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INTRODUCTION.

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GENERAL DISCUSSION

OF THE

MOVEMENTS OF POPULATION—1790 TO 1880.

BY

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## THE PROGRESS OF THE NATION: 1790 TO 1880.

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The two accompanying series of maps of the United States, showing the density of the population, are intended to exhibit the increase and the movement of population from the date of the First Census, in 1790, through nine decades, to 1880. Of these maps, the first nine, up to and including that of 1870, are reproductions from the *Statistical Atlas of the United States*, published in 1874. The earlier ones are on the same scale as those of the atlas; the later ones are reduced in scale.

The method by which these maps have been constructed is that used for the atlas above referred to, and is explained in that work. This explanation is here reproduced, with such changes and modifications as appear to be necessary.

These maps, one for each census, show the density of population, *i. e.*, the number of individuals to a square mile, arranged within certain groups. The second series of maps, ten in number, relates to the Tenth Census, showing the density of population in detail. Each covers a separate portion of the present territory of the United States, and exhibits the facts of population at the date of June 1, 1880.

The map of the United States in one sheet, showing the density of population in 1880, is to be regarded as a generalization from the ten detailed maps just referred to.

The general method of preparing the first series of these maps has been uniform, and is as follows: The county has, in general, been taken as a unit. Its population, at the period to which the map refers, having been ascertained, the population of all cities of 8,000 inhabitants, or more, existing within it, has been deducted therefrom, the population of such cities being represented by circles of solid color, separate from the other population, which latter is regarded, for the purposes of illustration, as rural population uniformly spread over the surface of the county. The rural population is then divided by the area of the county in square miles, the quotient representing the average density of settlement.

In cases, however, where the county was of unusual extent, or there was reason to believe that its density differed greatly in different parts, the county was no longer taken entire, but was examined by sections, even sections as small as its townships or other civil divisions. The number of counties thus broken up for the purpose of comparison would naturally vary greatly. In some census years, as in case of the later ones, it would amount to several hundred; in others, particularly the earlier ones, to scarcely as many score.

The average density of each county, or part of a county, having been thus ascertained, the sections so taken were grouped according to five degrees of density, as explained in the legends accompanying the maps. The general plan of grouping has been to make as many large groups as could be made without merging any appreciable proportion in groups of a markedly different grade: thus, if a single county of small extent belonging to group 3, should be surrounded by many counties of group 4 or of group 2, it would not be preserved distinct, but would take the shading of its general section, either 2 or 4, as the case might be. If, however, a county of group 4 or 5 should appear among counties of group 1 or 2, the distinction would be regarded of sufficient importance to be maintained. Again, a county whose average density brought it within group 4 might be found with counties of group 3 on one side and of group 5 on the other, appearing thus to belong to a group distinct from both, yet an examination into the density of its constituent townships might, and generally would, develop the fact that those parts of the county which bordered on group 3, were really of that grade, while the parts bordering on group 5 belonged in that class. In such a case, the division of the county by a central line, and the throwing of parts on the one side and on the other, into the adjacent groups, would not only dispense with the necessity for preserving a small separate group upon the map, but would even more correctly represent the facts of the case than would be done by representing the entire county as of group 4. Again, a tier of counties along a river or a railroad might yield a quotient showing an average population of only thirty to a square mile, and thus appear to belong in group 3, whereas an examination of the townships composing the county might show that, for a few miles back from the river, the density was much greater; while in the portion farthest away from the river the density was much less than the average, thus splitting the county, perhaps, into two groups, *viz.* 4 and 2.

density, especially along the coast. North Carolina is now almost entirely covered with population; the mountain region has, generally speaking, been nearly all reclaimed to the service of man. In South Carolina there is a general increase in density of settlement, while the southwestern border has been carried down, until now the Altamaha river is its limit. The incipient settlements in northern Kentucky have spread southward across the state, and even into Tennessee, forming a junction with the little settlement, noted at the date of the last census, on the Cumberland river. The group thus formed has extended down the Ohio, nearly to its junction with the Tennessee and the Cumberland, and across the Ohio river into the present state of Ohio, where we note the beginning of Cincinnati. Other infant settlements appear at this date. On the east side of the Mississippi river, in the present state of Mississippi, is a strip of settlement along the bluffs below the Yazoo bottom. Beside the settlement on the present site of St. Louis, not at this time within the United States, is an adjacent settlement in what is now Illinois, while all the pioneer settlements previously noted have grown to a greater or less extent.

From the region embraced between the frontier line and the Atlantic must be deducted the Adirondack tract, in northern New York, and the unsettled region in northern Pennsylvania, already referred to; so that the actual area of settlement, bounded by a continuous line, is to be taken at 271,908 square miles. All this lies between  $30^{\circ} 45'$  and  $45^{\circ} 15'$  north latitude, and  $67^{\circ}$  and  $88^{\circ}$  west longitude.

To this should be added the aggregate extent of all settlements lying outside of the frontier line, which collectively amount to 33,800 square miles, making a total area of settlement of 305,708 square miles. As the aggregate population is 5,308,483, the average density of settlement is 17.4.

The infant settlements of this period have been much retarded at many points by the opposition of the Indian tribes; but in the neighborhood of the more densely settled portions of the northern part of the country these obstacles have been of less magnitude than farther south. In Georgia, especially, the large and powerful tribes of Creeks and Cherokees have stubbornly opposed the progress of population.

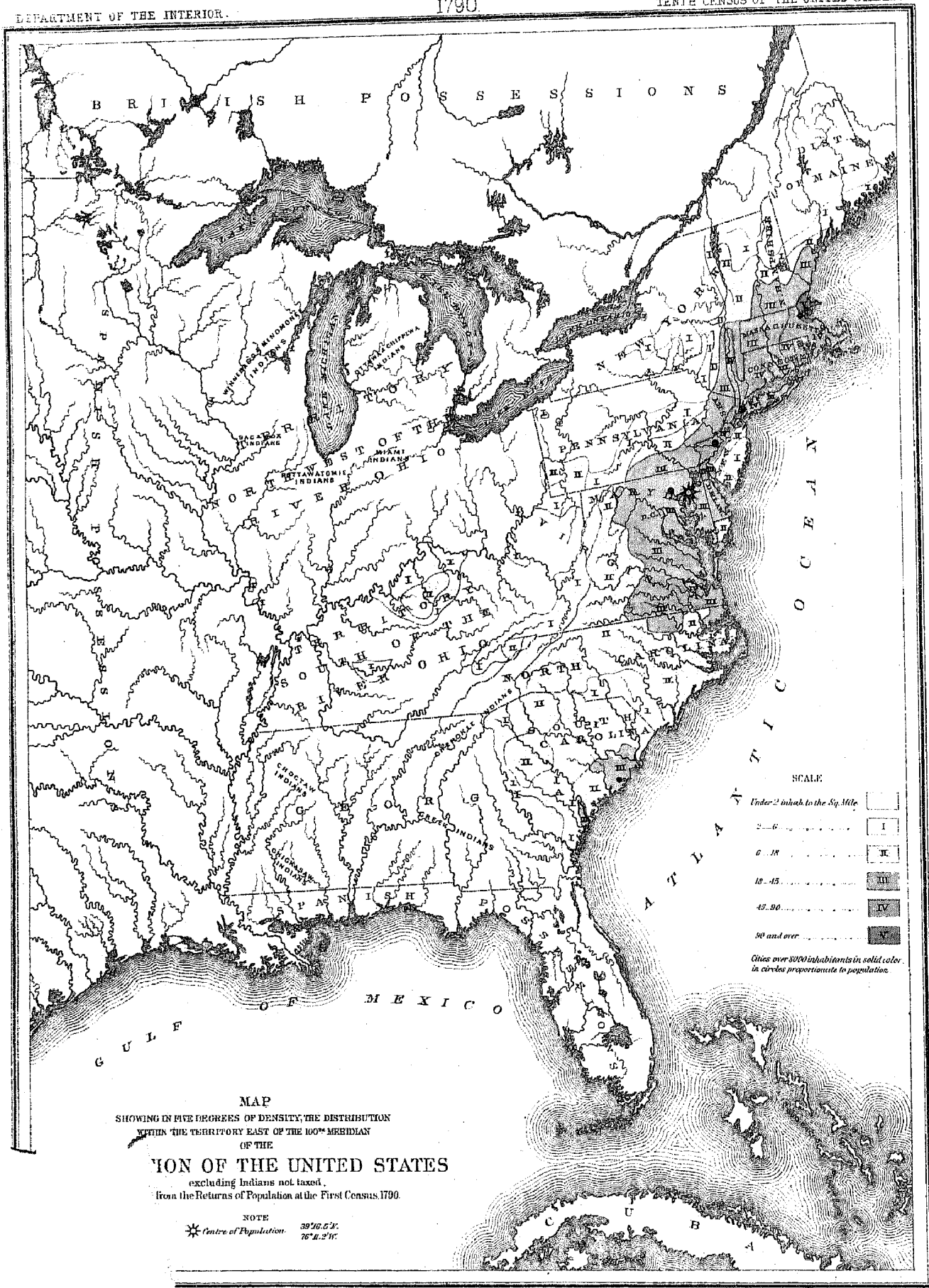
During the decade just past Vermont, formed from a part of New York, has been admitted to the Union; also Kentucky and Tennessee, formed from the "Territory south of the river Ohio"; Mississippi territory, having, however, very different boundaries from the present state of that name, has been organized; while the "Territory northwest of the river Ohio" has been divided and Indiana territory organized from the western portion.

### 1810.

At 1810 we note great changes, especially the extension of the sparse settlements of the interior. The hills of western New York have become almost entirely covered with population, which has spread along the south shore of lake Erie well over into Ohio, and has effected a junction with the previously existing body of population about the forks of the Ohio river, leaving unsettled an included heart-shaped area in northern Pennsylvania, which comprises the rugged country of the Appalachian plateau. The occupation of the Ohio river has now become complete, from its head to its mouth, with the exception of small gaps below the mouth of the Tennessee. Spreading in every direction from the "dark and bloody ground" of Kentucky, settlement covers almost the entire state, while the southern border line has been extended to the Tennessee river, in northern Alabama. In Georgia settlements are still held back by the Creek and the Cherokee Indians, although in 1802 a treaty with the former tribe relieved the southwestern portion of the state of their presence, and left the ground open for occupancy by the whites. In Ohio settlements, starting from the Ohio river and from southwestern Pennsylvania, have worked northward and westward, until they cover two-thirds of the area of the state. Michigan and Indiana are still virgin territory, with the exception of a little strip about Detroit, in the former state, and a small area in the southwestern part of the latter. St. Louis, from a fur-trading post, has become an important center of settlement, population having spread northward above the mouth of the Missouri and southward along the Mississippi to the mouth of the Ohio. At the mouth of the Arkansas, in what is now the state of Arkansas, is a similar body of settlement. The transfer of the territory of Louisiana to our jurisdiction, which was effected in 1803, has brought into the country a large body of population, which stretches along the Mississippi river from its mouth nearly up to the present northern limit of the state of Louisiana, up the Red river and the St. Francis, in general occupying the alluvial regions. The incipient settlements noted on the last map in Mississippi have effected a junction with those of Louisiana, while in lower Alabama and Mississippi a similar patch appears upon the Mobile and the Pearl rivers.

In this decade large additions have been made to the territory of the United States, and many changes have been effected in the lines of interior division. The purchase of Louisiana has added 1,124,685 square miles, an empire in itself, to the United States, and has given to us absolute control of the Mississippi and its navigable branches. Georgia, during the same period, has ceded to the United States the portion of its territory which now constitutes the larger part of the states of Alabama and Mississippi. The state of Ohio has been formed from a portion of what previously was known as the "Territory north of the Ohio river". Michigan territory has been erected, comprising what is now the lower peninsula of Michigan; Indiana territory has become restricted to the present limits of the state of that name; Illinois territory comprises all of the present state of Illinois, with that of Wisconsin, and a











part of Minnesota; while from the Louisiana purchase has been carved, under the name of the "Territory of Orleans", all that part of the present state of Louisiana which lies west of the Mississippi river, the remainder of the great territory so cheaply acquired from France being known by the name of the "Louisiana territory".

At this date the frontier line is 2,900 miles long, and includes between itself and the Atlantic 408,895 square miles. From this must be deducted several large areas of unsettled land: first, the area in northern New York, now somewhat smaller than ten years before, but still by no means inconsiderable in extent; second, the heart-shaped area in northwestern Pennsylvania, embracing part of the Alleghany plateau, in size about equal to the unsettled area in New York; third, a strip along the central part of what is now West Virginia, extending from the Potomac southward, taking in what is now a part of eastern Kentucky and southwestern Virginia, and extending nearly to the border line of Tennessee; fourth, a comparatively small area in northern Tennessee, upon the Cumberland plateau. These tracts together comprise 26,050 square miles, making the actual area of settlement included within the frontier line 382,845 square miles. All this lies between latitude  $29^{\circ} 30'$  and  $45^{\circ} 15'$  north, and between the meridians of  $67^{\circ}$  and  $88^{\circ} 30'$  west.

Beyond the frontier there are, in addition to the steadily increasing number of outposts and minor settlements, several considerable bodies of population, which have been above noted. The aggregate extent of these, and of the numerous small patches of population scattered over the west and south, may be estimated at 25,100 square miles, making the total area of settlement in 1810, 407,945 square miles; the aggregate population being 7,239,881, and the average density of settlement 17.7 to the square mile.

Between 1800 and 1810 the principal territorial changes have been as follows: Ohio has been admitted, and the territories of Illinois and Michigan have been formed from parts of Indiana territory.

### 1820.

The decade from 1810 to 1820 has witnessed several territorial changes. Florida at this date (1820) is a blank upon the map. The treaty with Spain, which gives her to us, is signed, but the delivery has not yet taken place. Alabama and Mississippi, made from the Mississippi territory, have been organized and admitted as states. Indiana and Illinois appear as states, with their present limits. The territory of Louisiana has been admitted as a state. The district of Maine has also been erected into a state. Arkansas territory has been cut from the southern portion of the territory of Louisiana. The Indian territory has been constituted to serve as a reservation for the Indian tribes. Michigan territory has been extended to include all of the present states of Michigan, Wisconsin, and part of Minnesota. That part of the old Louisiana territory remaining, after cutting out Arkansas and Indian territory, has received the name of "Missouri territory".

Again, in 1820, we note a great change in regard to the frontier line. It has become vastly more involved and complex, extending from southeastern Michigan, on lake St. Clair, southwestward into what is now Missouri; thence, making a great semi-circle to the eastward, it sweeps west again around a body of population in Louisiana, and ends on the Gulf coast in that state. The area included by it has immensely increased, but much of this increase is balanced by the great extent of unsettled land included within it.

Taking up the changes in detail, we note, first, the great increase in the population of central New York, a belt of increased settlement having swept up the Mohawk valley to lake Ontario, and along its shore nearly to the Niagara river. A similar increase is seen about the forks of the Ohio river, while in northern Pennsylvania the unsettled region on the Appalachian plateau has sensibly decreased in size. The unsettled area in western Virginia and eastern Kentucky has very greatly diminished, population having extended almost entirely over the Alleghany region in these states. The little settlements about Detroit have extended and spread along the shore of lake Erie, until they have joined those in Ohio. The frontier line in Ohio has crept northward and westward, leaving only the northwestern corner of the state unoccupied. Population has spread northward from Kentucky and westward from Ohio into southern Indiana, covering sparsely the lower third of that state. The groups of population around St. Louis, which at the time of the previous census were enjoying a rapid growth, have extended widely, making a junction with the settlements of Kentucky and Tennessee, along a broad belt in southern Illinois; following the main water-courses, population has gone many scores of miles up the Mississippi and the Missouri rivers. The settlements in Alabama, which, up to this time had been very much retarded by the Creeks, were rapidly reinforced and extended, in consequence of the victory of General Jackson over this tribe and the subsequent cession of portions of this territory. Immigration to Alabama has already become considerable, and in a short time the whole central portion of the state, embracing a large part of the region drained by the Mobile river and its branches, will be covered by settlements, to extend northward and effect a junction with the Kentucky and Tennessee settlements, and westward across the lower part of Mississippi, until they meet the Louisiana settlements. In Georgia the Cherokees and the Creeks still hold settlement back along the line of the Altamaha river. There are, however, scattered bodies of population in various parts of the state, though of small extent. In Louisiana we note a gradual increase of the extent of redeemed territory, which appears to have been limited almost exactly by the borders of the alluvial



region. In Arkansas the settlements, which we saw at 1810 at the mouth of the Arkansas river, have extended up the bottom lands of that river and of the Mississippi, forming a body of population of considerable size. Beside these, a small body is found in the southern-central part of the state, at the southeastern base of the hill region, and another in the prairie region in the northern part.

The frontier line now has a length of 4,100 miles, embracing an area, after taking out all the unsettled regions included between it, the Atlantic, and the Gulf, of 504,517 square miles, all lying between  $29^{\circ} 30'$  and  $45^{\circ} 30'$  north latitude, and between  $67^{\circ}$  and  $93^{\circ} 45'$  west longitude. Outside the frontier line are some bodies of population on the Arkansas, White, and Washita rivers, in Arkansas, as before noted, as well as some small bodies in the northwest. Computing these at 4,200 square miles in the aggregate, we have a total settled area of 508,717 square miles; the aggregate population being 9,633,822, and the average density of settlement 18.9 to the square mile.

### 1830.

In the decade from 1820 to 1830 other territorial changes have occurred. In the early part of the decade the final transfer of Florida from Spanish jurisdiction was effected, and it became a territory of the United States. Missouri has been carved from the southeastern part of the old Missouri territory, and admitted as a state. Otherwise the states and territories have remained nearly as before. Settlement during the decade has again spread greatly. The westward extension of the frontier does not appear to have been so great as in some former periods, the energies of the people being mainly given to filling up the included areas. In other words, the decade from 1810 to 1820 seems to have been one rather of blocking out work which the succeeding decade has been largely occupied in completing.

During this period the Indians, especially in the south, have still delayed settlement to a great extent. The Creeks and the Cherokees in Georgia and Alabama, and the Choctaws and the Chickasaws in Mississippi, occupy large areas of the best portions of those states, and successfully resist encroachment upon their territory. Georgia, however, has witnessed a large increase in settlement during the decade. The settlements which have heretofore been staid on the line of the Altamaha spread westward across the central portion of the state to its western boundary, where they have struck against the barrier of the Creek territory. Stopped at this point, they have moved southward down into the southwest corner, and over into Florida, extending even to the Gulf coast. Westward they have stretched across the southern part of Alabama, and joined that body of settlement which was previously formed in the drainage-basin of the Mobile river. The Louisiana settlements have but slightly increased, and no great change appears to have taken place in Mississippi, owing largely to the cause above noted, viz, the occupancy of the soil by Indians. In Arkansas the spread of settlement has been in a strange and fragmentary way. A line reaches from Louisiana up the Arkansas river to the state line, where it is stopped abruptly by the boundary of the Indian territory. It extends up the Mississippi, and joins the great body of population in Tennessee. A branch extends northeastward from near Little Rock to the northern portion of the state. All these settlements within Arkansas territory are as yet very sparse. In Missouri the principal extension of settlement has been in a broad belt up the Missouri river, reaching to the present site of Kansas City, at the mouth of the Kansas river, where quite a dense body of population appears. Settlement has progressed in Illinois, from the Mississippi river eastward and northward, covering more than half the state. In Indiana it has followed up the Wabash river, and thence has spread until it reaches nearly to the north line of the state. But little of Ohio remains unsettled. The sparse settlements about Detroit, in Michigan territory, have broadened out, extending into the interior of the state, while isolated patches have appeared in various other localities.

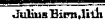
Turning to the more densely settled parts of the country, we find that settlement is slowly making its way northward in Maine, although discouraged by the poverty of the soil and the severity of the climate. The unsettled tract in northern New York is decreasing, but very slowly, as is also the case with the unsettled area in northern Pennsylvania. In western Virginia the unsettled tracts are reduced to almost nothing, while the vacant region in eastern Tennessee, on the Cumberland plateau, is rapidly diminishing.

At this date, 1830, the frontier line has a length of 5,300 miles, and the aggregate area now embraced between the ocean, the Gulf, and the frontier line is 725,406 square miles. Of this, however, not less than 97,389 square miles are comprised within the included vacant tracts, leaving only 628,017 square miles as the settled area within the frontier line, all of which lies between latitude  $29^{\circ} 15'$  and  $46^{\circ} 15'$  north, and between longitude  $67^{\circ}$  and  $95^{\circ}$  west.

Outside the body of continuous settlement are no longer found large groups, but several small patches of population appear in Ohio, Indiana, Illinois, Michigan, and Wisconsin, aggregating 4,700 square miles, making a total settled area, in 1830, of 632,717 square miles. As the aggregate population is 12,866,020, the average density of settlement is 20.3 to the square mile.

### 1840.

During the decade ending in 1840 the state of Michigan has been created with its present limits, the remainder of the old territory being known as Wisconsin territory. Iowa territory has been created from a portion of Missouri territory, embracing the present state of Iowa and the western part of Minnesota, and Arkansas has been admitted to the Union.









In 1840 we find, by examining the map of population, that the process of filling up and completing the work blocked out between 1810 and 1820 has been carried still further. From Georgia, Alabama, and Mississippi the Cherokee, Creek, Choctaw, and Chickasaw Indians, who, at the time of the previous census, occupied large areas in these states, and formed a very serious obstacle to settlement, have been removed to the Indian territory, and their country has been opened up to settlement. Within the two or three years which have elapsed since the removal of these Indians the lands relinquished by them have been entirely taken up, and the country has been covered with a comparatively dense settlement. In northern Illinois, the Sac and Fox and Pottawatomie tribes having been removed to the Indian territory, their country has been promptly taken up, and we find now settlements carried over the whole extent of Indiana, Illinois, and across Michigan and Wisconsin as far north as the 43d parallel. Population has crossed the Mississippi river into Iowa territory, and occupies a broad belt up and down that stream. In Missouri the settlements have spread northward from the Missouri river nearly to the boundary of the state, and southward till they cover most of the southern portion, and make connection in two places with the settlements of Arkansas. The unsettled area found in southern Missouri, together with that in northwestern Arkansas, is due to the hilly and rugged nature of the country, and to the poverty of the soil, as compared with the rich prairie lands all around. In Arkansas the settlements remain sparse, and have spread widely away from the streams, covering much of the prairie parts of the state. There is, beside the area in northwestern Arkansas just mentioned, a large area in the northeastern part of the state, comprised almost entirely within the alluvial regions of the St. Francis river, and also one in the southern portion, extending over into northern Louisiana, which is entirely in the fertile prairie section. The fourth unsettled region lies in the southwest part of the state.

In the older states we note a gradual decrease in the unsettled areas, as in Maine and in New York. In northern Pennsylvania the unsettled section has entirely disappeared. A small portion of the unsettled patch on the Cumberland plateau still remains. In southern Georgia the Okefenokee swamp and the pine barrens adjacent have thus far repelled settlement, although population has increased in Florida, passing entirely around this area to the south. The greater part of Florida, however, including nearly all the peninsula and several large areas along the Gulf coast, still remains without settlement. This is doubtless due, in part to the nature of the country, being alternately swamp and hummock, and in part to the hostility of the Seminole Indians, who still occupy nearly all of the peninsula.

The frontier line in 1840 has a length of 3,300 miles. This shrinking in its length is due to its rectification on the northwest and southwest, owing to the filling out of the entire interior. It incloses an area of 900,658 square miles, all lying between latitude 29° and 46° 30' north, and longitude 67° and 95° 30' west. The vacant tracts have, as noted above, decreased, although they are still quite considerable in Missouri and Arkansas. The total area of the vacant tracts is 95,516 square miles. The settled area outside the frontier line is notably small, and amounts, in the aggregate, to only 2,150 miles, making the entire settled area 807,292 square miles in 1840. The aggregate population being 17,069,453, the average density is 21.1 to the square mile.

### 1850.

Between 1840 and 1850 the limits of our country have been further extended by the annexation of the state of Texas and of territory acquired from Mexico by the treaty of Guadalupe Hidalgo. The states of Iowa, Wisconsin, and Florida have been admitted to the Union, and the territories of Minnesota, Oregon, and New Mexico have been created. An examination of the maps shows that the frontier line has changed very little during this decade. At the western border of Arkansas the extension of settlement is peremptorily limited by the boundary of the Indian territory; but, curiously enough also, the western boundary of Missouri puts almost a complete stop to all settlement, notwithstanding that some of the most densely populated portions of the state lie directly on that boundary.

In Iowa settlements have made some advance, moving up the Missouri, the Des Moines, and other rivers. The settlements in Minnesota at and about St. Paul, which appeared in 1840, are greatly extended up and down the Mississippi river, while other scattering bodies of population appear in northern Wisconsin. In the southern part of the state settlement has made considerable advance, especially in a northeastern direction, toward Green bay. In Michigan the change has been very slight.

Turning to the southwest we find Texas, for the first time on the map of the United States, with a considerable extent of settlement; in general, however, it is very sparse, most of it lying in the eastern part of the state, and being largely dependent upon the grazing industry.

The included unsettled areas now are very small and few in number. There still remains one in southern Missouri, in the hilly country; a small one in northeastern Arkansas, in the swampy and alluvial region; and one in the similar country in the Yazoo bottom-lands. Along the coast of Florida are found two patches of considerable size, which are confined to the swampy coast regions. The same is the case along the coast of Louisiana. The sparse settlements of Texas are also interspersed with several patches devoid of settlement. In southern Georgia the large vacant space heretofore noted, extending also into northern Florida, has entirely disappeared, and the Florida settlements have already reached southward to a considerable distance in the peninsula, being now free to extend without fear of hostile Seminoles, the greater part of whom have been removed to the Indian territory.

The frontier line, which now extends around a considerable part of Texas and issues on the Gulf coast at the mouth of the Nueces river, is 4,500 miles in length. The aggregate area included by it is 1,005,213 square miles, from which deduction is to be made for vacant spaces, in all, 64,339 square miles. The isolated settlements lying outside this body in the western part of the country amount to 4,775 square miles.

But it is no longer by a line drawn around from the St. Croix river to the Gulf of Mexico that we embrace all the population of the United States, excepting only a few outlying posts and small settlements. We may now, from the Pacific, run a line around 80,000 miners and adventurers, the pioneers of more than one state of the Union soon to arise on that coast. This body of settlement has been formed, in the main, since the acquisition of the territory by the United States, and, it might even be said, within the last year (1849-'50), dating from the discovery of gold in California. These settlements may be computed rudely at 33,600 square miles, making a total area of settlement at that date of 979,249 square miles, the aggregate population being 23,191,876, and the average density of settlement 23.7 to the square mile.

### 1860.

Between 1850 and 1860 the territorial changes noted are as follows: The strip of Arizona and New Mexico south of the Gila river has been acquired from Mexico by the Gadsden purchase (1853); Minnesota territory has been admitted as a state; Kansas and Nebraska territories have been formed from parts of Missouri territory; California and Oregon have been admitted as states, while, in the unsettled parts of the Cordilleran region, two new territories (Utah and Washington) have been formed out of parts of that *terra incognita* which we bought from France as a part of Louisiana, and of that which we acquired by conquest from Mexico. At this date we note the first extension of settlements beyond the line of the Missouri river. The march of settlement up the slope of the great plains has begun. In Kansas and Nebraska population is now found beyond the 97th meridian. Texas has filled up even more rapidly, its extreme settlements reaching to the 100th meridian, while the gaps noted at the date of the last census have all been filled by population. The incipient settlements about St. Paul, in Minnesota, have grown like Jonah's gourd, spreading in all directions, and forming a broad band of union with the main body of settlement down the line of the Mississippi river. In Iowa settlements have crept steadily northwestward along the course of the drainage, until the state is nearly covered. Following up the Missouri, population has reached out into the southeastern corner of the present area of Dakota. In Wisconsin the settlements have moved at least one degree farther north, while in the lower peninsula of Michigan they have spread up the lake shores, nearly encircling it on the side next lake Michigan. On the upper peninsula the little settlements which appeared in 1850 in the copper region on Keeweenaw point have extended and increased greatly in density as that mining interest has developed in value. In northern New York there is, apparently, no change in the unsettled area. In northern Maine we note, for the first time, a decided movement toward the settlement of its unoccupied territory, in the extension of the settlements on its eastern and northern border up the St. John river. The unsettled regions in southern Missouri, northeastern Arkansas, and northwestern Mississippi have become sparsely covered by population. Along the Gulf coast there is little or no change. There is to be noted a slight extension of settlement southward in the peninsula of Florida.

The frontier line now measures 5,300 miles, and embraces 1,126,518 square miles, lying between latitude 28° 30' and 47° 30' north, and between longitude 67° and 99° 30' west. From this deduction should be made on account of vacant spaces, amounting to 39,139 square miles, found mainly in New York and along the Gulf coast. The outlying settlements beyond the 100th meridian are now numerous. They include, among others, a strip extending far up the Rio Grande in Texas, embracing 7,475 square miles (a region given over to the raising of sheep), while the Pacific settlements, now comprising one sovereign state, are nearly three times as extensive as at 1850, embracing 99,900 square miles. The total area of settlement in 1860 is thus 1,194,754 square miles; the aggregate population is now 31,443,321, and the average density of settlement 26.3 to the square mile.

### 1870.

During the decade from 1860 to 1870 a number of territorial changes have been effected in the extreme west. Arizona, Colorado, Dakota, Idaho, Montana, Nevada, and Wyoming have been organized as territories. Kansas, Nebraska, and Nevada have been admitted as states. West Virginia has been cut off from the mother commonwealth and made a separate state.

In 1870 we note a gradual and steady extension of the frontier line westward over the great plains. The unsettled areas in Maine, New York, and Florida have not greatly diminished, but in Michigan the extension of the lumber interests northward and inward from the lake shore has reduced considerably the unsettled portion. On the upper peninsula the settlements have increased somewhat, owing to the discovery of the rich iron deposits destined to play so important a part in the manufacturing industry of the country.

Settlement has spread westward to the boundary of the state in southern Minnesota, and up the Big Sioux river in southeastern Dakota. Iowa is entirely reclaimed, excepting a small area of perhaps a thousand square









miles in its northwestern corner. Through Kansas and Nebraska the frontier line has moved steadily westward, following in general the courses of the larger streams and of the newly-constructed railroads. The frontier in Texas has changed but little, that little consisting of a general westward movement. In the Cordilleran region settlements have extended but slowly. Those upon the Pacific coast show little change, either in extent or in density. In short, we see everywhere the effects of the war in the partial stoppage of the progress of development.

The settlements in the west, beyond the frontier line, have arranged themselves mainly in three belts. The most eastern of these is located in central Colorado, New Mexico, and Wyoming, along the eastern base of and among the Rocky mountains. To this region settlement was first attracted in 1859 and 1860 by the discovery of mineral deposits, and has been retained by the richness of the soil and by the abundance of water for irrigation, which have promoted the agricultural industry.

The second belt of settlement is that of Utah, settled in 1847 by the Mormons fleeing from Illinois. This community then differed, and still differs, radically from that of the Rocky mountains, being essentially agricultural, mining having been discountenanced from the first by the church authorities, as tending to fill the "Promised Land" with Gentile adventurers, and thereby imperil Mormon institutions. The settlements of this group, as seen on the map for 1870, extend from southern Idaho southward through central Utah, and along the eastern base of the Wahsatch range into northern Arizona. They consist mainly of scattered hamlets and small towns, about which are grouped the farms of the communities.

The third strip is that in the Pacific states and territories, extending from Washington territory southward to southern California and eastward to the system of "sinks", in western Nevada. This group of population owes its existence to the mining industry, the moving cause in nearly all westward migrations. Originated in 1849 by a "stampede" the like of which the world had never before seen, it has grown by successive impulses as new fields for rapid money-getting have been developed. Latterly, however, the value of this region to the agriculturist has been recognized, and the character of the occupations of the people is undergoing a marked change.

These three great western groups comprise nine-tenths of the population west of the frontier line. The remainder is scattered about in the valleys and the mountains of Montana, Idaho, and Arizona, at military posts, isolated mining camps, and on cattle ranches.

The frontier line in 1870 embraces 1,178,068 square miles, all between  $27^{\circ} 15'$  and  $47^{\circ} 30'$  north latitude, and between  $67^{\circ}$  and  $99^{\circ} 45'$  west longitude. From this, however, deduction is to be made of 37,739 square miles, on account of interior spaces containing no population. To what remains we must add 11,810 square miles on account of settled tracts east of the 100th meridian, lying outside of the frontier line, and 120,100 square miles on account of settlements in the Cordilleran region and on the Pacific coast, making the total area of settlement for 1870 not less than 1,272,239 square miles, the aggregate population being 38,558,371, and the average density of settlement 30.3 to the square mile.

### 1880.

In tracing the history of the settlement of our country we are now brought down to the latest census, that of 1880. During the decade just past Colorado has been added to the sisterhood of states. The first point that strikes us in examining the map showing the areas of settlement at this date, as compared with previous ones, is the great extent of territory which has been brought under occupation during the past ten years. Not only has settlement spread westward over large areas in Dakota, Nebraska, Kansas, and Texas, thus moving the frontier line of the main body of settlement westward many scores of miles, but the isolated settlements of the Cordilleran region and of the Pacific coast show enormous accessions of occupied territory.

The migration of farming population to the northeastern part of Maine has widened the settled area to a marked extent, probably more than has been done during any previous decade. The vacant space in the Adirondack region of northern New York has been lessened in size, and its limits reduced practically to the actual mountain tract. The most notable change, however, in New England and the middle states, including Ohio and Indiana, has been the increase in density of population and the migration to cities, with the consequent increase of the urban population, as indicated by the number and the size of the spots representing these cities upon the map. Throughout the southern states there is to be noted, not only a general increase in the density of population and a decrease of unsettled areas, but a greater approach to uniformity of settlement throughout the whole region. The unsettled area of the peninsula of Florida has decreased decidedly, while the vacant spaces heretofore seen along the upper coast of Florida and Louisiana have entirely disappeared. Although the Appalachian mountain system is still distinctly outlined by its general lighter color on the map, its density of population more nearly approaches that of the country on the east and on the west. In Michigan there is seen a very decided increase of the settled region. Settlements have not only surrounded the head of the lower peninsula, but they leave only a very small body of unsettled country in the interior. In the upper peninsula the copper and the iron interests, and the railroads which subserve them, have peopled quite a large extent of territory. In Wisconsin the unsettled area is rapidly decreasing as railroads stretch their arms out over the vacant tracts. In Minnesota and in eastern Dakota the building of railroads, and the development of the latent capabilities of this region in the cultivation of wheat,

have caused a rapid flow of settlement, and now the frontier line of population, instead of returning to lake Michigan, as it did ten years ago, meets the boundary line of the British possessions west of the 97th meridian. The settlements in Kansas and Nebraska have made great strides over the plains, reaching at several points the boundary of the humid region, so that their westward extension beyond this point is to be governed hereafter by the supply of water in the streams. As a natural result, we see settlements following these streams in long ribbons of population. In Nebraska these narrow belts have reached the western boundary of the state at two points: one upon the South Platte, and the other upon the Republican river. In Kansas, too, the settlements have followed the Kansas river and its branches and the Arkansas nearly to the western boundary of the state. Texas also has made great strides, both in the extension of the frontier line of settlement and in the increase in the density of population, due both to the building of railroads and to the development of the cattle, sheep, and agricultural interests. The heavy population in the prairie portions of the state is explained by the railroads which now traverse them. In Dakota, beside the agricultural region, in the eastern part of the territory, we note the formation of a body of settlement in the Black Hills, in the southwest corner, which, in 1870, was a part of the reservation of the Sioux Indians. This settlement is the result of the discovery of valuable gold deposits. In Montana there appears a great extension of the settled area, which, as it is mainly due to agricultural interests, is found chiefly along the courses of the streams. Mining has, however, played not a small part in this increase in settlement. Idaho, too, shows a decided growth from the same causes. The small settlements which, in 1870, were located about Boise City, and near the mouth of the Clearwater, have now extended their areas to many hundreds of square miles. The settlement in the southeastern corner of the territory is almost purely of Mormons, and has not made a marked increase.

Of all the states and territories of the Cordilleran region Colorado has made the greatest stride during the decade. From a narrow strip of settlement, extending along the immediate base of the Rocky mountains, the belt has increased so that it comprises the whole mountain region, beside a great extension outward upon the plains. This increase is the result of the discovery of very extensive and very rich mineral deposits about Leadville, producing a "stampede" second only to that of '49 and '50 to California. Miners have spread over the whole mountain region, till every range and ridge swarms with them. New Mexico shows but little change, although the recent extension of railroads in the territory and the opening up of mineral resources will, no doubt, in the near future, add largely to its population. Arizona, too, although its extent of settlement has increased somewhat, is but just commencing to enjoy a period of rapid development, owing to the extension of railroads and to the suppression of hostile Indians. Utah presents us with a case dissimilar to any other of the territories—a case of steady, regular growth, due almost entirely to its agricultural capabilities, as was noted above. This is due to the policy of the Mormon church, which has steadily discountenanced mining and speculation in all forms, and has encouraged in every way agricultural pursuits. Nevada shows a slight extension of settlement, due mainly to the gradual increase in the agricultural interest. The mining industry is probably not more flourishing at present in this state than it was ten years ago, and the population dependent upon it is, if anything, less in number. In California, as the attention of the people has become devoted more and more to agricultural pursuits, at the expense of the mining and cattle industries, we note a tendency to a more even distribution of the inhabitants. The population in some of the mining regions has decreased, while over the area of the great valley, and in the fertile valleys of the Coast ranges, it has increased. In Oregon the increase has been mainly in the section east of the Cascade range, a region drained by the Des Chutes and the John Day rivers, and by the smaller tributaries of the Snake, a region which, with the corresponding section in Washington territory, is now coming to the front as a wheat-producing district. In most of the settled portions here spoken of irrigation is not necessary for the cultivation of crops, and consequently the possibilities of the region in the direction of agricultural development are very great. In Washington territory, which in 1870 had been scarcely touched by immigration, we find the valley west of the Cascade mountains tolerably well settled throughout, while the stream of settlement has poured up the Columbia into the valleys of the Walla Walla and the Snake rivers and the great plain of the Columbia, induced thither by the facilities for raising cattle and by the great profits of wheat cultivation.

The length of the frontier line in 1880 is 3,337 miles. The area included between the frontier line, the Atlantic and the Gulf coast, and the northern boundary is 1,398,945 square miles, lying between 26° and 49° north latitude and 67° and 102° west longitude. From this must be deducted, for unsettled areas, as follows:

	Square miles.
Maine .....	12,000
New York .....	2,200
Michigan .....	10,200
Wisconsin .....	10,200
Minnesota .....	34,000
Florida .....	20,800

making a total of 89,400 square miles, leaving 1,309,545 square miles.

To this must be added the isolated areas of settlement in the Cordilleran region and the extent of settlement on the Pacific coast, which amount, in the aggregate, to 260,025 square miles, making a total settled area of 1,569,570 square miles. The population is 50,155,733, and the average density of settlement 32 to the square mile.





## VACANT SPACES ON THE MAP OF POPULATION.

Within the settled portions of the United States are several areas which, for various reasons, have thus far remained unsettled. There are also areas which, though long ago, perhaps early in our history, were occupied by inhabitants, remain sparsely settled, notwithstanding the vast increase of population in the general regions in which they are situated. The former have been enumerated above. It may be instructive to glance at them in detail, in order to discover the reasons why settlement has passed them by.

The northern portion of Maine, comprising 12,000 square miles, or about two-fifths of the area of the state, is practically without settlement. The only inhabitants of this region are the occupants of logging camps, who remain there only in the winter, and a handful of enterprising summer tourists. The country is a dense forest, mainly level, but diversified here and there by hills, which in a few instances rise to the dignity of mountains. It is traversed by numerous small streams, strung upon which are many lakes and lakelets, the whole forming a most complicated system of water communication, navigable, however, only by canoes, owing to numerous falls and rapids.

The climate is severe, and this, added to the poverty of the soil and the labor involved in clearing it for agriculture, has prevented its occupation while rich farming lands can be obtained for the asking in the west. Another, and slightly more remote, cause has operated, to a considerable extent, in preventing the spread of settlement in this state. This is the decline in ship-building, especially of wooden vessels—business in which this state was largely interested. This has not only checked the general prosperity of the state, but has injured the lumber business greatly. During recent years there has been a slight movement into this region. A line of settlement has extended up the eastern border of the state, and this is now spreading very gradually westward. It is safe to predict, however, that not until all that part of the prairie country which lies east of the limit of the arid region shall have been settled will population move decidedly toward this section.

A second section which has thus far defied settlement is the Adirondack region. This presents very serious obstacles to settlement—so serious that the central portion of it remains to-day without inhabitants. It consists of a group of mountains, standing in short, parallel ranges or ridges, trending, in general, northeast and southwest. These mountains rise to heights of 4,000 to 5,000 feet, a few peaks exceeding the latter figures. The valleys are all at a considerable elevation. On the east the mountains descend abruptly to lakes George and Champlain; on the west, they fall off into a sort of plateau, extending toward the St. Lawrence and lake Ontario. On the north and south the ridges fall off gradually to the lower country. The whole region is densely covered with forests. It is watered by numerous mountain torrents, while the valleys and the plateau on the west are dotted with numberless lakes and ponds. The elevation and the consequently severe climate of the valleys, and the country immediately adjacent, are such as to discourage, if not to preclude, agriculture.

Elsewhere in the Appalachian region there are no unsettled areas of sufficient magnitude to be represented on our map, although in many localities the population is very sparse. In Pennsylvania the narrow ridges of this system are covered with coal and iron miners; in Virginia the grain-fields extend to and over their summits; in North Carolina and Tennessee the high mountains are without settlements, owing to their rugged character and their great elevation. But these areas, although large in the aggregate, are severally very small.

In northern Michigan and Wisconsin the case is not dissimilar to that of northern Maine. These are regions of heavy forest, lying far to the north, under a severe climate. Settlement has, to a certain extent, passed them by, following westward the belt of open, fertile prairie. But, on the other hand, immigration to these states is still going on; the lumber business, which is here the pioneer of settlement, is being actively prosecuted, and every year settlement is closing in upon these vacant spaces, and their area is constantly and rapidly diminishing.

The unsettled portion of Minnesota is under conditions somewhat similar. With the exception of the western part of the Red River valley, the prairie portion of the state is now occupied, and settlements have encroached to a considerable extent upon the region of forests. The northern part of this unsettled region, unlike Wisconsin and Michigan, is not occupied by forests, but is covered with a scrubby growth of hackmatack and other brush. A large proportion of the surface is occupied by lakes and swamps.

Another region of sparse settlement is found in southern Georgia, including the Okefenokee swamp, and extending thence northward. With the exception of the swamp, this section is covered with dense forests of southern pine, growing on a light, sandy soil, forming the well-known pine barrens. Of this swamp Professor R. H. Loughridge, formerly of Georgia, gives the following description:

The swamp lies almost wholly in Georgia, and is about 40 miles north and south by 30 east and west. Its area has been roughly estimated at 500,000 acres. Its elevation is 115 feet above tide, a low region bordering it on the east, from which there is a rapid descent eastward to the head of tide-water on St. Mary's river. The eastern part of this area is mostly an open lake, dotted with small floating islands, and the surface of the water is underlaid by a dense *moss-muck*, so dense as to bear up a man's weight. The lake portion is 12 miles in width; the western part is marshy and mostly covered with a dense undergrowth, matted together with briers, making an impenetrable thicket. There are several large islands here, three or four miles in length by one or two in breadth, covered with tall long-leaf pine and small palmetto. On the west there is a long strip of mainland, extending northward into the swamp, known as "The Pocket". On the north and northeast sides of the swamp several streams enter it, while the outlet is on the west by the Suwannee river.



A large proportion of the area of the peninsula of Florida is practically without settlement. This appears to be due in part to the direction of the general movement of population, which has been westward from Georgia and the Carolinas; in part to the want of good harbors, and other inducements to settle upon the coast, and thus to create starting points for the settlement of the interior; but also, and very largely, to the fact that a considerable portion of the area is swampy and difficult of access, and, consequently, remote from markets.

The peninsula is underlaid mainly by a limestone formation, geologically very recent. Its surface consists largely of hummocks and ridges, alternating with belts and patches of swamp and myriads of swampy lakes. The Everglades, which occupy an immense area in the southern portion of the peninsula, seem to be a culmination of the general characteristics of the peninsula, and the following description of them, from the pen of Professor E. A. Smith, illustrates the extreme of these characteristics:

The Everglades, which form so singular and unique a feature of Florida, may be described, in general terms, as consisting of a shallow lake of vast extent, occupying a basin or depression in the limestone of the country. From surveys recently made, it is known that the whole bed of the Everglades has considerable elevation above the sea, so that the draining of this area is merely a question of time and expense. All the streams which flow from the Everglades are interrupted by falls or rapids. The Caloosahatchee is navigable by steamers to within ten miles of Lake Okeechobee, where the rapids begin.

The water over the Everglades varies in depth from six inches to as many feet, and teems with aquatic and semi-aquatic grasses and other plants. From this maze of water and vegetation rise innumerable islands, containing from one acre to one hundred acres of land. These islands are covered with a growth of cypress, sweet bay, crab wood, mastic, cocoa palms, cabbage palmetto, and live and water oaks, beneath which bloom flowers in almost endless variety. Notwithstanding the shallowness of the water in the Everglades, and the profuseness of the vegetation growing in it, it is comparatively pure and clear, and abounds in fish, turtles, and alligators. Bears, panthers, wild-cats, and deer inhabit the islands.

Lake Okeechobee is about 50 miles long from northwest to southeast, and about 20 miles broad, and from 8 to 20 feet deep. Its northeastern and eastern shores are skirted with a low hummock of red-bay, live oak, water oak, and other timber; its western and southwestern shore with a dense growth of saw-grass.

The lake has no visible outlet, except as its waters soak through the Everglades, and the lands around the lake can never be made available till the waters are lowered by artificial canals.

The following tables summarize the above facts regarding the frontier line and the extent of the settled areas:

TABLE I.

Date.	Extent of frontier.		Extent of continuous settlement.	
	Returning to the Atlantic.	Resting on the Gulf of Mexico.	North latitude.	West longitude.
	<i>Lin. miles.</i>	<i>Lin. miles.</i>		
1790.....	3,200	.....	31° — 45°	07° — 83°
1800.....	2,800	.....	30° 45' — 45° 15'	07° — 88°
1810.....	2,900	.....	29° 30' — 45° 15'	07° — 88° 30'
1820.....	.....	4,100	29° 30' — 45° 30'	07° — 03° 45'
1830.....	.....	5,800	29° 15' — 46° 15'	07° — 05°
1840.....	.....	3,300	29° — 46° 30'	07° — 05° 30'
1850.....	.....	4,500	28° 30' — 46° 30'	07° — 00°
1860.....	.....	5,300	28° 30' — 47° 30'	07° — 00° 30'
1870.....	.....	5,700	27° 15' — 47° 30'	07° — 00° 45'
1880.....	.....	3,337	26° — 40°	07° — 102°

TABLE II.

Date.	Area in square miles.				Population.	Average density of settlement (persons to a square mile).
	Area embraced within the frontier.	Vacant tracts within the frontier.	Settled tracts without frontier.	Total area of settlement.		
1790.....	220,085	.....	13,850	230,935	3,929,214	16.4
1800.....	282,208	10,300	33,800	305,708	5,308,483	17.4
1810.....	408,893	26,050	25,100	407,045	7,239,881	17.7
1820.....	502,591	58,074	4,200	508,717	9,693,822	18.9
1830.....	723,406	97,389	4,700	632,717	12,866,020	20.3
1840.....	900,658	95,516	2,150	807,292	17,069,453	21.1
1850.....	1,005,213	64,339	38,375	979,249	23,191,876	23.7
1860.....	1,126,518	39,139	107,375	1,194,754	31,443,321	26.3
1870.....	1,178,008	37,739	131,910	1,272,239	38,558,371	30.3
1880.....	1,308,945	89,400	260,025	1,509,570	50,155,783	32.0

Owing to the great extension of the lower grade of settlement during the last decade, the average density of the population in the settled area has increased but very little, in spite of the great increase of population.

Having thus gone through the successive census years, tracing the course of the outside line of population and estimating the settled area inclosed between this line and the ocean, let us now go back to 1790, and follow out the movement of population along the several degrees of latitude, to note the relative rapidity and steadiness of advance within each belt of territory. Owing to the difficulty of locating with precision the numerous small patches of population in the Pacific states and territories, these computations are restricted to the country east of the 100th meridian.

Before the results of such computations can be satisfactorily stated, an explanation must be given of the method followed.

First. The successive parallels are taken as the central lines of zones half a degree wide; and where any parallel passes through vacant spaces, any body of population lying within a quarter degree, upon either side thereof, is referred thereto, after being reduced to the width of half a degree in latitude. Where a solid body of population lies close up against a parallel on one side, however, no reduction is made on account of the absence of population on the other side. The only important exception to the rule is in the case of the 34th parallel, where, after crossing the 94th meridian, it runs through the southern portion of the Indian territory, shortly above the northern line of Texas. As the absence of population as known to the census (Indians in tribal relations not being recognized by the census law) from the line of this parallel in this part of its course is the result of express exclusion by treaty stipulations the population just below is not referred to it.

Second. The starting point on the coast is taken, not from the extreme end of any cape or promontory upon which the parallel may chance to emerge from the Atlantic, but from the average projection of the coast-line in the general neighborhood of the parallel. In the case of Long Island, the eastern half was taken to fill up the western end of the sound, and the 41st parallel was assumed, for the purposes of these computations, to begin with 73° west longitude.

Third. The northern lakes and all considerable bays were jumped, as also the British possessions when crossed by the parallels under measurement.

Fourth. All spaces vacant of population were skipped, the same rule being adopted for measuring and referring to parallels spaces which are not directly upon any parallel, as in the case of the populated areas lying above or below a parallel when passing through vacant spaces.

The measurements as to all extensive bodies of continuous settlement have been made with as much exactness as the scale of the map would allow. Where, however, only one or two small parcels of population appear upon any parallel, as on the 31st for 1790 and for 1800, the 28th at 1840, the 27th at 1860 and in 1870, and the 26th and 27th and 48th and 49th in 1880, these have been taken roundly, as it is not possible to determine with precision the periphery of such isolated settlements. The measurements, therefore, have a far higher relative accuracy for the more central parallels than for those at the extreme north or south.

The result of the application of these rules to our measurements is to give the populated areas along each parallel either in one continuous body or in several groups, as population is broken by foreign territory, by lakes or bays, or by large vacant spaces. Consolidating all such, however, and reducing all the populated spaces on each parallel to a continuous line, we have the following as the area of settlement along the successive parallels at each census from 1790 to 1880:

TABLE III.

Degree of north latitude.	1790.	1800.	1810.	1820.	1830.	1840.	1850.	1860.	1870.	1880.
49.....										37
48.....										56
47.....	0	0	0	0	0	0	79	131	209	291
46.....	0	0	0	0	15	20	50	125	230	385
45.....	30	317	392	392	392	421	437	521	858	940
44.....	226	252	279	270	299	308	404	731	777	874
43.....	339	355	425	425	485	792	816	1,001	1,137	1,156
42.....	234	375	568	581	691	903	984	1,143	1,248	1,316
41.....	238	396	471	548	663	1,013	1,107	1,277	1,325	1,375
40.....	358	371	584	613	912	1,134	1,140	1,220	1,252	1,376
39.....	270	456	565	888	1,038	1,043	1,043	1,108	1,224	1,397
38.....	425	560	707	831	871	1,020	1,032	1,141	1,193	1,278
37.....	344	606	700	746	797	902	1,018	1,018	1,134	1,260
36.....	462	533	682	751	878	1,034	1,057	1,057	1,057	1,057
35.....	384	395	391	575	961	976	1,030	1,030	1,030	1,030
34.....	302	327	362	616	707	916	938	928	938	938
33.....	175	192	230	328	554	815	989	1,105	1,055	1,156
32.....	30	114	227	507	742	763	929	1,023	1,008	1,100
31.....	10	25	240	337	634	678	860	983	901	1,053
30.....	0	0	150	180	323	373	725	785	785	709
29.....	0	0	0	0	0	30	255	372	372	414
28.....	0	0	0	0	0	20	80	102	110	188
27.....	0	0	0	0	0	0	0	25	25	47
26.....	0	0	0	0	0	0	0	65	65	65

In all this discussion regarding the population and the area of the United States Alaska is intentionally omitted. The white population of the territory is very small. It is not, as yet, constituted even a territory of the United States, and its area remains a matter of conjecture. The population and the resources of this latest addition to our domain are now the subject of a special investigation by the Census Office.

#### THE SETTLED AREA IN 1880.

In the following tables are presented the results of computations relating to the density of the rural, as distinguished from the urban, population at the census of 1880, in comparison with the corresponding results of previous enumerations. In this discussion it is to be understood that all cities of 8,000 or more inhabitants are taken out of consideration, and, as explained previously, in connection with the density maps, the deduction of the population of cities sometimes brings the county into a lower population group than at the preceding census, notwithstanding the actual increase of population in both rural and urban parts. Thus we may suppose a county, with an area of 400 square miles, to have had in 1870 a population of 20,000, its county town 6,500 inhabitants. The county would therefore, if treated as a whole, fall into group 4; that is, the group having a density 45 to 90 to the square mile. In 1880, however, we will suppose the population to have increased to 24,000, of which 8,500 are now found in the county town, which thereupon becomes a city within our definition, and is therefore excluded from the mass of population. The county then sinks into class 3; that is, the group having between 18 and 45 inhabitants to the square mile. Such cases are, of course, few in number. The lowest grade of settlement taken for this discussion is that which contains a population of 2 to the square mile. All the region outside this line may be regarded as practically unsettled territory, peopled, if at all, by a few scattering graziers, wandering prospectors, lumbermen, or hunters.

Upon the definition thus taken the settled area of 1880 is mainly comprised in one large body, stretching from the northern to the southern limits of the country, and from the Atlantic coast westward to the plains. In this body is comprised 95 per cent. of the total population of the country, the remainder being in detached bodies of comparatively small size, the most considerable being on the Pacific slope, in Oregon and California.

Within the great settled area in the eastern half of the country there are, on the other hand, several regions, already fully described, which are practically unsettled; such, for instance, as the northern part of Maine and the Adirondack region in northern New York, the southern extremity of Florida, and northern Michigan, Wisconsin, and Minnesota.

For purposes of discussion this region may be divided, according to density of population, into five classes, corresponding to those upon the general density maps. These are as follows:

1. A population of from 2 to 6 to a square mile.
2. From 6 to 18 to a square mile.
3. From 18 to 45 to a square mile.
4. From 45 to 90 to a square mile.
5. 90 or more to a square mile.

Of these groups of population of different density, as they may be called, the first three indicate a predominantly agricultural condition. Speaking broadly, agriculture in the United States is not carried to such a point as to afford employment and support to a population in excess of 45 to a square mile; and, consequently, the fourth and fifth groups do not appear with us, except as trade and manufactures arise and the classes rendering personal and professional services are multiplied.

Of the agricultural groups, the first represents a very sparse population, such as in our western country might be sustained by the grazing industry, without any cultivation of the soil; and accordingly we find this group at the present time mainly along the frontier, in Florida, Minnesota, Nebraska, Kansas, Texas, California, Colorado, Oregon, Nevada, and the territories. The poorest tillage regions also sink into this group, and hence we find not inconsiderable portions of some of the older states in this class. In 1790, however, No. 1 was the largest single group in what is now Maine, in New York, Pennsylvania, South Carolina, and in what is now the state of West Virginia.

The second group—6 to 18 inhabitants to the square mile—indicates almost universally the existence of defined farms or plantations and the systematic cultivation of the ground, but this either in an early stage of settlement or upon more or less rugged soil. Thus we find this group still large in many of the western and southwestern states and in the mountainous regions of the Atlantic slope. In 1790, however, this group far exceeded in area Nos. 3, 4, and 5 combined.

The third group—18 to 45 to the square mile—almost universally indicates a highly successful agriculture. Here and there the presence of petty mechanical industries raises a difficult farming or planting region into this group, but in general, where manufactures exist at all they induce a population of 45 or more to the square mile.

We should therefore expect to find, as is the case, No. 3 the predominant group in Alabama, Delaware, Georgia,

Illinois, Iowa, Kentucky, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Virginia, and Wisconsin. Of the New England states, Maine, New Hampshire, and Vermont also have large tracts in this degree of settlement. In 1790 No. 3 was the largest single group in Delaware, Maryland, Massachusetts, New Hampshire, New Jersey, and Virginia (exclusive of West Virginia).

The fourth group almost universally indicates the existence of commercial and manufacturing industry and the multiplication of personal and professional services. Connecticut, Indiana, Maryland, Massachusetts, Michigan, New York, Ohio, and Pennsylvania are the states in which this group is found in excess of any other. In none of these states was this group in excess in 1790. Three of them, Michigan, Ohio, and Indiana, can scarcely be said to have been settled at all (Marietta, Ohio, having been founded in 1788, while in Indiana there were but two or three small settlements, the remains of French occupation). In New York and Pennsylvania, at that date, group 1 was predominant.

The fifth group represents a very advanced condition of industry. At the First Census only a few counties, and even at the Tenth Census less than 25,000 square miles, were found populated to this extent. In New Jersey and in Rhode Island alone is this found in excess of every other group. In each of these it is also in excess of the sum of all other groups. This degree of settlement is only reached where manufacturing and trading villages are numerous.

Having thus sought to give a general, but necessarily somewhat vague, impression of the meaning of these groups of population, the following tables are presented with a view of illustrating the present status of our population in regard to extent and density of settlement:

TABLE IV.—AREAS IN SQUARE MILES OF THE DIFFERENT CLASSES OF SETTLEMENT.

Date.	Total area of settlement; 2 or more to the square mile.	1	2	3	4	5
		2 to 6 to the square mile.	6 to 18 to the square mile.	18 to 45 to the square mile.	45 to 90 to the square mile.	90 and over to the square mile.
1790.....	239,935	83,436	83,340	59,282	13,051	820
1800.....	305,708	81,010	123,267	82,534	17,734	1,193
1810.....	407,945	116,629	154,419	108,155	27,499	1,243
1820.....	508,717	140,827	177,153	150,390	39,004	1,343
1830.....	632,717	151,460	225,894	186,503	65,446	3,414
1840.....	807,292	183,607	291,819	241,587	84,451	5,828
1850.....	979,249	233,997	294,098	338,796	100,794	11,264
1860.....	1,194,754	260,866	353,341	431,601	134,722	14,224
1870.....	1,272,239	245,897	363,475	470,529	174,036	18,302
1880.....	1,569,570	384,820	373,890	554,300	232,010	24,550

It will be noted that, notwithstanding the constant passing of the lower groups into the higher through the intensification of settlement, the lower groups are still so rapidly recruited by the annexation of fresh territory, in the westward extension of the frontier line, as not only to maintain, but to increase them from decade to decade, without an exception, except that in 1870 a slight falling off is observed in No. 1. It should also be noted that in the decade previous the increase of No. 2 was comparatively slight. In the decade 1870 to 1880 a large increase will be noted, more than sufficient to raise the average of the last two decades to the normal increase. This is probably due in great part to the immense emigration of the past three years from the eastern states and the immigration from European countries. During these years the inroads upon the public domain in the west have been unprecedented in extent. In No. 2 the increase has been very slight, as it has been for several decades. In No. 3 it has been comparatively large, while in 4 and 5 it has been larger than ever before.

The following table gives the percentages of increase during the past decade:

TABLE V.—PERCENTAGE OF INCREASE, 1870 TO 1880, IN THE TOTAL SETTLED AREA AND IN THE DIFFERENT DENSITY GROUPS.

	Per cent. of increase.		Per cent. of increase.
Total settled area.....	23.4	Group 3.....	17.8
Group 1.....	56.5	Group 4.....	33.3
Group 2.....	2.9	Group 5.....	34.1

The following table exhibits the proportions existing between the several quantities in Table IV, *i. e.*, the increase per cent. in the total area of settlement, from decade to decade, and the number of square miles in each 1,000 settled at each census, occupied by a population of each specified degree of density:

TABLE VI.—PROPORTION OF AREA OF EACH GROUP OF POPULATION TO TOTAL AREA OF SETTLEMENT.

Date.	Increase per cent. in total area of settlement.	Total.	1	2	3	4	5
1790.....	.....	1,000	348	348	247	54	3
1800.....	27.4	1,000	265	408	270	58	4
1810.....	33.4	1,000	286	379	265	67	3
1820.....	24.7	1,000	277	348	290	70	3
1830.....	24.4	1,000	230	357	295	103	6
1840.....	27.6	1,000	228	361	299	105	7
1850.....	21.3	1,000	239	301	346	103	11
1860.....	22.0	1,000	218	296	361	113	12
1870.....	6.5	1,000	193	286	370	137	14
1880.....	23.3	1,000	245	238	353	148	16

We find here a relative decrease, during the decade 1870 to 1880, in Nos. 2 and 3, an increase in Nos. 1 and 4, and no change in No. 5. In other words, an increase in the sparsely-settled regions and in the area of manufactures and trade, at the expense of the agricultural regions, and especially of the poorer ones.

But we may carry this analysis yet further, with results still more instructive. The states and territories group themselves naturally, in order and condition of settlement, as follows:

1. The original thirteen states, with those formed from them, Maine, Vermont, and West Virginia.

2. Kentucky, Tennessee, Ohio, Indiana, Illinois, Michigan, Missouri, Arkansas, Louisiana, Mississippi, Alabama, and Florida.

3. The remaining states and territories. The following three tables, numbered VII, VIII, and IX, show facts similar to those in Table IV for each of these groups:

TABLE VII.—AREAS, IN SQUARE MILES, OF THE DIFFERENT CLASSES OF SETTLEMENT—FIRST GROUP OF STATES.

Date.	Total area of settlement.	1	2	3	4	5
1790.....	224,685	72,386	79,146	59,282	13,031	820
1800.....	266,208	63,260	105,017	79,504	17,234	1,193
1810.....	297,668	56,979	115,462	97,385	26,599	1,243
1820.....	312,173	48,000	110,146	115,540	36,454	1,343
1830.....	348,902	45,245	115,255	130,642	54,346	3,414
1840.....	353,137	33,340	112,865	140,753	66,351	5,828
1850.....	359,092	28,213	89,941	164,050	66,224	11,204
1860.....	361,141	20,060	74,392	178,483	73,982	14,224
1870.....	353,546	17,000	66,449	177,723	79,072	18,302
1880.....	361,965	12,500	60,900	166,455	101,370	20,740

TABLE VIII.—AREAS, IN SQUARE MILES, OF THE DIFFERENT CLASSES OF SETTLEMENT—SECOND GROUP OF STATES.

Date.	Total area of settlement.	1	2	3	4	5
1790.....	15,250	11,050	4,200	.....	.....	.....
1800.....	39,500	17,750	18,250	3,000	500	.....
1810.....	110,277	59,650	38,957	10,770	900	.....
1820.....	196,144	91,737	67,007	34,850	2,550	.....
1830.....	282,815	105,215	110,630	55,861	11,100	.....
1840.....	438,355	138,467	174,954	100,894	24,100	.....
1850.....	493,757	114,459	184,007	160,046	34,045	.....
1860.....	519,957	62,450	182,689	220,698	54,120	.....
1870.....	527,627	48,637	167,576	228,450	82,964	.....
1880.....	560,170	56,030	131,065	247,365	122,350	3,860

# THE SETTLED AREA IN 1880.

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TABLE IX.—AREAS, IN SQUARE MILES, OF THE DIFFERENT CLASSES OF SETTLEMENT—THIRD GROUP OF STATES.

Date.	Total area of settlement.	1	2	3	4	5
1840.....	15,800	11,800	4,000			
1850.....	125,800	91,025	20,150	14,100	525	
1860.....	313,656	178,356	96,200	32,420	6,020	
1870.....	386,060	180,260	129,450	64,356	12,000	
1880.....	647,435	316,290	181,925	140,480	8,290	450

Examination of these tables will show that the relations of the groups to the several epochs of our national development have essentially changed from what appeared in Table IV.

In the first group of states the increase in settled area was marked at each decade up to 1830. From that time down to 1860 the increase was little more than nominal, the tracts desirable for settlement having, it may be presumed, been substantially all taken up. But while the increase in the total area of settlement went on until 1830, group 1 did not increase at all, the higher groups not only absorbing all the current growth of settlement, but steadily encroaching upon No. 1, which has been reduced from 72,386 square miles in 1790 to 12,500 in 1880, which is comprised in Maine, New Hampshire, and Georgia. The increase in group 2 stopped in 1810, when it reached its maximum at 115,462 square miles. It has since declined to 60,900 square miles, comprised, in large part, in Georgia, North Carolina, and West Virginia. In group 3 the increase went on uninterruptedly until 1860, since which time there has been a slight falling off. In groups 4 and 5 the increase has gone on uninterruptedly to the present time.

In the second group of states the total area of settlement has continued to increase without interruption to the present date. Group 1 increased until 1840, but lost heavily until 1870, its area having fallen off from 138,467 to 48,637 square miles. Since 1870 it has increased again, owing mainly to the spread of settlements in Michigan and in Florida. Group 2 increased until 1850, since which time it has decreased. Groups 3 and 4 have increased steadily since their appearance in 1800, and in the recent census group 5 puts in an appearance for the first time, with an area of 3,360 square miles, comprised in the states of Ohio, Illinois, and Kentucky.

In the third group of states there were no settlements of any note prior to 1840. Since that time the increase in the total area of settlement and in the several groups has gone on uninterruptedly, with but one exception. In group 4 there is a falling off from 12,000 to 8,290 between 1870 and 1880. This is due merely to the subtraction of urban population, cities lying within this area having reached and exceeded the arbitrary limit assumed for urban population.

The following table presents in detailed form, by states, the data relating to areas of settlement in 1880:

TABLE X.—AREAS, IN SQUARE MILES, OF THE DIFFERENT CLASSES OF SETTLEMENT IN 1880, BY STATES.

States and territories.	Total area of settlement.	1	2	3	4	5
		2 to 6 to the square mile.	6 to 18 to the square mile.	18 to 45 to the square mile.	45 to 90 to the square mile.	Above 90 to the square mile.
Total.....	1,569,570	384,820	373,890	554,300	232,010	24,550
Alabama.....	51,540	4,000	14,200	29,040	4,300	
Arizona.....	7,320	7,320				
Arkansas.....	53,045	900	37,645	14,500		
California.....	75,980	47,700	22,400	5,880		
Colorado.....	39,245	34,000	4,600	645		
Connecticut.....	4,845				4,065	780
Dakota.....	20,400	14,200	6,200			
Delaware.....	1,960			1,050	910	
District of Columbia.....	65					65
Florida.....	33,440	22,440	9,000	2,000		
Georgia.....	58,980	5,200	18,000	29,180	6,600	
Idaho.....	12,500	12,500				
Illinois.....	56,000			41,800	13,500	700
Indiana.....	35,910			11,100	24,810	
Iowa.....	55,475	2,275	11,200	40,900	1,100	
Kansas.....	62,995	13,830	26,545	22,330	290	
Kentucky.....	40,000		4,300	24,100	11,000	600
Louisiana.....	45,420	10,650	20,820	13,000	950	
Maine.....	17,895	6,000	3,500	5,600	2,795	
Maryland.....	9,860			3,000	6,860	



TABLE X.—AREAS, IN SQUARE MILES, &amp;c.—Continued.

States and territories.	Total area of settlement.	1	2	3	4	5
		2 to 6 to the square mile.	6 to 18 to the square mile.	18 to 45 to the square mile.	45 to 90 to the square mile.	Above 90 to the square mile.
Massachusetts.....	8,040			300	4,840	2,900
Michigan.....	47,230	9,800	8,200	12,000	10,630	
Minnesota.....	45,205	12,600	10,000	13,005		
Mississippi.....	46,340	0,500	10,400	27,240	2,200	
Missouri.....	68,735	1,740	19,500	40,335	1,100	
Montana.....	8,900	8,900				
Nebraska.....	38,185	13,385	10,000	8,800		
Nevada.....	11,740	11,500		240		
New Hampshire.....	8,705	1,300	1,400	4,700	1,230	75
New Jersey.....	7,455			1,050	2,440	3,065
New Mexico.....	32,100	24,000	7,500			
New York.....	45,420		3,800	6,200	33,000	2,420
North Carolina.....	48,580		0,500	34,380	4,700	
Ohio.....	40,700			1,100	37,600	2,000
Oregon.....	24,500	20,000	4,500			
Pennsylvania.....	45,000		3,500	10,750	20,000	10,750
Rhode Island.....	1,085				400	685
South Carolina.....	30,170		2,000	25,870	2,300	
Tennessee.....	41,750		7,000	24,550	10,200	
Texas.....	124,900	48,200	48,400	28,300		
Utah.....	10,340	11,200	4,300	780		
Vermont.....	9,135			2,000	5,950	585
Virginia.....	40,125		4,100	20,025	7,000	
Washington.....	20,880	20,580	300			
West Virginia.....	24,045		12,500	8,500	3,645	
Wisconsin.....	44,250	7,100	10,800	19,000	6,900	450
Wyoming.....	0,400	6,400				

The following table shows the population and the number of inhabitants per square mile in each of the three subdivisions treated above at the date of each census:

TABLE XI.

Date.	First group.		Second group.		Third group.	
	Population.	Average density (persons to a square mile).	Population.	Average density (persons to a square mile).	Population.	Average density (persons to a square mile).
1790.....	3,819,846	17.0	100,368	7.2		
1800.....	4,922,070	18.5	380,413	9.8		
1810.....	6,161,506	20.6	1,078,315	9.8		
1820.....	7,417,432	23.8	2,216,390	11.3		
1830.....	9,158,721	26.3	3,707,299	13.1		
1840.....	10,638,004	30.1	6,357,392	14.5	74,057	4.7
1850.....	13,218,496	36.7	9,078,288	18.4	895,092	7.1
1860.....	15,818,547	43.8	12,637,882	24.3	2,980,802	9.5
1870.....	17,964,592	50.1	15,594,721	29.5	4,909,058	12.9
1880.....	21,835,111	60.3	19,656,066	35.1	8,664,006	13.4

## CITIES.

In the preceding discussion of the settled area of the country it will be remembered that all cities of 8,000 inhabitants and upward were excluded in treating of the population groups. It remains, therefore, to speak of the urban population, in its progress from 1790 to 1880. In this discussion we shall not only include cities down to 8,000 population, which have been classified for this census, in order to make a comparative statement with the condition of things in previous years, but in separate tables the classification of urban population for 1880 will be carried down to bodies of 4,000, in order to discriminate more closely between urban and rural population.

We meet, however, at the outset of this discussion with several difficulties. For instance: What constitutes a city? In most of the states there is no doubt whatever on this point. All dense bodies of population, of any

considerable magnitude, have municipal charters. The entire population of every city is urban; consequently, the line can be sharply drawn. In several of the older states, however, we find dense bodies of population combined with outlying rural settlements under one government. This is the case in several of the townships in the neighborhood of Chicago, Illinois, and around other centers in the prairie states, and in New York, New Jersey, and Pennsylvania. It is in the New England states, however, that we meet with the greatest difficulty, for here the case above-mentioned is the rule and not the exception. In Massachusetts a so-called "town", which is to all intents and purposes a township, may comprise a population of 10,000 or 15,000, or even more, and consist of one or more dense bodies of population, with a scattering rural population also included under the town government. In all the New England states but Connecticut a city is similar to the so-called "town" in relation to population, except that generally the proportion between urban and rural population is greater and the form of government slightly different, a mayor, board of aldermen, and common council taking the place of the board of selectmen. In cases of this kind discretion has been exercised, and after what seemed a reasonable deduction for the rural parts of the town or township, the remainder has been treated as city population. Again, at several natural centers there are, or in the past have been, groups of cities, one of which is commonly much larger than any other, perhaps than all the others, all of which, while legally distinct, might be regarded as constituting a true unit of residence and of industry. Shall these be taken separately in our account or aggregated, in disregard of merely political divisions? It is more difficult to decide this question, in undertaking an historical review like ours, than if we were making up an independent statement for a single period, inasmuch as these relations frequently change—two, three, or four cities at one census appearing ten years later as one, the growth of city population diminishing the number of cities. Philadelphia affords the most striking instance of this character. Nor is it always clear what is to be regarded as the unit of residence and industry. While it is generally true that the small cities which surround a great one owe their importance, and even existence, to it, and therefore that in annexing them it is simply claiming its own, there are instances of cities being closely coterminous, yet each having a clear *raison d'être* of its own; while in more than one case the limits of the modern city embrace the sites of at least two distinct centers of population and trade. The question is quite too large to be discussed here. These points are mentioned merely to show that no plan of treatment is without its own difficulties. For several reasons it has been decided to follow the record, and at each census to count that as a distinct city which was so recognized at the time. It will need to be borne in mind, therefore, that while the determination of new centers of residence and industry in the unceasing growth of population has constantly tended to increase the number of cities known to the census, there has been a movement, far less considerable and very irregular, in the other direction, viz, to a reduction of the number of cities through annexation and consolidation. The following table exhibits the number of cities of 8,000 or more inhabitants at each census of the United States:

TABLE XII.—NUMBER OF CITIES, CLASSIFIED ACCORDING TO SIZE.

Date.	8,000 to 12,000.	12,000 to 20,000.	20,000 to 40,000.	40,000 to 75,000.	75,000 to 125,000.	125,000 to 250,000.	250,000 to 500,000.	500,000 to 1,000,000.	1,000,000 and above.	Total.
1790.....	1	3	1	1	.....	.....	.....	.....	.....	6
1800.....	1	.....	3	2	.....	.....	.....	.....	.....	6
1810.....	4	2	3	.....	2	.....	.....	.....	.....	11
1820.....	3	4	2	2	2	.....	.....	.....	.....	13
1830.....	12	7	3	1	1	2	.....	.....	.....	26
1840.....	17	11	10	1	3	1	1	.....	.....	44
1850.....	36	20	14	7	3	3	1	1	.....	85
1860.....	62	34	23	12	2	5	1	2	.....	141
1870.....	92	63	39	14	8	3	5	2	.....	226
1880.....	110	70	55	21	9	7	4	3	1	286

The following table shows the number of the urban population, as above defined, at each census, with the percentage of the total population:

TABLE XIII.

Date.	Population of United States.	Population of cities.	Inhabitants of cities in each 100 of the total population.
1790.....	3,929,214	131,472	3.3
1800.....	5,308,488	210,873	3.9
1810.....	7,239,881	356,020	4.9
1820.....	9,633,822	475,135	4.9
1830.....	12,866,020	804,509	6.7
1840.....	17,060,453	1,453,994	8.5
1850.....	23,191,876	2,897,580	12.5
1860.....	31,443,321	5,072,256	16.1
1870.....	38,558,371	8,071,875	20.9
1880.....	50,155,783	11,318,547	22.6

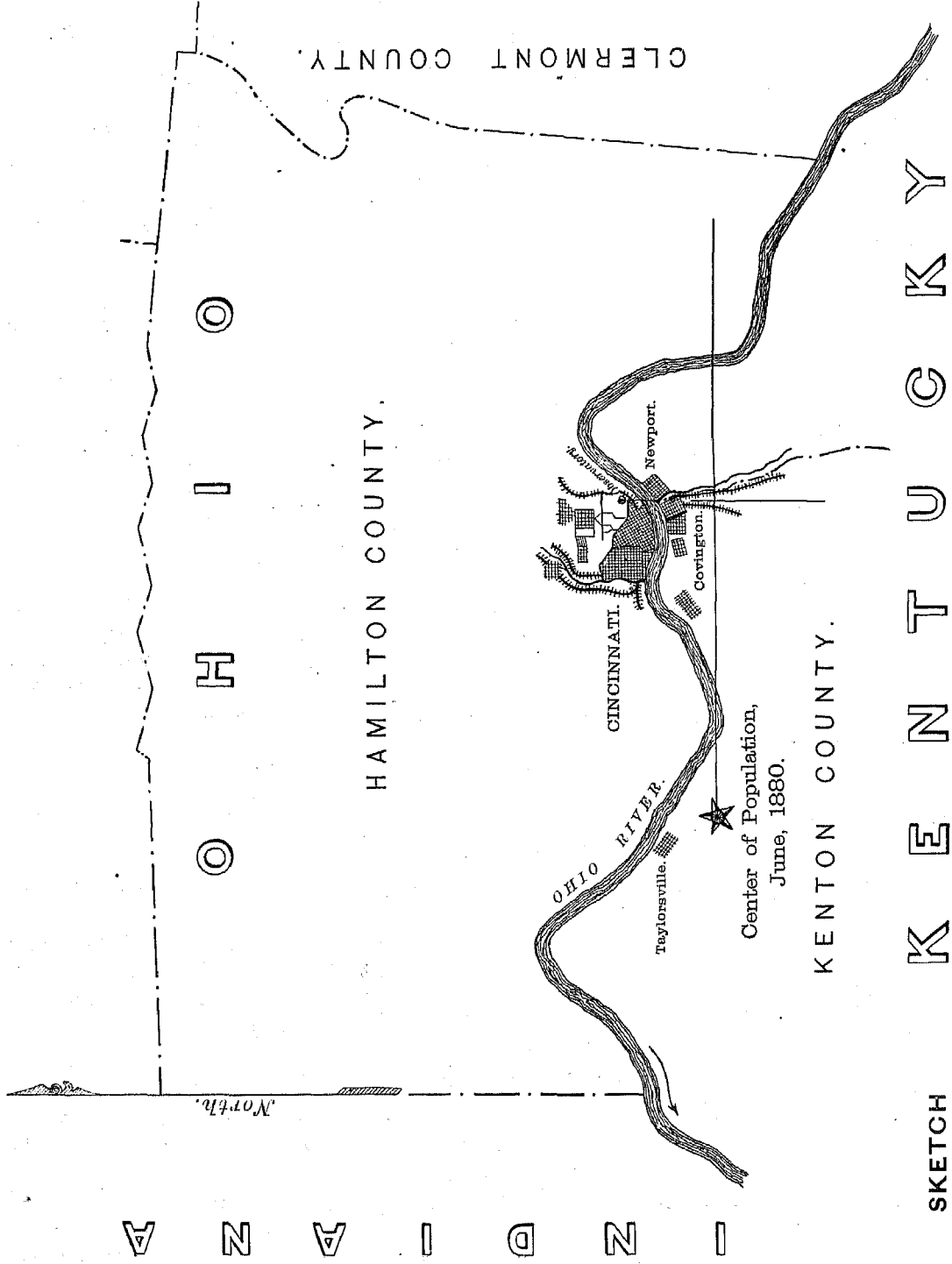
Speaking roundly, it may be said that in 1790 one-thirtieth of the population was found in cities of more than 8,000 population; in 1800, one twenty-fifth; in 1810, and also in 1820, one-twentieth; in 1830, one-sixteenth; in 1840, one-twelfth; in 1850, one-eighth; in 1860, one-sixth; in 1870, more than one-fifth; and in 1880, half way between one-fifth and one-quarter. One thing needs to be said in explanation of the relation of the tables above to the maps showing density of population; that is, that the populations of two or more cities situated close to each other have often been combined, and the aggregate thus obtained will be found represented on the maps by a circle of proportionate size. The scale of the maps has made it necessary to do this, instead of representing each city separately.

The following table shows, by states and territories, and more exhaustively than the preceding tables, the urban population of the country. In this table all dense bodies of settlement down to a limit of 4,000 are regarded as urban population.

Under this definition it will be seen that nearly 13,000,000 of the population, or more than one-fourth, may be classified as urban.

TABLE XIV.

States and territories.	Number.	Population.	1		2		3		4		5		6		7		8		9		10	
			4,000 to 8,000.		8,000 to 12,000.		12,000 to 20,000.		20,000 to 40,000.		40,000 to 75,000.		75,000 to 125,000.		125,000 to 250,000.		250,000 to 500,000.		500,000 to 1,000,000.		Above 1,000,000.	
			Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.	Number.	Population.
Total.....	580	12,936,110	294	1,617,563	110	1,068,138	76	1,168,147	55	1,485,850	21	1,054,698	9	914,069	7	1,205,519	4	1,300,809	3	1,017,018	1	1,206,290
Alabama.....	4	58,351	2	12,506			1	10,713	1	20,132												
Arizona.....	1	7,007	1	7,007																		
Arkansas.....	1	13,138			1	13,138																
California.....	10	344,004	4	20,038	2	21,465	1	12,567	2	55,075					1	233,959						
Colorado.....	4	59,715	2	9,263			1	14,820	1	35,020												
Connecticut.....	26	335,500	18	69,400	5	51,800	4	62,600	2	48,200	2	103,500										
Dakota.....																						
Delaware.....	1	42,478									1	42,478										
Dist. of Columbia.....	2	159,871					1	12,578							1	147,293						
Florida.....	3	24,385	2	14,495	1	9,890																
Georgia.....	6	118,980	1	6,099	1	10,123	1	12,749	3	90,099												
Idaho.....																						
Illinois.....	38	844,462	20	112,441	12	122,257	3	50,052	2	56,527							1	503,185				
Indiana.....	27	327,248	16	83,185	3	20,500	4	57,303	3	82,202			1	75,056								
Iowa.....	19	201,800	9	40,222	4	30,455	3	49,030	3	66,493												
Kansas.....	10	84,907	6	20,294	1	8,510	3	47,103														
Kentucky.....	11	231,720	6	33,117	1	8,036	1	16,650	2	50,153			1	123,758								
Louisiana.....	3	231,296	1	7,197	1	8,099									1	216,000						
Maine.....	14	135,900	9	48,860	1	8,000	3	45,700	1	32,800												
Maryland.....	5	364,034	2	13,269	2	19,352											1	332,813				
Massachusetts.....	57	1,175,130	24	133,100	13	128,300	6	89,300	9	246,100	4	215,500					1	362,839				
Michigan.....	27	353,230	15	81,064	7	67,306	2	35,121	2	52,700			1	116,340								
Minnesota.....	8	120,567	4	21,944	2	19,203					2	88,390										
Mississippi.....	4	28,084	3	16,270	1	11,814																
Missouri.....	14	505,963	9	46,534	2	20,035			1	32,431	1	55,785					1	350,513				
Montana.....																						
Nebraska.....	4	51,879	2	8,358			1	13,003	1	30,518												
Nevada.....	4	23,884	3	12,907	1	10,017																
New Hampshire.....	8	91,400	3	15,200	2	19,400	2	25,200	1	31,000			1	120,722	1	136,508						
New Jersey.....	28	586,547	16	90,897	3	26,210	2	30,373	3	89,138	2	92,690	1	120,722	1	136,508						
New Mexico.....	1	6,035	1	6,035																		
New York.....	58	2,726,367	25	135,100	12	108,288	9	148,518	5	117,702	2	108,539	2	180,124	1	155,134			1	566,663	1	1,206,290
North Carolina.....	4	40,152	2	13,537	1	9,265	1	17,350														
Ohio.....	40	892,114	26	146,220	7	67,040	7	102,371	2	69,408	2	101,784			1	160,140	1	255,139				
Oregon.....	1	17,577					1	17,577														

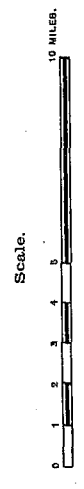


SKETCH

OF THE

CENTER OF POPULATION,

June 1st, 1880.



# THE CENTER OF POPULATION.

XXXI

TABLE XIV—Continued.

States and territories.	Number.	Population.	1	2	3	4	5	6	7	8	9	10
			4,000 to 8,000.	8,000 to 12,000.	12,000 to 20,000.	20,000 to 40,000.	40,000 to 75,000.	75,000 to 125,000.	125,000 to 250,000.	250,000 to 500,000.	500,000 to 1,000,000.	Above 1,000,000.
			Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.	Number. Population.
Pennsylvania.....	56	1,058,523	28 159,783	12 107,804	7 111,960	4 107,007	2 80,128	1 78,682	1 156,389		1 847,170	
Rhode Island.....	14	213,000	8 38,100	1 11,200	4 60,500			1 103,800				
South Carolina.....	3	66,180	1 6,160	1 10,030			1 40,984					
Tennessee.....	5	104,904	1 5,377	1 9,693	1 12,892	1 33,592	1 43,350					
Texas.....	11	115,390	6 34,714	2 21,371	1 16,513	2 42,708						
Utah.....	2	26,837	1 6,009			1 20,768						
Vermont.....	5	37,800	3 16,300	2 21,500								
Virginia.....	11	178,117	5 29,887	1 11,390	2 29,618	2 43,022	1 63,600					
Washington.....												
West Virginia.....	4	47,846	3 17,109			1 30,737						
Wisconsin.....	20	272,733	11 60,302	4 37,460	4 59,378			1 115,587				
Wyoming.....												

## THE CENTER OF POPULATION.

The center of population, as defined in the *Statistical Atlas* of 1874, "is the point at which equilibrium would be reached were the country taken as a plane surface, itself without weight, but capable of sustaining weight, and loaded with its inhabitants, in number and position as they are found at the period under consideration, each individual being assumed to be of the same gravity as every other, and consequently to exert pressure on the pivotal point directly proportioned to his distance therefrom." In brief, then, it is the center of gravity of the population of the country.

### THE CENTER OF POPULATION IN 1880.

**Latitude, 39° 04' 08"**

**Longitude, 84° 39' 40"**

The position of the Old Observatory, Mount Adams, Cincinnati, is: Latitude, 39° 06' 26.5"; longitude, 84° 29' 45".

The center of population for 1880 is, therefore, 2.6 miles south of this observatory and 8.9 miles west of it. That is, it is 9.3 miles west by south from the observatory, or 8 miles west by south from the heart of the city of Cincinnati. This places it in Kentucky, one mile from the south bank of the Ohio river, and one and a half mile southeast of the village of Taylorsville.

### METHOD OF DETERMINATION.

A point was first assumed as nearly as possible to the true position of the center. Through this point a parallel and a meridian were drawn. In this case the center was assumed at the intersection of the parallel of 39° with the meridian of 84° 30', which lines were taken as the axes of moments.

A north or south moment is the product of the population by its distance from the assumed parallel; an east or a west moment is the product of the population by its distance from the assumed meridian. In the first case the distances were measured in minutes of arc; in the second case it was necessary to use miles, on account of the unequal length of the degrees and minutes in different latitudes. The population of the country was then grouped by square degrees, *i. e.*, by areas included between consecutive parallels and meridians, as they are convenient units with which to work. The population of 100 of the principal cities was then deducted from that of their square degrees and treated separately. Then the population of each square degree was assumed to be at its geographical center, except in cases where this was manifestly an incorrect assumption. In these cases its position was estimated as nearly as possible. The population of each square degree, and of each city north and south of the assumed parallel, was multiplied by its distance from that parallel, and the sum of the north and of the south moments made up. Their difference, divided by the total population of the country, gave a correction to the latitude, the sign of the correction being positive if north, negative if south. In a similar manner the east and the west moments

were made up, and from them the correction in longitude was made. The following is a summary of the computations. The last two figures, those of tens and units, are omitted throughout.

## I. TO FIND THE LATITUDE OF THE CENTER.

*Assumed latitude, 39° 00'.*

North moments of cities.....	9,163,500
North moments of square degrees .....	36,810,188
<b>Total north moments.....</b>	<b>45,973,688</b>
South moments of cities.....	2,848,335
South moments of square degrees .....	41,051,163
<b>Total south moments.....</b>	<b>43,899,498</b>
	45,973,688
	43,899,498
<b>Excess of north moments .....</b>	<b>2,074,190</b>

Divided by total population of the United States = 501,558.

Result = correction to be applied to the latitude of the assumed center, =  $+4' \frac{1}{30} = +4' 08''$ .

Latitude of center, **39° 04' 08''**.

## II. TO FIND THE LONGITUDE OF THE CENTER.

*Assumed longitude, 84° 30'.*

East moments of cities .....	29,377,483
East moments of square degrees.....	67,020,568
<b>Total east moments .....</b>	<b>96,398,051</b>
West moments of cities.....	11,431,712
West moments of square degrees.....	89,308,520
<b>Total west moments.....</b>	<b>100,740,232</b>
	100,740,232
	96,398,051
<b>Excess of west moments.....</b>	<b>4,342,181</b>

Divided by total population of the United States in hundreds = 501,558.

Result = correction to be applied to longitude of assumed center, =  $+8.66$  miles = (for latitude 39° 04') =  $+0.161^\circ = +0^\circ 09' 40''$ .

Longitude of center, **84° 39' 40''**.

The above is, essentially, the method heretofore pursued for determining the center of population; and, for purposes of comparison, it has been employed here.

As, however, we are dealing, not with a plane, but with a spherical surface, the above method is not strictly correct. The error is in assuming a parallel of latitude as one of the axes through the assumed center. To be strictly correct, both axes should be great circles through the point at right angles to one another, while the moments should be measured on arcs of great circles perpendicular to these axes. A computation based upon this method would throw the center of population some distance north of the position as given above, but would not materially alter its position in longitude.

The center of population at 1870, as at the time of the census preceding, was computed by a method differing in some details from that above sketched. For this purpose a point was assumed entirely outside of the country, and correction made therefrom to the true center. Instead of the square degree, the county was taken as a unit, and the lever arm of the population of the county was taken as the distance from the geographical center of the county to the axes of moments. The labor involved in this method was much greater than that in the present method, inasmuch as many more units were used, and as the length of the lever arm differed in every case.

At 1790 we find the center of population at 39° 16.5' north latitude and 76° 11.2' west longitude, which a comparison of the best maps available would seem to place about 23 miles east of Baltimore. During the decade of 1790 to 1800 it appears to have moved almost due west to a point about 18 miles west of the same city, being in latitude 39° 16.1' and longitude 76° 56.5'. From 1800 to 1810 it moved westward and slightly southward to a point about 40 miles northwest by west from Washington, being in latitude 39° 11.5' and longitude 77° 37.2'. The southward movement during this decade appears to have been due to the annexation of the territory of Louisiana, which contained quite extensive settlements.

From 1810 to 1820 it moved westward, and again slightly southward, to a point about 16 miles north of Woodstock, Virginia, being in latitude 39° 5.7' and longitude 78° 33'. This second southward movement appears to have been due to the extension of settlement in Mississippi and Alabama, and in eastern Georgia.

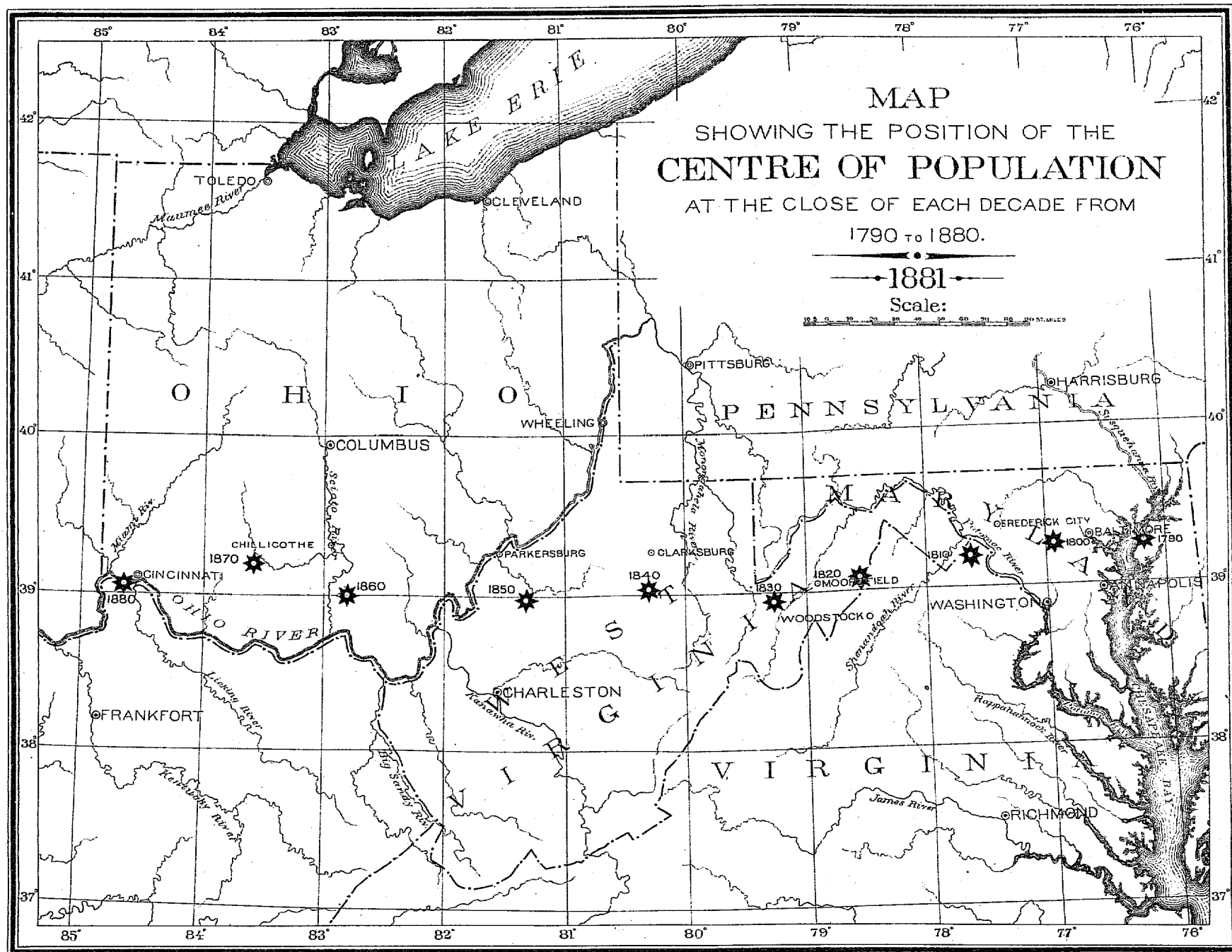
From 1820 to 1830 it moved still westward and southward to a point about 19 miles southwest of Moorefield, in the present state of West Virginia, being latitude 38° 57.9' and longitude 79° 16.9'. This is the most decided southward movement that it has made during any decade. This appears to have been due in part to the addition of Florida to our territory, and in part to the great extension of settlements in Louisiana, Mississippi, and Arkansas, or generally, it may be said, in the southwest.

From 1830 to 1840 it moved still farther westward, but slightly changed its direction northward, reaching a point 16 miles south of Clarksburg, West Virginia, being in latitude 39° 2' and longitude 80° 18'.

During this decade settlement had made decided advances in the prairie states and in the southern portions of Michigan and Wisconsin, the balance of increased settlement evidently being in favor of the northwest.

From 1840 to 1850 it moved westward, and slightly southward again, reaching a point about 23 miles southeast of Parkersburg, West Virginia, latitude 38° 59' and longitude 81° 19', the change of direction southward being largely due to the annexation of Texas.





From 1850 to 1860 it moved west, and slightly northward, reaching a point 20 miles south of Chillicothe, Ohio, this being in latitude  $39^{\circ} 0.4'$ , longitude  $82^{\circ} 48.8'$ .

From 1860 to 1870 it moved westward and sharply northward, reaching a point about 48 miles east by north of Cincinnati. This northward movement is due in part to the waste and destruction in the south consequent upon the civil war, and in part, probably, to the fact that the census of 1870 was defective in its enumeration of the southern people, especially of the newly enfranchised colored population. In its present position, the center of population has returned southward nearly to the latitude which it had in 1860. This southward movement is, however, due only in part to the fact of an imperfect enumeration at the south in 1870. The southern states have made a large positive increase during the decade, both from the natural growth of the existing population and from immigration in the southwest.

The closeness with which the center of population, through such rapid westward movement as has been recorded, has clung to the parallel of  $39^{\circ}$  of latitude cannot fail to be noticed. The most northern point reached was at the start in 1790; the most southern point was in 1830, the preceding decade having witnessed a rapid development of population in the southwest—Alabama, Arkansas, Mississippi, and Louisiana having been admitted as states, and Florida annexed and organized as a territory. The extreme variation in latitude has been less than 19 minutes, while the ninety years of record have accomplished a movement of longitude of nearly  $8\frac{1}{2}$  degrees. Assuming the westward movement to have been uniformly along the parallel of  $39^{\circ}$  latitude, the westward movement of the several decades has been as follows: 1790–1800, 41 miles; 1800–1810, 36 miles; 1810–1820, 50 miles; 1820–1830, 39 miles; 1830–1840, 55 miles; 1840–1850, 55 miles; 1850–1860, 81 miles; 1860–1870, 42 miles, and 1870–1880, 58 miles—a total westward movement of 457 miles. The sudden acceleration of movement between 1850 and 1860 was due to a transfer of a considerable body of population from the Atlantic to the Pacific coast, twelve individuals in San Francisco exerting as much pressure at the then pivotal point, viz, the crossing of the 83d meridian and the 39th parallel, as forty individuals at Boston.

The following table, with the accompanying map, shows the movement of the center of population since 1790:

TABLE XV.—POSITION OF THE CENTER OF POPULATION.

Date.	N. latitude.	W. longitude.	Approximate location by important towns.	Westward movement during preceding decade.
	° ' "	° ' "		Miles.
1790...	39 16.5	76 11.2	23 miles east of Baltimore, Maryland .....	
1800...	39 16.1	76 56.5	18 miles west of Baltimore, Maryland .....	41
1810...	39 11.5	77 37.2	40 miles northwest by west of Washington, District of Columbia...	36
1820...	39 5.7	78 33.0	16 miles north of Woodstock, Virginia.....	50
1830...	38 57.9	79 16.0	19 miles west-southwest of Moorefield, West Virginia .....	39
1840...	39 02.0	80 18.0	16 miles south of Clarksburg, West Virginia.....	55
1850...	38 59.0	81 19.0	23 miles southeast of Parkersburg, West Virginia.....	55
1860...	39 0.4	82 48.8	20 miles south of Chillicothe, Ohio.....	81
1870...	39 12.0	83 35.7	48 miles east by north of Cincinnati, Ohio.....	42
1880...	39 4.1	84 39.7	8 miles west by south of Cincinnati, Ohio .....	58
			Total.....	457