the west, Utah, Idaho, and Montana;

¹ From the article "Wyoming," in the Ninth Edition of the *Encyclopædia* Britannica.

on the north, Montana ; and on the east, Dakota and Nebraska. The area is 97,890 square miles.

The surface is greatly diversified. Its mean elevation is great, being probably not less than 6400 feet. The lowest portions of the Territory are along the northern and eastern borders, where in several places the surface is less than 5000 feet above sea-level, while its highest points exceed 13,000 feet. By far the greater part consists of high plains, which are broken by numerous mountain ranges and ridges, which form parts of the Rocky Mountain system. This system enters the Territory in the south-eastern part, and traverses it in a north-west direction. On the south it consists of three members, the Laramie range, which is crossed by the Union Pacific railroad at Sherman, and the Medicine Bow and Park ranges, which separate branches of the North Platte river. These ranges run out and fall down into the plain in the southern part of the Territory, leaving for 150 miles a broad flat plateau to represent the Rocky Mountain system. The ill-defined summit of this plateau forms the parting between the waters of the Missouri and Colorado. Eastward this plateau slopes to the Great Plains, and westward to the Green river basin. The Union Pacific railroad traverses it, and therefore the traveller upon this road sees little of the Rocky Mountains except at a distance. Farther north the mountains rise again from this plateau in several ranges. The principal of these is that known as the Wind River range, which in a sense is continued northward beyond the northern boundary of the Territory by the Absaroka range. The former contains the most elevated land in the Territory, its highest peak being Frémont's, with an elevation of 13,790 feet. The latter range is in its southern part a great volcanic plateau, elevated 10,000 to 11,000 feet above the sea, while farther north it is eroded into very rugged mountain forms. About the point where these ranges join, there is a confused mass of mountains of great breadth and considerable height. In this elevated mass rise streams flowing to the Atlantic, the Gulf of California, and the Pacific. The highest peaks of these mountains are those known as the Three Tétons, the most elevated of which, Mount Hayden, has an altitude of 13,691 feet. East of the Wind River and Absaroka ranges, and separated from them by the valley of the Wind River and the Big Horn basin, is the range known as the Big Horn Mountains, which is reputed to contain peaks

having an altitude of 12,000 feet. These ranges form the backbone of the Territory. Eastward from the Big Horn and Laramie ranges stretch the plains in an almost unbroken expanse, gently sloping to the eastward from an altitude of about 6000 feet at the base of the mountains, while south-west of the Wind River range is spread the expanse of the Green River basin, through which flows the principal fork of the Colorado.

The drainage system of Wyoming is somewhat complex. While the mountainous regions are well watered by numerous streams, the broad valleys and the plains are poorly supplied with streams. Many of those which flow full in the mountains during the entire year run dry in summer upon the plains. None of the streams are navigable. The eastern three-fourths of the Territory is drained by the tributaries of the Missouri to the Atlantic. Of this area the North Platte drains the southern portion of the Rocky Mountain system, together with a large part of the plains lying north and east of it. Farther northward and eastward the plains are drained by the Chevenne river. The eastern face of the Big Horn mountains is drained by the Powder and Tongue rivers, while from its western slopes and from the eastern slopes of the Wind River and Absaroka ranges, the Wind River, known lower down in its course as the Big Horn, collects the waters. The Yellowstone, heading in the confused mass of mountains about the north end of the Wind River range, flows northward through a beautiful lake, draining the west slope of the Absaroka range. The Snake, or "Mad" river of the early explorers, heading in the same mass of mountains, flows south-westward to seek an exit from them, while the Green, whose sources are in the same elevated country, drains the west slope of the Wind River range, and flows southward through the broad sage-covered expanse known as the Green River basin. In the south-west corner of the Territory is a small area drained by means of Bear River into Great Salt Lake.

The geological structure of Wyoming is even more complicated than its surface features. In the north-western corner is an area in which volcanic action, as represented in hot springs and geysers, is still alive, while the evidences of volcanic action upon a tremendous scale, in recent geological time, are seen in the form of sheets of lava and volcanic breccia, which are spread over the land, and from which mountain

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ranges have been carved. Most of this region is comprised in the YELLOWSTONE NATIONAL PARK (q.v.), which has been set apart from settlement by the general Government. Many of the mountain slopes show a succession of the stratified formations, from the Triassic downwards through the series. The plains region is mainly floored by Tertiary and Cretaceous formations, as is also the case with the higher plateaus and with the Green river basin.

The native fauna of Wyoming resembles that of the other north-west Territories. The larger quadrupeds, which were formerly very abundant, and which are now not unfrequently to be met with, are the grizzly, black, and cinnamon bears, the North American panther, the elk, the moose, two or three species of deer, and the antelope. Upon the plains are seen the grey wolf and the coyote, the jack rabbit, the prairie dog, and the gopher. The buffalo, which was formerly extremely abundant upon the plains, is now practically extinct.

The eastern plains are mainly grass-covered, but as one goes westward the grass gradually disappears and gives place to artemisia and greasewood. Forests are confined almost entirely to the mountains, although the high plains in the Yellowstone Park, in the north-western corner of the Territory, are covered with timber. The forests are composed of quaking aspen upon the lower slopes, succeeded at greater elevations by pines and spruces, the upper limit of timber in the Territory being about 10,000 feet above the sea.

Wyoming has, in common with most of the western states, an arid climate. In the arable regions the rainfall is nowhere sufficient for the needs of agriculture, and irrigation is universally practised. The rainfall ranges in this part of the Territory from 8 to 15 inches, being greater in the eastern part and diminishing westward. Upon the mountains it probably reaches, if it does not exceed, 30 inches annually.

The temperature ranges with the elevation. Upon the plains and plateaus and in the valleys (this comprising nearly all the habitable parts of Wyoming) the annual temperature is between 40° and 50° F. Upon the mountains it diminishes until at an altitude of 10,000 feet it reaches approximately the freezing point. . .

The area of Wyoming was in the main included in the Territory of Louisiana, acquired by the United States by purchase from France. . . .

INDIAN TERRITORY¹

INDIAN TERRITORY is a tract of land in the southern central portion of the United States, which has been set apart as a reservation for the use of various tribes of Indians. It lies between the parallels of 33° and 37° N. lat. and the meridians of 17° and 23° W. long. of Washington (94° and 100° W. of Greenwich). It is bounded N. by Kansas, E. by Missouri and Arkansas, and S. and W. by Texas. The area is estimated approximately at 69,000 square miles. The eastern portion is fertile and well watered, having an annual rainfall of 40 to 50 inches, and a mean annual temperature of about 60° Fahr. The surface is mainly rolling prairie, with broad stretches of rich land along the streams, and an abundance of timber. This section of the territory is separated from the western part, which presents a different aspect, by a broad belt of forest, known as the "Cross Timbers," which extends nearly across the territory in a north and south direction, marking the outcrop of the Carboniferous formation. Its breadth ranges from 40 to 60 miles.

West of this singular strip of forest the country assumes the appearance of the "Great Plains,"—that long incline which stretches eastward from the base of the Rocky Mountains. The surface is a monotonous, rolling, treeless expanse. The valleys are shallow, and the dividing ridges are broad and slightly marked. The climate is comparatively dry, the average annual rainfall being but 20 to 25 inches; and irrigation is needed for the successful cultivation of most crops. The mean annual temperature is somewhat lower than in the east, while the contrast in this regard between summer and winter, day and night, becomes much more marked. . . .

The generally level surface of prairies and plains is broken in the southern and south-eastern parts of the territory by ranges and groups of hills, which rise from a few hundred to 1500 feet above the surrounding country. These hills, known as the San Bois Hills, Shawnee Hills, Wichita Mountains, etc., form a part of the Ozark Mountains, which extend eastward over into Missouri and Arkansas.

The principal rivers of the territory are the Arkansas with

¹ From the article "Indian Territory" in the Ninth Edition of the *Encyclopædia* Britannica. Copyright, 1880, by Henry Gannett.

Development of the Country

its branches, the Neosho, the Salt and Red Forks, and the Canadian, with its North Fork, and, in the southern part of the territory, the Red River, which forms the boundary with Texas, and its branch, the Washita. All these are of little or no importance as regards navigation. The eastern part of the territory is well watered, but the western part, except at times of flood, in late spring and early summer, has few flowing streams. . .

The fauna and flora partake of the double character of the surface and climate. In the eastern part they tend toward subtropical types, while the western portion presents forms more or less peculiar to the arid plains. . . . The vegetation of the eastern part is profuse, especially in the bottom lands. The forests present a great variety of species very similar to those found throughout the lower Mississippi valley; among them are several species of oak and pine, cypress, red cedar, black walnut, gum tree, &c. Among the wild fruits, which also present much variety, are plums, persimmons, grapes, &c. On the plains of the western part of the territory the principal natural productions are the grasses which, growing in tufts or bunches, are known collectively as bunch or buffalo grass. While this is the prevailing growth, in the more desert localities its place is usurped more or less by artemisia, cactus, and yucca.

OKLAHOMA¹

OKLAHOMA, a territory lying in the south central part of the United States, organized under an Act of Congress, passed 2nd May 1890. It was formed from the western part of Indian Territory, and included all that part of it not occupied by the Five Civilized Tribes, and the Indian tribes within the Quapaw Agency, except the Cherokee outlet lands. The Cherokee outlet and "No Man's Land" were added by proclamation of the President in September 1893. Lying between 34° and 37° N. and 96° and 103° W., it is bounded on the N. by Colorado and Kansas, on the E. by Indian Territory, on the S. by Texas, and on the W. by Texas and New Mexico. There are contained within its boundaries 39,030 square miles, of which 4600 square miles are reserved. Geologically it is

¹ From the article "Oklahoma" in the New Volumes of the *Encyclopadia Britannica*. Copyright, 1902, by The Encyclopædia Britannica Company.

divided into regions of mountains, prairie plains, and great plains. The group or range, in the southern part, known as the Wichita Mountains, is of granitic formation, and rises through Silurian limestones and red beds to an altitude of about 2700 feet above the sea-level. The prairie plains in the north-east are a continuation of the residual soils of the Carboniferous prairies to the east, extending westwards to about 97° 30' W., marked by red sandy clays, or red beds, and further characterized by great deposits of gypsum and salt. Here and there over the prairies are areas of Cretaceous formation, the sandy beds of which are covered with oak timber ("Cross timbers"). The great plains in Oklahoma are eastern breaks of the Great Plains plateau to the west, making a ragged line through the western part, with sandy tongue-like divides between the streams. Soils and rocks are sandstone, gravel, and marl, and there are great salt deposits in the northwestern corner along Beaver Creek. . . .

History.—For a number of years before the opening of this country, public lands in adjoining territory had been so overpopulated that many illegal attempts were made by covetous squatters to obtain possession. When finally the lands had been purchased of the Indians by the Government, and thrown open to settlement, the rush to secure homesteads and town lots was unprecedented, there being five or six persons for every available claim, and innumerable contests arose in consequence. Probably no agricultural country was ever settled with such rapidity. Towns were started without a single inhabitant in the morning and by night contained a population of five thousand, housed in tents or without shelter. Railways already built facilitated this rapid growth by landing building material and supplies without delay. "No Man's Land," the extreme western strip of land, was for many years unattached to any state or territory, and designated on the maps as "Public Land." Greer county, in the south-western corner, was disputed territory for many years, the state of Texas claiming that the North Fork of the Red river was the main stream, and therefore the boundary line. A decision of the United States Supreme Court was against this claim and it remains attached to Oklahoma.

Products.—The eastern and middle parts are agricultural lands, the richest soil being in the bottom lands of the broad river valleys, devoted to the cultivation of various farm products,

the most important of which are wheat, oats, cotton, and corn. Indian corn, castor beans, melons, pea-nuts, alfalfa, and many fruits and vegetables are raised. The rainfall is occasionally much below the average, when failures result, but with normal conditions the soil produces luxuriantly. The western part is a grazing land, affording pasturage for cattle in large numbers. Horses, sheep, and swine are also raised. . . . It is estimated that during 1901, 25,000,000 bushels of wheat, 60,000,000 bushels of corn, and 140,000 bales of cotton were raised, and that 36,235 horses, 52,580 mules, 617,750 cattle, 42,000 sheep, and 277,289 hogs were owned in the Territory.

Population. - The population in 1900 was 398,331, as compared with 61,834 in 1890; 214,359 were males, and 183,972 were females; 382,651 were native and 15,680 were foreign-born; 367,524 were whites, 18,831 were negro, 11,945 were Indians, and 31 were Chinese. The population materially increased in 1901 by the opening to settlement of the Kiowa and Comanche Indian Reservation. The average number of persons to the square mile was 10.3, as compared with 1.6 in 1890. There were fifty incorporated cities and towns in 1900, but of these only two had a population of over 4000, namely, Oklahoma city with 10,037, and Guthrie (the capital) with 10,006 inhabitants. . . There are about 12,000 Indians upon the several reservations and allotted lands set apart for their use, representing members of the following tribes : Kiowa, Comanche, Apache, Wichita, Chevenne, Arapaho, Sac and Fox, Ponca, Pawnee, Caddo, Delaware, Kansas, Osage, and Shawnee. Some of the tribes are dependent upon the Government for support, while others are self-sustaining. Several Government schools are maintained, attended by 2000 Indian children. Many acres of their land are leased for grazing purposes, but some of it is used by the Indians themselves for agriculture and grazing. . . .

There has been a remarkable increase in the manufactures and mechanical industries since 1890, an increase even more striking than the increase in population (544.2 per cent.), and exceeding that of any other state or territory. Compared with older localities, the amount of manufacturing is still insignificant. A notable product is the manufacture of cottonseed oil, which has grown with the rapid development of the cotton crop.

Colonial Literature¹

Some Account of the Chief Literary Characters and Efforts of the Time.

The Colonial Period.-Little of interest in the world of letters has come down to us from the 17th century in the West. Sandys's Ovid, translated on the banks of the James River, dedicated to Charles I., and published 1626, is worthy of note as the first contribution to English literature from America. About the same date the Welsh Puritan Vaughan sent home his Golden Fleece from Newfoundland, and Captain Smith gave to the world his descriptions of Virginia. . . . A little later we have a Puritan version of the Psalms, the worst of many bad; and about 1650 the poems of Anne Bradstreet and Benjamin Thomson, worthy of mention, but scarcely readable. In prose are relics of the sermons and controversies of Roger Williams and John Cotton and Eliot, the apostle of the Indians, with the ponderous Magnalia and witch denuncia-The main literary event of the tions of Cotton Mather. century was the foundation (1636) of Harvard University. Yale College followed at a long interval, and subsequently Princeton College, and Brown University (Rhode Island). In all new countries industrial and commercial interests are at first the strongest. The febrile activity produced by fear of a sterile future leaves little room for speculative imagination. But in the New World, colonized in part by adventurers, in part by religious refugees and enthusiasts, another influence was from the first at work. When her solitudes began to give place to cities, the brains of her people were expended on the farm or the exchange with a zeal materially modified by the spirit and formulæ of the faith which led the founders of the Northern States across the sea, and continued to infuse a

 1 From the article "American Literature" in the Ninth Edition of the Encyclopædia Britannica,

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religious element into their enterprises. This element, which elevated the settlers of New England above ordinary emigrants, adding to their strength and giving a faster dye to their morality, was yet, in its original form, no more favourable to freedom or variety of thought than the industrialism by which it was surrounded. But it begat and fostered the Puritan theological literature which was concentrated in the massive yet incisive treatises and discussions of Jonathan Edwards of Connecticut-(1703-1758)-who, if not, as asserted by American panegyrists, "the first man of the world during the second quarter of the 18th century," was yet, by the clear vigour of his thought and the force of its expression, one of the foremost figures of that era. An estimate of his rank as a theologian belongs to a distinct branch of the history of American literature. It is enough here to refer to the testimony of all competent judges as to the singular lucidity of his style, and to that of his contemporaries as to the fervour of his eloquence and the modest simplicity of his life. Passages of his occasional writings, as the description of his future wife, evince a grace and sweetness of temper not always associated with the views of which he was and remains the most salient English advocate. . . . Benjamin Franklin, as long as Utilitarian philosophy endures, will be a name to conjure with. It is clarum et venerabile, though its owner was endowed with as little as possible for a great man of the "faculty divine." Franklin's autobiography, the details of which need not find place here, is as romantic as the life of an unromantic person can be. . . . Franklin's experiments and physical discoveries form a chapter in the history of science; but half of his fame even in this field is due to the precision and clearness of the manner in which they are announced. "The most profound observations," says Lord Jeffrey, "are suggested by him as if they were the most obvious and natural way of accounting for phenomena." The same literary merit characterizes the financial pamphlets and treatises which first brought him into celebrity. Both are marked by the same spirit,-the love of the Useful, which was his passion through life. Franklin follows Bacon, to an extreme opposed to that of the Platonists, in decrying abstractions. Archytas is said to have apologized for inventing the Franklin is ashamed to have wasted time over pure arch. mathematics in his "magical squares." His aim is everywhere to bring down philosophy, like the lightning, from heaven to

earth, "illustrans commoda vita." His ethics-those of Confucius or the Seven Sages, modified by the experience and the circumstances of a later age-are embodied in the most famous of popular annuals, Poor Richard's Almanack, in which for twenty-six years he taught his readers (rising to the number of 10,000) "the way to be healthy and wealthy and wise," by following simple utilitarian rules, set forth in plain incisive prose and rhyme, rendered attractive by a vein of quaint humour and the homely illustrations always acceptable to his countrymen. The same train of thought appears in the "Whistle," among the letters from Passy, where his persistent deification of thrift appears side by side with graceful compliments to Mesdames Helvetius and Brillon, records of the aftermath of sentiment that often marks a green old age. Franklin remains the most practical of philosophers in perhaps the most practical of nations. . . .

Little that is of permanent literary value is left us of the harangues that were the trumpet-calls of patriotism during the American Revolutionary War. The triumphs of Patrick Henry, who "wielded at will that young democraty," are commemorated in the judicious biography of Wirt, but few of his orations are accurately preserved; and of the speeches of James Otis, which were compared to "flames of fire," we have mainly a tradition. His pamphlet (1762), entitled A Vindication of the Conduct of the House of Representatives, is considered to contain the germ of the Declaration of Independence. Among other considerable efforts of eloquence, those of Fisher Ames are worthy of note as being directed in great measure against the excesses of democracy. The master-minds of the era were the statesmen and jurists, who fought for the free soil, sunk the deep foundations, and reared the superstructure of the new Commonwealth. The history of American law is a distinct theme. It must suffice here to mention, as claiming recognition in the field of letters, Washington himself, in his clear and incisive though seldom highly-polished correspondence; his biographer John Marshall, chief justice of the supreme court from 1801 to 1835, one of the early pilots of the state, who left behind him a noble and stainless name, and laid down the first principles of that international code afterwards elaborated by Wheaton; Madison, John Jay, the elder Adams, and Alexander Hamilton, during the war Washington's "most confidential aid," afterwards the presiding genius of the

Colonial Literature

movement represented by the Federalist, the organ of the antidemocratic party. To this he contributed three-fourths of the material, marked, as are all his papers and speeches, by originality of thought, breadth of view, and purity of style. As secretary of the treasury, he became perhaps the greatest of financiers. The general judgment of his countrymen acquiesces in the terms of the tribute paid to his memory by Guizot. "He must be classed among the men who have best known the vital principles and fundamental conditions of a government worthy of its name and mission." Of Hamilton's numerous historical sketches, the most celebrated is his letter to Colonel Laurens giving an account of the fate of Major André, in which refinement of feeling and inflexible impartiality of view are alike conspicuous. The great and unhappily the bitter antagonist of the Federalists is one of the most conspicuous figures in the history of American thought. Thomas Jefferson (1743-1826), President from 1801 to 1809, is the representative in chief of the revolutionary spirit of his age and country. . . . Jefferson might be termed the Danton of the West, but his forte lay not so much in oratory as in political management and incisive vivacity. More perhaps than any other great statesman of his age, he aspired to be an author, to which title the best passages in his Notes on Virginia, his Autobiography, and Correspondence, give him a fair claim. His descriptions of scenery in the first are always pleasing and generally graphic. His sketches of Continental society are lively, and his occasional flights of fancy, as the dialogue between the head and heart, at least ingenious. His religion and ethics were those of his friend Tom Paine and the Encyclopédie. . . .

The ballad literature of the revolution days is said to have attracted the attention of Lord Chatham, less probably from its intrinsic merit than from its faithful though rough embodiment of the sentiment that not only moved over the surface, but penetrated the depths of the national life. The anonymous popular literature of a country is the best "abstract and brief chronicle of the time" in which it is produced. The songs current in America during this era, inspired by the same spirit and pitched in the same key, are historically interesting and artistically monotonous. They celebrate in rude verse the achievements of native heroes, like "Bold Hawthorne"; or ridicule, like "Jack Brag," the British Lion, or, like the "Fate

of Burgoyne," the overthrow of vaulting ambition; or, as in "Wyoming Massacre," bewail the fate of the fallen; or, as in "Free America," celebrate with schoolboy huzzahs the triumph of the good cause. Among the very rude national anthems of the West, "Yankee Doodle" is remarkable as having been an old Dutch catch adapted into an English satirical chant, and adopted, with conscious or unconscious irony, by the American troops. "Hail Columbia," which as a poetical production takes even a lower rank than "Rule Britannia," was a somewhat later production by Joseph Hopkinson (1798); and the "Star-Spangled Banner" of Francis S. Key is associated with the traditions of the second British war. As inspired with the spirit of the 18th, though belonging in date to the early years of the 19th century, we may mention in advance the "Pilgrim Fathers" of J. Pierpont, Woodworth's "Old Oaken Bucket," "Home, Sweet Home," by J. H. Payne; the humorous burlesque of J. G. Saxe, "Miss MacBride"; and the verses of the great painter and creditable romancer Washington Allston, with the refrain "We are one."

English philology and literature were during this period represented by the famous Lindley Murray, and Noah Webster (1758-1843), the author of the best dictionary of our language that has appeared since Johnson's. In natural science, the two Bertrams; Alexander Wilson, the ornithologist; and Audubon, the literary glory of Louisiana, whose descriptions of animate nature rival those of Buffon, are illustrious names.

St Louis¹

Description of the City, and History of its Settlement and Early Days.

ST LOUIS, a city of the United States, chief city of the State of Missouri, is situated on the west bank of the Mississippi river, 20 miles below its confluence with the Missouri river and 200 miles above the influx of the Ohio, in 38° 38' 3".6 N. lat. and 90° 12' 17" W. long. It is distant by river about 1200 miles from New Orleans, and 729 from St. Paul at the head of navigation on the Mississippi, and occupies a position near the centre of the great basin through which the mingled flood of the Mississippi and Missouri and their extensive system of tributaries is carried to the Gulf of Mexico. The site embraces a series of undulations extending westwards with a general direction nearly parallel to the river, which at this point makes a wide curve to the east. . . . The elevation of the city directrix above the waters of the Gulf of Mexico is 428 feet, that of the highest point of ground in the city above the directrix is 203 feet; the extreme high-water mark above the directrix is 7 feet 7 inches, and the extreme low-water mark below the same is 33 feet $9\frac{3}{4}$ inches. The elevated site of the city prevents any serious interruption of business by high water, even in seasons of unusual floods.

The plan of the city is rectilinear, the ground being laid out in blocks about 300 feet square, with the general direction of street lines north-south and east-west. The wharf or river front is known as the Levee or Front Street, the next street west is Main Street, and the next Second, and thence the streets going north-south are, with few exceptions, in numerical order (Third, Fourth, &c.). . . The east-west streets bear regular names (Chestnut, Pine, Washington, Franklin, and the like). Market Street is regarded as the middle of the city,

¹ From the article "St Louis" in the Ninth Edition of the *Encyclopædia* Britannica,

and the numbering on the intersecting streets commences at that line, north and south respectively. One hundred house numbers are allotted to each block, and the blocks follow in numerical order. . . In the central streets, subject to heavy traffic, the pavement is of granite blocks; wood, asphalt, and limestone blocks and Telford pavements are also used. . .

The bridge across the Mississippi river at St Louis is one of the most remarkable structures in the world in character and magnitude. It consists of three arches, the two side spans being 502 feet in the clear and the centre span 520 feet, and carries a roadway for ordinary traffic 54 feet wide and below this two lines of rail. The dimensions of the abutments and piers are as follows :—

	Dimensions at foundation.		Dimensions at top.		Height from foundation	Foundation below
	Length.	Thickness.	Length.	Thickness.	to top of M.	extreme low water.
East abutment .	ft. 83	ft. in. 70 6	ft. in. 64 $3\frac{1}{2}$	ft. in. 47 6	ft. in. 192 9	ft. in. 93 34
East pier	82	60 O	63 0	24 0	197 1‡	86 2 1
West pier	82	48 O	63 O	24 0	172 14	61 2]
West abutment .	94	62 $8\frac{1}{2}$	$64 3^{\frac{1}{2}}$	47 6	112 8 <u>1</u>	13 3 1

The foundations of abutments and piers rest on solid rock. The two piers and the east abutment were sunk by means of pneumatic caissons. The greatest depth below the surface at which work was done was IIO feet, the air-pressure in the caisson being 49 lb. Each arch consists of four equal ribs; each rib is composed of two circular members, 12 feet apart, which are connected by a single system of diagonal braces. The circular members consist of steel tubes, which are 12 feet long and 18 inches in diameter; each tube is composed of 6 steel staves, varying in thickness between $1\frac{3}{16}$ and $2\frac{1}{8}$ inches. These staves are held together by a steel envelope, a quarter of an inch thick. The tubes are joined together by couplings, and the end tubes are rigidly connected with wrought-iron skewbacks, which are fixed to the masonry by long bolts. The arches were erected without using any false work. Work on the bridge was commenced March 1868, and it was opened for traffic on 4th July 1874. The total cost of bridge and approaches was \$6,536,730. . . .

History.-The first permanent settlement on the site of St Louis was made in February 1764, and was in the nature of a trading post, established by Pierre Laclede Liguest. Long prior to this event there had been some exploration of the vast regions of the Mississippi and its tributaries by Marquette, Joliet, La Salle, Hennepin, and others; but, although a few widely separated military and trading posts had been established, there was no accurate knowledge of the character and resources of the country. Laclede's expedition was nearly contemporaneous with the treaty of Paris, 1763, by which the title of France to the regions in the valley of the Mississippi was practically extinguished, Spain becoming owner of all Louisiana west of the Mississippi, and England of all territory east of that river, excepting New Orleans. The few French forts north of the Ohio were nominally surrendered to the English, including Vincennes, Cahokia, Kaskaskia, and Fort de Chartres ; but there was no immediate formal assertion of English control, and French sentiments and manners and customs remained undisturbed. In 1771 St Louis was formally occupied by a small body of Spanish troops, commanded by Don Pedro Piernas, and a period of somewhat over thirty years of Spanish rule followed, during which few local events of noteworthy character occurred. On 25th May 1780-the festival of Corpus Christi-the post, or village, was attacked by Indians, and about thirty of the citizens were killed; but the savages were beaten off and did not renew the attack. In 1800 Spain ceded back to France all her territory of Louisiana, and three years later-30th April 1803-France ceded to the United States all her right, title, and interest in the territory for eighty million francs. At this time St Louis and the adjacent districts had a population of not over 3000, and the total population of Upper Louisiana was between 8000 and 9000, including 1300 Negroes. There were not over 200 houses in the embryo city, which consisted mainly of two streets parallel to the river. For fifty or sixty years after the landing of Laclede the progress of the town was necessarily slow. In 1810 the population was less than 1500, and in 1830 it had not reached 6000. From the latter date progress became steady and rapid, and the real growth of the city was compressed within half a century. An extensive conflagration occurred in 1849, which destroyed most of the business houses on the Levee and Main Street. During the Civil War the

commercial advancement of St Louis was seriously retarded; but the city continued to expand in population owing to its advantageous geographical position.

ST LOUIS¹

ST LOUIS, the most important city in the state of Missouri and the 4th in size in the United States, situated on the right, or west, bank of the river Mississippi, about 20 miles below its junction with the Missouri, in 38° 38' 3-6" N. and 90° 12' 17" W. It has an area of $62\frac{1}{2}$ square miles and a river front of 19 miles. Twenty lines of railway have their terminus in the Union station, which covers II acres and was opened in September 1894. The cost of the station, including the site, was \$6,500,000. The lines from the east cross the Mississippi by Eads Bridge, which was opened for traffic 4th July 1874, and also by Merchants' Bridge, 3 miles above the former, which was finished in 1890 and is controlled by the Terminal Railway Company. An Act of the legislature, passed in 1899, authorized the consolidation of nearly all the rapid transit lines within the city. A single company owns and controls 361 miles of single track, and runs about 2000 cars. By a system of transfers, passengers can go from almost any point in the city to another upon payment of one fare. The suburban system owns 100 miles of single track, and its equipment includes 200 cars.

Population.—The population in 1890, not including any suburban locality, was 451,770, an increase of 28.89 per cent. over that of 1880. In 1900 it was 575,238, an increase of 27.33 per cent. over that of 1890. In 1900 the foreign-born population numbered 111,356, and the native white population born of foreign parents was 239,170. The total number of negroes, or persons of negro descent, was 35,516. The deathrate by the census of 1890 was 17.4. In 1900 it was 17.9, being nearly 90 per cent. higher among the coloured than among the white population. The birth-rate by the census of 1890 was 26.46 per 1000 for white persons and 26.36 for coloured persons.

Education, Libraries, &c.—The number of public schools in 1901 was 188; the number of teachers, 1751; the number of

¹ From the article "St Louis" in the New Volumes of the *Encyclopædia Britannica*. Copyright, 1902, by The Encyclopædia Britannica Company.

pupils, 82,712. The total amount expended for school purposes in 1899 was \$1,888,670.22, and the estimated value of all public school property, including that held for investment, was \$6,803,704. During the year 1899 and the spring of 1900 Washington University, an endowed non-sectarian institution, increased its endowment fund by more than \$4,000,000, and began preparations for removal to a new site comprising 150 acres on the outskirts of the city. The land, which cost about \$350,000, the fund for the new buildings, amounting to \$750,000, and the increased endowment, were the gifts of citizens of St Louis. The St Louis University, belonging to the Roman Catholic order of Jesuits, occupies large and commodious buildings in the city, and is one of the most important institutions of learning controlled by that religious body in the United States.

St Louis has a large number of clubs for social and business purposes, chief among which are the St Louis, the University, the Mercantile, the Noonday, the Union, the Commercial, and the Round Table. The Mercantile library contains upwards of 112,000 volumes. The public library contains 135,000 volumes.

Municipal Affairs, Taxation, &c .- The bonded debt at the end of the fiscal year 1900-1901 amounted to \$18,916,278. The annual interest charges on the debt outstanding 10th April 1899 amounted to \$802,209, or an average of 4.367 per cent, per annum. The resources of the sinking fund for the fiscal year 1898-99 amounted to \$361,783, and this money was used in returning to the treasury the sum advanced during the year 1897-98, and in the redemption of bonds maturing during the year 1898-99. The assessed valuation of property for the taxes of 1901 was \$394,722,700, not including the street railway property, the assessment on which is made by the state board of equalization. The rate of taxation on the \$100 valuation of property for 1901 for municipal purposes was \$1.90. In 1887 the city council authorized the extension of the water-works system, and established a low-service station at the Chain of Rocks, several miles above the former station. This work was put into operation during 1894. Since that time an extension of the high-service pumping plant has been authorized, and plans are on foot for a plant to filter all water before it is delivered. The extended works are able to furnish 100 million gallons of water a day.

Commerce and Manufactures .- Foreign shipments of flour and grain by rail and river on through bills of lading during the year 1901 were: of flour, 2,961,563 barrels; of wheat, 16,922,890 bushels; of corn, 14,942,915 bushels; of oats, 6,219,540 bushels; cotton, 973,837 bales. The total value of the gross receipts of cotton for 1901 was about \$40,000,000. Among other receipts for 1901 were: lumber and logs, 824,201,000 feet; wool, 25,877,110 lb.; sugar, 253 hhds., 465,246 barrels, 534,576 bags; coal, 4,407,890 tons; butter, 13,476,929 lb. The total number of tons of freight of all kinds received and shipped was 28,758,664. St Louis produces more than three-fourths of all the manufactures of the state of Missouri. The estimated product of the manufactures of St Louis for 1901 is valued at \$340,000,000, of which the following are the chief: tobacco, 80,766,883 lb.; flour, 1,505,234 barrels; furniture of the value of about \$33,000,000. Boots and shoes have been sold valued at \$43,500,000; bagging, 12,500.000 vards.

Banking.—The number of banks in St Louis has been reduced by consolidation from twenty-five in 1896 to nineteen in 1901; the total capital has, however, been increased. There are eight trust companies. In 1901 the bank deposits increased to \$788,801,986, and those in the trust companies increased to \$19,016,293. The total capital of the nineteen banks in December 1901 was \$30,059,963, and of the trust companies, \$29,278,007. The dividends paid by both banks and trust companies in 1901 amounted to \$2,604,000, an increase of \$619,000 over those of 1900. The clearings for 1901 exceeded those of any previous year by \$562,830,722, aggregating \$2,270,680,216. The balances for the year 1898 were \$182,014,792, and for 1899, \$214,166,941.

Political Parties.—The city several years gave a decided majority to the candidates of the Republican party in municipal, state, and Federal elections, although the state of Missouri was Democratic by a large majority for many years. The city, however, gave a majority to the candidates of the Democratic party in 1901. The vote for Presidential electors in 1896 was as follows: for Republican electors, 65,708; for Democratic electors, 50,091; in 1900, for Republican electors, 60,597; for Democratic electors, 59,931. In the election of a state supreme judge in 1898 the vote was as follows: for the Republican candidate, 48,900; for the Democratic candidate, 39,697.

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Deacidified using the Bookkeeper process. Neutralizing Agent: Magnesium Oxide Treatment Date:





