

The Western Country

*Geographical Sketches of The Western Country
Designed For
Emigrants and Settlers
Being the Result of
Extensive Researches and Remarks
To Which is Added
A
Summary of All the Most interesting Matters on the Subject,
Including
A Particular Description of The Unsold Public Lands,
Collected from a Variety of Authentic Sources
Also,
A List of The Principal Roads.*

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AFTER spending six years, mostly among the natives, in the regions bordering upon the great western Lakes, the Author was employed by more than 1300 people, desirous of removing to the west, to select and purchase for them, on an extended credit, from the United States, a large tract of land, in one body, convenient for permanent settlements. In performing this service, two years were spent laboriously in exploring the western country. In behalf of his constituents he at length preferred a petition to Congress, in December, 1817, for a grant ; but his application proved unsuccessful.

The knowledge acquired from his travels, personal observations, critical remarks and enquiries, he, by the advice of his friends, has been induced to lay before the public. But as (for the want of an early education) the Author deemed himself incompetent to present his communications in language proper for the public eye, the various materials by him collected, at his request, have been prepared for the press by REUBEN KIDDER, Counsellor at Law; whose acquaintance with the western country, from four years residence, has enabled him to collect a fund of useful information, which he has diffused through the work.

In pursuing our labors, we have not lost sight of our main design, which was, useful instruction to emigrants and settlers ; connecting a general view of the whole ground, with a more particular description of the unsold public lands.

We have incorporated our own personal observations and remarks on the country, with the most important information that could be obtained from the public commissioners for purchasing of the Indians ; from divers officers stationed in the west during the late war ; from public surveyors ; respectable, well informed Indian traders, travellers and hunters ; and from the most interesting and authentic publications extant.

The subject we treat of, embracing a description of the whole western country, is so extensive and multifarious, that it was not possible to comprehend the minute details of every part, in one volume. But we have endeavored to omit nothing interesting or useful, that could

enable an enquirer to form correct general views of the whole, while he acquired more particular information respecting all the public lands most valuable for cultivation and the objects of commerce.

Such as the work is, though we presume not to pronounce it so complete as it might have been rendered, had it been committed to abler hands, we feel confident, that, as it respects the design we had in view, so much useful information can not be found compressed into so small a compass, on the same subject

THE AUTHOR

Contest between foreign powers for possession. General views. Steam boat navigation. Natural resources of the west. Abundant means of national prosperity. Source of support for a dense population. General boundaries. Face of the country. Hills and mountains. Principal rivers. Projected canals. Fertility of soil. Native productions. Agricultural remarks, Growth of timber. Stones, on and near the surface. Minerals.

THE discovery of the new world, by Christopher Columbus, while the human mind had scarcely awoke from the ignorant and superstitious slumbers of the dark ages, opened to the nations of Europe a new and important theatre of action.

The abundance of the precious metals in the south, tempted the avarice of the Spaniards, who barbarously exterminated the innocent natives, and seized upon their possessions, under pretext of right by conquest.

North America was not explored by the Spaniards, English, or French, until a much later period. A contest between these nations, for the jurisdiction of this then wilderness territory, subsisted with but little intermission for more than one hundred and fifty years. During nearly the half of this period, they were exhausting their blood and treasure, by acts of national hostilities by sea and land. Thus zealous were those foreign combatants in asserting rights which belonged to neither. At length the French, compelled by superior force, resigned to the English their claims to the country eastward of the Mississippi. The English, until after they had acquired this territory, had confined their trade and colonization to the Atlantic provinces. Indeed, so limited was their knowledge of this country, that at the treaty of 1783, which terminated the revolutionary war, they deemed it of no considerable importance. From the earliest discovery, the possession of the country had been secured to a politic enemy, as well by forts and garrisons, which in a manner surrounded the country, as by the aptitude of French manners to gain the friendship of the natives.—Thus deprived of the means to obtain correct information, the calculating policy of the English had never truly estimated the great extent of territory—the general fertility of the soil—the extensiveness, and facility of navigating the numerous streams that intersect the country—and the charming temperature of climate ;—qualities which confer so important and permanent a value on this portion of the United States.

It is worthy of remark, that the section of country west of the Alleghanies, till of late the sole residence of the untutored savage, and the haunt of wild beasts, now presents to the speculation of the political philosopher, an interesting subject for contemplation. It possesses the natural means of subsisting a more dense and numerous population, than the one half of modern Europe.—The country is spacious, extending from the Atlantic to the Pacific ocean. The climate, though generally temperate, is so diverse in the several parts, as to be capable of furnishing the conveniences, indeed most of the luxuries, of all other countries. The soil,

though greatly varying in so wide a range, is generally deep, strong and durable. In many parts of the country, such is the fertility, that the strength of the soil seems inexhaustible by culture, without manuring. The intelligent, patriotic statesman, surveys with pleasant and curious emotions, the natural facility of transporting native produce and foreign articles of necessity on great rivers, intersecting a vast inland country in divers directions, navigable for vessels of large burden for thousands of miles.

By the power of steam, which now propels more than one hundred large vessels on the western waters, navigation on rivers is rendered more secure and expeditious, than on the open sea, in the ordinary way. Thus has the western farmer, by the instrumentality of steam boats on navigable waters, hundreds of miles from the ocean, daily opportunities of exchanging, at his own door, the produce of his rural labors for such foreign articles as habit has made convenient or desirable. So generally is almost every section of the western country intersected by navigable rivers, running to opposite points from nearly the same sources, in a manner interlocking, or separated only by narrow portages, pouring their waters northwardly into a sheet of fresh water lakes of more than two thousand miles in extent, and eastwardly into the Atlantic ocean—that the whole territory may be aptly resembled to a cluster of islands, or rather to a spacious champaign, excavated in all parts by the formation of navigable canals, intersecting each other in every direction.

What a source of national thrift may be anticipated by the enlightened, contemplative patriot, from a country so extensive, still fresh, as it were, from the hand of nature, abounding in means not only to support a dense population at home, but also to supply all the demands of foreign markets, both with provisions, and the raw materials for manufactures ! What motives to stimulate to agricultural and commercial industry ! What natural resources of subsisting millions of human beings ! But, as it might be thought more prudent, perhaps, to shroud a little this picture of national strength and felicity, which a lore of country delights to view in prospective, we waive the subject, lest we may seem romantic or visionary.

The western states are situated in that happy medium of climate, between extreme heat and cold, where a temperature of the human constitution, most favorable to health, may be preserved ; and the means of sustaining life, from the cultivation of the soil, most easily obtained. It would seem that man, thus secured from the annoyance of those sensations which are produced by northern blasts, and scorching suns, possessed here the most certain means of perfecting his nature ; and that the energies of his mind, when aroused to action, and directed by the most proper natural and moral influence, might gain the highest point of maturity of which his mental faculties are susceptible. In Greece and Rome, more than two thousand years ago, the vigor and ingenuity of the human intellect, from natural and moral causes, not unlike those which now operate on the American citizens of the western states, were displayed in a manner which excited the wonder and admiration of the world. The impulse which civil freedom imparted to those ancient republicans, inspired them with lofty notions of liberty and Independence, and inclined them to bold and arduous undertakings. The human mind, thus put in motion by the influence of causes most favorable to mental exertions, the whole nation was directed, by multifarious pursuits, in those arts which subserve and adorn human life ; and in those sciences which shed light and knowledge on the moral and natural world. Such has been the progress of human knowledge, and the prosperous state of nations, in ancient republics, when fostered by the freedom of enquiry, and other propitious causes.

So great an influence has civil government in shaping the mental features of a community, it is not strange that the wisdom of illustrious statesmen and lawgivers, should have caused them to have been classed among the gods. It is wonderful, that a science so intimately con-

nected with the welfare of man, as that of civil government, should, amidst the extraordinary progress of general science, have been so imperfectly understood, till so late a period as the latter part of the eighteenth century. But it seems to have been reserved for the sages of the American revolution, successfully to embody into a wise, practical system of free government, an assemblage of maxims and principles, that had remained disjointed and scattered through works on civil polity, that had been accumulating from the researches and remarks of men who speculated on the science of government, for ages.

The citizens of the eastern states, although two centuries have elapsed since their first settlement, can hardly be considered as having formed a uniform national character. Their progenitors were emigrants from different parts of Europe—English, Scotch, French, High and Low Dutch. Having settled themselves down in a kind of clans, the manners and customs of the mother country have been but partially obliterated in their descendants, by the collision of a social intercourse. In this western country, the settlers being more promiscuously located, will form an identity of opinions, of manners and customs. Each emigrant retaining and giving up a part of what is peculiar to himself, a new character will be produced from the various materials constituting the compound, which may with propriety be denominated national. Hence will eventually be formed a more distinguishable nationality of character. From such a combination of characteristic peculiarities, a selection of the best modes of pursuing the useful arts, and of those practical inventions that subserve the grand purposes of sustaining and adorning human life, will naturally follow. By such efficient means of exciting laudable curiosity, and of imparting a fresh impulse to enterprising industry, most skilfully bestowed on useful mechanical labors ; on multiplying the conveniences of good living ; on developing the resources of a new country ; and on exploring the latent recesses of virgin nature ;—may we not confidently hope, that the arts which abridge manual labor will be improved—that the stock of useful knowledge will be increased—and that the condition of man will generally be ameliorated ?

In these western states, nature has offered to the skilful industry of man abundant resources for food and raiment ; and she has also supplied him amply with the means of national defence against foreign aggression.—The soil and the climate combine to provide him, by a moderate portion of labor, the various materials that constitute a palatable and nourishing diet, to a degree that might be considered luxurious. Flax, hemp and cotton plants, shoot up almost spontaneously from the soil ; the mulberry of the forest feeds the silk worm ; and the spacious grazing lands, the sheep. Thus may the raw materials, with little care and toil, be furnished, not only to protect, but to adorn the human body. The numerous beds of iron ore, the lead mines, and the extensive salt petre caves, hold out to the citizens the natural means of securing the independence and of defending the liberties of their country.

The liberal policy of the general government has provided funds, from the sale of public lands, to facilitate a communication from the seaboard, through the interior of each new state ; and have already, in pursuance of their design, nearly completed a public highway, from the seat of the national government, as far as the Ohio. This great national work, of digging down the high rugged hills, and filling up the vallies, while it remains a proud monument to after ages of the wise policy, bold design, and skilful achievement of the American people, will strengthen the bond of union which connects the eastern with the western states.

Our national council have not been unmindful of the most efficacious means of perpetuating our civil rights—having provided a permanent fund for the general education of youth, by granting to the inhabitants of each township, consisting of six miles square, the one-thirty-sixth part, that is 640 acres. And they have also extended the effect of their patriotic motives to the rising generation, by granting to the people of each new state two

entire townships, that is 45,680 acres, for the purpose of endowing public seminaries of learning with competent funds for instruction.

With such abundant means provided by nature for the wants of the body, and by the government for the wants of the mind, it would seem that nothing was lacking to render the citizens of these states as wise and happy, as human society, taken in mass, are susceptible of becoming, but a want of duty to themselves.

Virtuous propensities, correct principles, intelligent understandings, and skilful industry, are the substantial pillars on which free republics rest. Such institutions, without them, are mere hay and stubble. Public opinion is a physical power, that like a magic charm directs and shapes to its purpose free civil governments ; the proceedings of which will be marked by wisdom or folly, liberty or oppression, according as the one or the other preponderates in the great body politic, whose public functionaries ordain the laws. Nothing is more clear, than that the stability and permanency of a free state, depend on the patriotic intelligence of the people who compose it. And while the minds of such a people are strongly and generally imbued with enlightened and correct principles, the policy by which they are governed can neither be weak, nor wicked, nor can it come to an end.

It does not comport with our design, to give complete geographical or geological descriptions of the extensive tract of country concerning which we treat. Such a work would require the uninterrupted researches of a long life, and would fill the pages of many a folio volume.—Our purpose has been, to give mere sketches, that would present, in a birdseye view, the great western country to emigrants, desirous of seeking a permanent residence, where they can pleasantly locate themselves, and build up their fortunes. By such a general survey, in miniature, a purchaser will be enabled to select more understandingly, a spot for a new home, on the unsold public lands ; as a correct and particular description of which, as the best sources of information could afford, has been our main design.

That extensive tract of territory, over which the United States now claim jurisdiction, is divided into two distinct portions, by a great natural boundary. The western portion is separated from the eastern, by the long range of high lands, denominated the Alleghanies, consisting of an assemblage of mountains, generally continuous, but occasionally so interrupted, branched out, and depressed, by chasms and valleys, as to permit large tributary streams to flow through in opposite directions, towards the Atlantic ocean, and the waters of the Mississippi. These mountains extend from Angelica, in the western part of the state of New York, southwardly, to Mobile bay, in the state of Alabama.

The tract we assume to describe, is, according to the late British treaty, bounded on the north by a long sheet of lake waters, to and through the Lake of the Woods, and from thence as far north as latitude 49°—thence west over the Rocky Mountains to the Pacific ocean—thence, according to the late Spanish treaty, on the west by the waters of the Pacific to north latitude 42°—from thence due east to the source of the Arkansaw—thence on the south bank thereof to west longitude 100° thence due south to the Red river—thence on the south bank of that river southeastwardly to the northwest limit of the state of Louisiana—thence southwardly on the west line thereof to the Sabine river—thence on the west bank thereof to the Gulf of Mexico—thence to a point about south of the most southwestwardly Alleghany ridge—thence northwardly to said ridge.

In the region lying about 300 miles west of the Missouri, nature seems to have formed a boundary that will fix limits to the permanent habitation of man. Here most of that great expanse of country, spreading out to the Pacific ocean, is a wild waste, in a manner devoid of

wood and water, consisting of spacious prairies, hills and mountains, productive only of scanty vegetation, except on the margin of water courses. Lakes or running streams of pure water are rarely to be found—and although some long rivers flow through this immense desert in the rainy seasons, they are generally so languid and dried up in the summer months, as to afford but occasional means of slaking the thirst of the disconsolate traveller. It is however perhaps fortunate, as it respects the long duration of the American republic, so extensive in territory, that nature has opposed a barrier other than the ocean, on the west, to the migration of emigrants and the expansion of population.

The most valuable portion of the western lands belonging to the United States, lies between 29° and 42° north latitude, being nearly one thousand miles in extent from lake Michigan on the north, to the Gulf of Mexico. The above mentioned boundaries, with the exception of Michigan and the northwestern territory, includes perhaps nearly all the public lands, which will be considered a subject of enquiry for permanent settlements during the present century.

In giving a general description of the western country, it has been thought expedient to deviate from the beaten track of geographers, by presenting a view of the great outlines which distinguish the natural face of the country. Accordingly, disregarding the artificial divisions by states and territories, we shall give under one head the principal ranges of mountains and hills, which constitute the sources of the head waters of the great rivers. After which we shall describe the principal rivers, and give divers other sketches of the natural history of the country.

OF THE HIGH LANDS which give source to the streams running in opposite directions, that feed the great rivers, and constitute the prominent features on the face of the country, the Allegany on the east, and the Rocky and Chippewan mountains on the west, are the principal.

THE ROCKY MOUNTAINS range from the frozen regions of the north, nearly in a south direction towards the Andes, of which they may be considered a continuation, and to which they are supposed in extent and magnitude to be little inferior. They form the great natural boundary, which separates the head waters that fall into the Pacific ocean from those that flow into the Mississippi valley. The highest peak, which is immensely elevated, is in north latitude 41° and is thought to be the table land of North America. From this point many of the greatest rivers take their rise ; among which is the Colerado of Calafornia, the Rio del Norte, the Arkansaw, the La Platte and the Yellow rivers.

A few degrees east of the Rocky Mountains is the CHIPPEWAN RANGE of mountains, which originate near the arctic circle, and extending in a direction nearly parallel to the coast of the Pacific ocean, is continued on and spreads into high table lands in the province of Mexico.

What is denominated the MASSERNE RANGE is that part of the Chippewan mountains which lies between the Arkansaw and Red rivers, near to, and parallel with the latter, extending a southwestwardly course from about north latitude 39° to 34° —from thence winding its course northeastwardly a few miles, it is divided into two branches : the left is continued over and from the Arkansaw northwardly to the head waters of the Osage ; and the right, eastwardly on the left bank of the Arkansaw to near its mouth. This mountain is supposed to be rich in minerals, although no scientific research has yet been made. The warm springs on the Washita are situated on the spurs of this ridge.

There is a long chain of hills, which generally separate the waters of the Missouri from those of the Arkansaw and Mississippi. The hills in the White river country, and those west of

the Mississippi towards the head of the St. Francis and the Maramack, so abundant in minerals, may be considered the dependencies of the Black mountains, between the upper part of the Washita and the Arkansas ; between the upper part of which rivers are diverse, high, rugged hills.

A ridge of hills leaves the Mississippi about twenty miles above the mouth of the Ohio, and, extending southwest, divides the waters that flow south into the St. Francis and White rivers, from those, whose course is directed northeast of the Missouri and Mississippi rivers. —This extensive range of hills divides the Missouri country into two distinct natural portions.

A range of high lands commences above the junction of the Wabash with the Ohio, which, extending in a northeast direction, through Indiana, Ohio, Pennsylvania and New York, forms the source of streams, which flow into the Canadian lakes, and those which discharge their waters into the Ohio. The whole of this ridge is but moderately elevated, being chiefly composed of lime and schistous sand stone, without any valuable minerals, except iron and coal.

A range of hills leaves the northwestern parts of Georgia, and following a course nearly similar to that of Tennessee river, divides the waters of that stream from those of the Mobile. This ridge, though not very high, is clothed with a thick forest, and forms a distinguishable boundary between the climates, as well as the waters that feed the large rivers. Nearly upon the line of Georgia and Alabama, this ridge is formed into two branches : one winding parallel to the Tennessee, crosses the Ohio a short distance below the former river ; the second branch puts out southwestwardly, extending near the junction of the Coosa with the Tallapoosa.

A branch of the Allegany, intersecting Georgia nearly southwestwardly, extending between the Chatahoochee and Mobile rivers, terminates in the bluffs of Mobile bay, near the town of Blakely.

From the northeast of Mississippi state, a ridge puts out from the one last described, as dividing the Tennessee and Mobile rivers, pursuing a south course, crosses two degrees of latitude, dividing the waters of the Tombigbee from those of the Yazoo and Big Black rivers —from thence, turning eastwardly, separates the streams flowing into the Pascagoula, and is terminatea by the high bank on which Mobile town is built.

There is in the basin of the Mobile still another distinctive ridge, lying between the waters of the Cahaba and those of the Black Warrior, which descends to the southward, and forms the apex of the peninsula between the Tombigbee and Alabama, merging in the low lands near the junction of those rivers.

Almost on north latitude 33°, and near the sources of the Big Black, Pearl and Pascagoula rivers, the chain of hills west of the Tombigbee sends forth two projections ; one winds southwardly, dividing the waters of the Pearl and Pascagoula, gradually depressing as it approaches the sea coast, and ends in a high bank near the bay of St. Louis. The second pursues a southeast course, separates the tributary streams to the Mississippi, Maurepas, Ponchartrain and Borgne, and terminates abruptly in high hills, called Loftus Heights, on the east bank of the Mississippi, about eighteen miles above Red river.

There are other hills, of more or less elevation, well known, dividing the minor waters ; but those above described are all the principal high lands of note, that have been properly explored, in this extensive western region.

PRINCIPAL RIVERS.

RED RIVER, or Nachitoches, rises near Santa Fee, in north latitude $37^{\circ} 30'$, and 29° west longitude, runs nearly parallel to the Arkansaw, and after meandering about 1500 miles, joins the Mississippi in latitude 30° . The passage of this river, for a considerable extent, is through a valley about sixteen miles wide—is navigable 6 or 800 miles above the Rapiede, which is two miles in length, where is the first obstruction, 135 miles up, consisting of a rock of the hardness of pipe clay, that may be passed over in boats, when the river is not low, or easily removed in a dry season. The water is tinged with red, and a little brackish.

THE ARKANSAW rises in the Rocky Mountains, latitude 42° , unites with the Mississippi in latitude $31^{\circ} 40'$:—receives no considerable streams within 800 miles from its mouth—is navigable 1980, and meanders 2170 miles ; communicates with White river by a bayou ; its banks, in high water, extensively flooded many miles above the mouth.

THE MISSOURI rises in the Rocky Mountains, in north latitude $43^{\circ} 31'$, west longitude $34^{\circ} 45'$, has three principal head branches, navigable for some distance, called Jefferson, Madison and Gallatin. From its junction with the Mississippi to the Great Falls, being 2575 miles, it is navigable without interruption ; and from thence to the Jefferson, the largest branch, is navigable 521 miles, which is distant from its confluence with the Mississippi 3096 miles, and from thence to the Gulf 1345 miles, being in the whole 4491 miles : a greater extent of navigable waters than is to be found on any other tributary stream upon the globe. The cataracts of the Missouri are second only to those of Niagara, the most stupendous in the world—the descent in the former being about 362 feet in 18 miles. The first great pitch is 98 feet ; second, 19 ; third, 47 ; and fourth, 26 feet. Here the width is about 350 yards.

THE MISSISSIPPI river rises in latitude $47^{\circ} 47'$ from Turtle lake, from thence to the falls of St. Anthony is about 600 miles, latitude 44° . Its junction with the Missouri is in latitude $88^{\circ} 50'$. It flows into the Gulf of Mexico through several mouths, of which the principal is the Balize. This river by overflowing in the spring freshets, lays the country for many miles in extent under water—is from one to two miles in width, and of a great depth. Boats of 40 tons burden can ascend to the falls of St. Anthony. Ships seldom proceed further up than Natchez. The application of steam to the propelling of boats has furnished peculiar facilities to the navigation of this river, on which and its tributary streams are now (1819) driven by that power, nearly one hundred steam boats, from 40 to 500 tons burden. The length of the Mississippi exceeds 3000 miles ; it extends above its junction with the Missouri, more than 1600 miles.—The latter, both in magnitude and length, exceeding the former, may be considered the principal ; its navigable waters extending above its confluence with the Mississippi, according to Lewis and Clark, for 3096 miles ; its whole meanderings which are navigable to the Mexican Gulf, being 4491 miles.

THE ILLINOIS derives its source from the confluence of the Theakiki and Plein, in the north-west of Indiana. Pursuing generally a northwest course, it is discharged into the Mississippi 21 miles above the Missouri, where its width is 420 yards. Its current is gentle and smooth, unimpeded by falls or rapids, and navigable for 400 miles ; much of its banks are overflowed in high waters. Its northern branch, the Plein, interlocks with the Chicago, which flows into lake Michigan.

THE OHIO proceeds from the junction of the Allegany with the Monongahala at Pittsburgh. After a westsouthwest course of 949 miles, it discharges into the Mississippi. It varies in breadth from 400 to 1400 yards. At Cincinnati it is 534 yards, which being near its centre, may be regarded as its mean breadth. Its current is gentle and smooth, unbroken by rapids or

falls, except at Louisville. It yields to but few streams in point of convenience for inland navigation ; as the operation of canalling and locking the falls has lately been commenced, and is likely to be successfully prosecuted. The height of the fall is 22½ feet ; the extent of the declivity two miles. The greatest extremes of variation in the altitude of the surface of the river is 60 feet ; when lowest, is fordable in divers places above Louisville.

THE WABASH rises near the head waters of the rivers St. Joseph and the Maumee, and running in a south westwardly direction, empties into the Ohio, 30 miles above the Cumberland. It is upwards of 500 miles long, 400 yards wide at its mouth, and navigable for keel boats about 400 miles to Ouiatan, an ancient French village. From thence by small craft, to a portage of eight miles in extent, to a south branch, which forms a communication with the Maumee, which flows into Lake Erie. Above Vincennes the Wabash is gentle, between that and White river is an obstruction called the Great Rapids, which renders it unusually arduous to navigate with boats, for the distance of more than a mile.

THE GREAT MIAMI is about 130 yards wide for 40 miles up ; its head waters between latitude 40° and 41°, interlock with the Masasinaway, a branch of the Wabash ; the Auglaize and St. Mary, branches of the Maumee ; and the Scioto. It has generally a rapid current, but destitute of considerable falls ; flows through a wide fertile valley, which it partly floods in high waters.—At Dayton, about 75 miles from the mouth, the Miami unites with the Madriver on the east. From this place, in the high waters, flats freighting three or four hundred barrels, pass safely into the Ohio. But from the rapidity of the current, sand bars and mill dams, ascending this stream with boats is so difficult, it is rarely attempted.

THE CUMBERLAND proceeds from Cumberland mountains, and interlocks with the head waters of Clinch and Kentucky rivers—rises in the southeast part of the state of Kentucky, through which it flows westwardly more than 200 miles, enters the state of Tennessee, and meandering 120 miles, reaches Nashville, nearly in latitude 35°—from thence flowing northwest 120 miles, when it joins the Ohio.

THE TENNESSEE is one of the largest rivers in the western country, and is navigable for large boats more than 1000 miles. It rises in the northeast part of the state, and traverses the whole width of East Tennessee in a southwest direction, and entering the northeast angle of the state of Alabama, the whole width of which it crosses, and turning just at the northwest angle of Alabama, it pursues a north direction nearly in a direct line with the eastern boundary of that state, across the width of Tennessee and part of Kentucky, to the river Ohio.

THE TOMBIGBEE rises within a few miles of the Muscle shoals, flows southwardly near the line between the states of Mississippi and Alabama—joins the Alabama 45 miles above Mobile bay, and 75 above the Gulf of Mexico, to form the river Mobile. It is navigable for large vessels to Fort Stoddert, and at some seasons to St. Stephens. Being about 450 miles long, and navigable for boats the greater part of its course.

THE ALABAMA gives name to the state so called. It is formed by the junction of the Coosa and Tallapoosa, and flowing south-southwest, unites with the Tombigbee 45 miles above Mobile bay, to form the river Mobile.—From the junction to Fort Claiborne, 60 miles, it is navigable at all seasons for vessels drawing six feet of water. From Fort Claiborne to the mouth of the Cahaba, about 150 miles, the river has four or five feet of water, from the mouth of the Cahaba to the junction of the Coosa and Tallapoosa, the navigation generally continues good, the river affording three feet of water in the shallowest places. This river is subject to great variation in rising and falling.

West of the Mississippi we have omitted rivers more considerable, than several described, because in that new and extensive region, the artificial boundaries of states and territories have not yet been established to divide the principal streams.

PROJECTED CANALS, which are intended to unite in a water communication, the great western lakes to the streams falling into the Mississippi, have long occupied the attention of curious travellers and enterprising traders. Of this description it is said there are six, that might open a passage for boats from lakes Erie and Michigan to the Mississippi. One near Presque Isle, where the navigation of French Creek, a branch of the Allegany, approaches within 10 or 12 miles of the lake. Of the practicability of excavating a canal at this portage, we have not distinct information. Another is between a branch of the Muskingum, called Tuscarawa, and the Cuyahoga, a stream which joins Lake Erie at Cleveland. This portage does not exceed 10 or 12 miles, at which place the prospect of procuring a water communication between the streams induced Congress to appropriate 100,000 acres of public lands to effect this project ; which public bounty has not yet been called into action. A third proposed canal is to unite the waters of the Maumee with the Big Miami, by connecting Loramies Creek, one of the chief navigable streams of the latter, either with the St. Mary or the Auglaize, both streams of the Maumee. The latter is the most direct, and affords the most water ; but its current is the most rapid, and its channel more stony and less secure than the former.—The most southern points of navigation on these streams are distant about 20 miles, and approach within from 10 to 18 miles to navigation on the Loramies. This space is nearly level, the surface of which is composed of loam and clay. It yet remains uncertain, whether the St. Mary or the Auglaize deserves the preference of being connected with a canal, or if dug, whether that could be fed with sufficient water. Eight miles above Fort Wayne, a *fourth* water passage might be opened between the head waters of the Wabash and the St. Mary ; where the intermediate space is so low and level, that loaded boats in high water pass from the Wabash to the Lake with facility—And so promising are the appearances for opening a canal here at a small expence, that Congress have made a provision to effect it in like manner as above mentioned, by appropriating 100,000 acres of land. A fifth canal has been projected between the Plein, a stream of the Illinois, and the Chicago, flowing into the Lake Michigan ; the waters of these two streams are so nearly on the same horizontal level, that during freshets boats can conveniently pass from the one to the other—A like provision as above mentioned is made by Congress to open a water passage at this place. A very particular report has been lately made by commissioners to the Secretary at War, stating the practicability of opening a canal here, at a moderate expence. A sixth canal is projected to connect the Ouisconsin, a stream of the Mississippi, with Fox River flowing into Green Bay, an arm of Lake Michigan.

SOIL, VEGETABLE PRODUCTIONS, Vegetable Productions, FRUIT AND FOREST TREES, AND REMARKS ON AGRICULTURE.—The prevailing qualities of the soil in the west, are, a decomposition of limestone and calcareous earths, intermixed with a large portion of vegetable loam. It has a good depth, and is strong and durable. To the north of 35° north latitude, which includes the states of Ohio, Indiana, Illinois, Kentucky, Tennessee, and the Missouri territory, are produced in abundance, wheat, rye, barley, oats, maize, tobacco, culinary vegetables, apples, pears, peaches, plumbs and cherries ; hemp, flax, and some cotton—The latter, however, being subject to late vernal and early autumnal frosts, is not much cultivated above latitude 35°, except in Tennessee. Between this latitude and the Gulf coast, cotton and sugar cane crops principally engross the attention of the farmer. Cotton, above 55°, and sugar cane, above 30°, are precarious crops.—The latter is the most lucrative crop of any which can be raised in the United States ; and to the sugar, the cotton crop is next in value. It is a remarkable coincidence, that sugar cane commences on the line of climate where snow ceases. Indigo and rice have been found to flourish well here, but they have

latterly been neglected for the more profitable crops of cotton and sugar, which are the present staples of this portion of the country.

Most of the vegetable productions, however, of the upper region, flourish south of 35°. In addition to the fruits produced above that latitude, grow below it the fig, pomegranate and orange. And it has been ascertained, that the olive and the wine grape would also flourish, if properly cultivated. It is confidently believed, that the tea plant would thrive well, if transplanted into this soil and climate. An experiment of this kind would be an object worthy the attention of the general government.

So inconsiderable was the production of cotton (which now forms one of the grand staples of commerce in the United States) before the treaty of Jay, in 1794, that the regulation of its mart was not provided for in that national compact. Of so little importance was that great source of future wealth, at that time held in estimation by that able statesman.

The coffee tree, the product of which, habit has fixed among the articles of necessity, and rendered one of the most important sources of traffic in America, was not indigenous there ; nor was it known it would grow in that quarter of the globe, till more than a century had elapsed from its discovery, when the coffee tree was transplanted from Asia into the West Indies. From the nature of the soil and climate of Louisiana, Mississippi and Alabama, may we not confidently hope, that a fair experiment there, would prove successful, in the cultivation of the olive and the coffee tree, the tea plant and the wine grape ?

The state of Tennessee, which brings forth a greater variety of vegetable productions than any state in the Union, may be considered a middle link in the west, which forms a medium of climate between the north and the south.

The main business of common laborers, constituting the great mass of population in the west, will be the cultivation of the lands. Although the prolific qualities of the soil, render less skill and labor necessary here, for the sustentation of life, than on the shores of the Atlantic ; for the amusement of the curious, and the instruction of those whose laborious manner of life has not spared them leisure to trace the sensible effects in the vegetable kingdom to their proper causes, we have been induced to submit the following remarks.

Soil has a great capacity of absorbing and retaining putrid effluvia, proceeding from dead animal bodies, and decayed vegetables. And that, when saturated with such particles, it does not easily part with them, appears from the long stench of dead bodies, covered by the surface of the ground, and the healthy state of the cultivator, whose daily employment is that of stirring up the soil. Nor does it appear that the ground, when turned up, emit any noxious qualities to the air ; the smell of moist earth being commonly agreeable and wholesome. Hence the restoration of health to those used to a city life, from traversing cultivated fields, and partaking of rural exercises.

Dry earth is without smell, until it is moistened to a soft pap, when it diffuses a strong and delight some effluvia, retaining putrid particles, which chiefly constitute the food of plants ; and at the same time exhaling a smell delightful to the sense, and salubrious to the constitution of man.

The putrefaction of dead animals in air and water is offensive ; while the same process in earth, emits fragrant odours. Thus it appears, that air and water act as powerful solvents, but cannot transform and compound like earth, substances to which it is exposed.—It will be

worthy our attention to consider what immemorially has been done to the soil, with a view to promote vegetation.

Long and various experience have proved, that most soils may be ameliorated by some of the means that follow : —

1. *Frequent ploughing, or fallowing*, exposes the different qualities of the soil to the action of the air and sun, which operate as dissolvents on the many roots and vegetables with which it generally abounds ; and the earth being decomposed from them, mixes with the soil, and these by the prolific powers of the whole, are brought into action, to further the process of vegetation. As stirring the earth tends to destroy the oils and salts, it would seem that they ought not to be considered the food of vegetables, nor that such a process contributes to extract from the air nitrous salts, which have always proved detrimental to vegetation.

2. *Overflowing of ground* produces fertility in a manner not unlike ploughing, by effecting putridity and decomposition. It first stops, and eventually destroys (if continued) existing vegetation, except it be of the aquatic kind. But its effect after the waters are withdrawn, combined with the sun's heat, is to decompose the old vegetable growth, with the fresh alluvion brought on, and thereby wonderfully to fertilise the soil.

3. *Manuring* is another process, by which to promote vegetation. The principal manures which have been found most efficacious, are : 1. lime, chalk, marl, shells, , and other earths, called calcareous, which are all of the same nature ; 2. soot ; 3. ashes ; 4. dung of different kinds. Calcareous earths, such as lime, chalk, marl, &c. contain neither salt nor oil of any kind. The most beneficial effect of these calcareous earths, is that of decomposing and reducing to a fine light loam all dead animal and vegetable substances ; of a similar nature to which is supposed to be soot. Ashes, and all kinds of dung, have been proved to be not unlike calcareous manures, in their effects on the soil.

It follows, from what we have premised, that a farmer, to produce good crops, if he find his land in a fertile condition, should pursue a course of cultivation that will not impoverish the soil. If his soil be barren, he should impregnate it, by all practicable means, with substances which contain putrid matter, or which are in their own nature, dissolvents, or promoters of putrefaction and decomposition.

It has been thought not improper to subjoin the foregoing brief summary, as an outline of the theory of agriculture, verified by modern philosophical experiments, and recommended by the most successful cultivators.—Such are the materials which form the surface of the earth, that it was deemed a few hints on what constituted the fertility of the soil, and the means of restoring it, when exhausted, would not be inconsistent with our design.

Another extent of surface in a body, covered with lime and calcareous earth, (with rare exceptions, and those confined to small portions,) so large, is not perhaps to be found on the face of the globe. This calcareous region extends from the great lake waters, eastwardly to the foot of the Allegany mountains ; to the most eastern boundary of the state of Tennessee, and westwardly over the Mississippi to the unexplored regions. The soil covering this extensive tract, may be considered generally as consisting of materials derived from the decomposition of limestone and shells, intermixed with a large proportion of loam, composed of decayed vegetables. Hence the great fertility, strength and durability of the soil.—The exuberant foliage and vegetation, that have been accumulating on the surface for ages, without being exhausted by crops, have been constantly changing into nutriment for trees and plants, by the digestive qualities of the calcareous earths, with which they come in contact ; the earth

operating on the decayed vegetables not unlike the action of the gastric juice on food taken into the stomach. Thus has nature provided for the husbandman, in the soil of this new country, if rural labors be rightly managed, inexhaustible means of support and sources of wealth.

He is fortunately exempted from that tedious and expensive process of manuring, to which the farmers of old settled countries, rendered sterile by a long course of cropping, are necessarily subjected. Here the cultivator has little else to do than to clear off, fence, and so husband his ground as to preserve its original fertility, and nature will perform the rest.

As before observed, most of the stones are lime. Over a large portion of the surface of the west, they form a kind of strata. Being shaped flat, from one to nine inches thick, they are very portable, easily broken with a hammer, and are convenient for walls of buildings, cellars, and various other uses. But as clay of a good quality, is commonly abundant, bricks are generally preferable for building. The manner in which nature has provided for the convenience of rural husbandry, in disposing of these stones, is worthy of curious remark. They are placed just below the soil, where they oppose no obstruction to the plough, and yet they are handy to be come at, and may be generally found between the soil and the clay, or pan, on gentle declivities, where the rains by washing down the soil, which is remarkable for its levity and fineness of texture, has left them bare, and rendered them accessible without digging.

GROWTH OF TIMBER, TREES,, &c.—The forest trees of the west grow to an uncommon height ; are generally straight and free from limbs for a great distance from the ground. Several species, as the sycamore, the poplar, the white oak and black walnut, grow to an extraordinary size, some of which have been found to exceed thirty feet in circumference near the ground. The following species are among the principal trees, which are scattered pretty generally over the greater part of the western forests : Black walnut, butternut, various kinds of hickory and oak, sugar maple,* red flowering maple, cotton wood, aspen,* buckeye, sassafras, red bud, wild cherry, sycamore, pawpaw, black locust, poplar, beech, chesnut, horn beam, red cedar, hackberry, persimmon, elm, white, swamp and blue ash. South of 35°, some of the above species are rarely found, particularly such as are marked*. Water pine, pitch pine, the latter of which is far the most prevalent of any species in the south ; cypress, and live-oak (the latter affording the most valuable timber for ship frames of any in the United States) are rarely discoverable further north than 35°. There are many other less considerable species of trees in the western forests, besides a rich shrubbery ; various kinds of wild plumbs, grapes and berries, and almost an infinite diversity of herbaceous vegetables, many of which afford valuable ingredients for the *materia medica*.

A traveller passing from the Atlantic states, over the lofty region of the Allegany, and descending into the Ohio valley, is agreeably surprised, on finding nature arrayed in a novel and more splendid garb. Plants, trees and every species of vegetation, exhibit an appearance to which he has been unaccustomed. They are formed on a grander scale—their dimensions being greatly enlarged, and their foliage having imbibed a deeper and more vivid green.

CLIMATE, DISEASES, &c.—Our speculations. on the climate of the west may principally be confined to that region which lies between latitude 29° and 44°, and 3° and 23° west longitude. Most of the remaining tracts, for reasons already assigned, will probably continue in a wilderness state for a century. To the northward of 42°, the country between the high lands, that divide the waters of the Missouri and the Mississippi, to lake Michigan, including the territory of Michigan, being exposed to the winds which pour down over the Rocky and Chippewan mountains from the frozen regions of the northwest, is much colder than the

Atlantic states, under the same latitude. It may generally be observed, that the temperature of the atmosphere, west of the Alleghenies, is more variable in the winter, and less in the summer months, than in the northern Atlantic states. In the former, the heat of the summer does not so much excel in degree, as in durability and uniformity. It therefore is not so sensibly felt, because the human body acquires a habit which renders the endurance of the same extreme more tolerable. And the same remark will apply in northern latitudes, with respect to extreme cold.

That region, whose temperature of heat through the various seasons is the most uniform, and which produces the fewest uneasy sensations in the human constitution, other causes affecting health being equal, may be considered the most salubrious. The region of the west, between latitude 35° and 40°, generally possesses a climate as nearly perhaps corresponding to the one last described, as any section of the United States. Within this tract, extending over five degrees due north, there is, however, considerable variation ; local causes often producing more sensible effects on health, than variation of latitude.—Here, as in other places, elevated situations being generally accompanied with pure air and running streams of limpid water, are the most healthy. Stagnant waters, putrid animals and vegetables, are among the principal causes, in summer months, which engender disease.—Exuberant vegetation springing up from level, marshy grounds, saturated and covered with still waters, shaded by thick forest trees, when acted upon by an ardent sun, are a fruitful cause of diseases in all climates, but particularly so in southern latitudes, where the air suspends, in the form of vapor, large quantities of humid particles.

It is not uncommon for the human species to enjoy perfect health, while exposed to heat exceeding 90 degrees of Fahrenheit's thermometer, if situated remote from the influence of animal and vegetable substances, that have become putrid and decomposed by the action of heat and moisture. The first settlers of a country covered with woods, are naturally inclined to select for their places of residence the richest soil, which is commonly found on the margins of languid streams, whose alluvial shores consist of decayed vegetables, not sufficiently exposed to the rays of the sun to expel the miasmata, with which they are surcharged. And these settlers, possessing vigorous and robust constitutions from northern latitudes, where they have been accustomed to a dry, pure air, are the most apt subjects to be acted upon, by those noxious effluvia, which are the powerful sources of human maladies. Instead of employing the late fall or winter months for occupying their new habitations, they emigrate and seat themselves down, during the periods when heat and moisture produce their most destructive effects on the constitution. Not taught from necessity, in their native land, to avoid the night air, by filling up the chinks of their cabins, keeping themselves within doors after the evening vapors are suspended, and preventing the causes of noxious exhalations, proceeding from water and slops spilled through the floors of their houses, they are unwarily taken down by malignant fevers, before their constitution becomes tempered, to the climate, and their new mode of living. Hence the reputation, acquired to the country, of an unhealthy and sickly climate. The lake countries, and the low rich alluvial soils, bordering on still and languid streams, even in the northern latitudes of the state of New York, the northern part of Ohio, and the two Canadas, abundantly verify the foregoing remarks. In which places, we ourselves, during a long residence there, have witnessed, that as soon as the thick woods and wild vegetables, with which the ground was covered, were removed by culture, a good state of health has been generally restored, and the peasant has pursued his rural labors with his usual vigor and cheerfulness.

But it is not to be disguised, there are many situations westward, extending over considerable tracts of rich land, which nature has rendered incapable of being so improved by the hand of man, as to be eligible spots, in point of health, for permanent settlements. Of this

description are the borders of stagnant waters, which cannot be drained, and champaign grounds, from which overflowed waters cannot find an outlet, nor a passage into the earth beneath. As they partially dry up, the surrounding atmosphere is contaminated with their noxious exhalations. There are other places not uniformly healthy, on margins of rivers that flood occasionally, once in five or six years, during a season when an exuberant crop of vegetables cover the ground. Such occurrences are often followed by malignant diseases, proceeding from the putridity of the vegetables, after the waters have subsided. But all sites for permanent settlements, like those, prudent emigrants will avoid. After the country becomes populous, and the best stands are occupied, these insalubrious spots may be rendered very useful in divers ways, other than to be occupied as places of habitation.

It must, however, be acknowledged as a fact, that there is less elasticity of air, in the western, than the north-western states. The langour and ennui continue more uniformly through the summer, and is not so frequently relieved by the bracing tone of the morning and evening air. But, on the other hand, in the west, the winter air is but seldom accompanied with that extreme raw chilling atmosphere, which frequently and suddenly succeeds a milder temperature at the northwest, and lays the foundation of mortal pulmonary diseases. Such diseases being often produced, as is conceived, by loading the lungs with that extraneous matter which usually passes off by perspiration through the pores of the skin, which a moist, cold, raw air tends to obstruct or seal up. Our own observations have convinced us, that west of the Alleghenies there does not one death, caused by pulmonary complaints, happen for ten by the same disease in the northern states, within the same extent of population.

The diseases vulgarly called the spotted fever, and cold plague, which in the severest seasons of winter cold, at the northeast, have occasionally made dreadful ravages, and proved extensively malignant and mortal, in the west have rarely made their appearance.

On the whole, it is confidently believed, that by prudent care, health may be as effectually preserved, and life as pleasantly enjoyed, so far as depends on climate, and as long protracted generally, west of the Alleghenies, as in any part of the Atlantic States.

Our aim has been, diligence in research, and fidelity in description. But we have not attempted what was not possible to accomplish,—precise geographical details of the unfrequented parts of the country ; which notwithstanding the labours of many ingenious men, remain, as yet, but imperfectly known.

Geographical sketches on the western country : designed for emigrants and settlers ; being the result of extensive researches and remarks ; to which is added, a summary of all the most interesting matters on the subject, including a particular description of all the unsold public lands, collected from a variety of authentic sources ; also, a list of the principal roads (1819)

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