#### CHAPTER XIX.1

#### MATERIAL RESOURCES OF UTAH.

Amount of arable land—Its nature and location—Increased rainfall— Causes—Probable greater increase—Mode of irrigation— Aguarian Socialism—No room for competition—Alkali— Some advantages—Yield of various crops— "Beet-sugar"— Sorghum syrup Mormon improvements (?)—Grossly exaggerated— True Wealth of Utah-Mining and grazing-Bunch-grass-Mountain pastures—Sheep and goats— "Fur, fin and feather"— Trapping and hunting—Carnivora—Ruminants—Buffalo— None in the Basin-Shoshonee [sic] tradition-Game, fowl-Amphibia— "Sandy toad"—Serpents—Fish—Oysters in Salt Lake— Insects— "Mormon bedbugs"—Advantages from the dry air— Insectivora—Crickets —Grasshoppers or locusts?—Indians of Utah— Rapid extinction— "Diggers"— "Club-men"—Utes—Shoshonee [sic]— Their origin—Mormon theory—Scientific theory—Chinese annals— Tartans in America—Mormon settlers—Twenty-three years of "gathering"—Much work, slow progress—Reasons—Inherent weakness of the system—Great apostasy—Their present number—Exaggeration— Enumeration of settlements and population—Nationality— Total military force—Future of the Territory.

**OF** the entire area of the Great Basin, probably one half is a complete desert to begin with; one-third is of value for grazing purposes, and the remaining one-sixth agricultural land.

Most of the complete desert is in Nevada, and at least three-fourths of the fertile land in Utah. In the entire basin are numbered thirty-five considerable valleys containing cultivable land, of great, or at least average fertility, of which the best known are the Jordan or Salt Lake, Bear River, Sevier, Cache Tovelle<sup>2</sup>, Ruby, Malad Carson, and Humboldt Valleys. Of these, all those in Utah are fully occupied by the Mormons, except Bear River, on which they have but a few settlements, and those along the

<sup>2</sup> The author might have been referencing "Cache Valley."

<sup>&</sup>lt;sup>1</sup> Original chapter page numbers: 460-485.

mountains eastward. The entire basin thus contains about as much good land as the State of Indiana, and three or four times as much of little or no value.

Even the most fertile valleys contain occasional desert tracts, generally of small extent, of which tracts, Bear River and Cache Valleys contain the least. The Sevier Valley is peculiar in its features; the fertile tracts are apparently richer than in the more northern valleys, but the deserts much more barren and desolate in appearance; the traveler, in places, traversing an arid waste five or ten miles in width, the bare, gray sand unrelieved even by white sage-brush, and then at a sudden turn of the road into a mountain cove, or a depression in the land, finding a few thousand acres of beauty and fertility.

Towards the upper part of its course, that valley presents a rare picture of romantic beauty. Wood and water are abundant, game plenty, and the soil very rich along the foot of the mountains. The agricultural system of Utah would present many novel features to an eastern farmer, and at first view the difficulties would seem to him insurmountable.

The most marked feature of the interior plains is the scarcity of timber; for, with the exception of a few scant willows along two or three of the streams, the whole valley of Salt Lake was originally as bare of trees as if blasted by the breath of a volcano.

The nearest timber to Salt Lake City, fit for fuel, is fifteen miles distant, and that up City Creek Cañon, which belongs to Brigham Young, by act of Territorial Legislature; and he requires every third load to be left at his *corral*. So, most of the fuel used in the city comes from cañons twenty or twenty-five miles distant, and ranges from twelve to thirty dollars per cord.

This evil has been greatly increased by their stripping the heights more bare every year, and many conjecture that this prevents the former heavy accumulations of snow, which, in turn, blows into the valley worse each winter, and may in time even lessen the source of the streams, which are chiefly supplied by the melting snow.

Planting trees, except in orchards or along the streets, has been entirely neglected. Unlike the farmers of Iowa and Nebraska,

who purpose to grow their own fire-wood, there is, not to my knowledge, an artificial grove in the entire valley.

True, the trees would require occasional irrigation, but with the facilities afforded by the many little streams crossing the "bench," one man could easily attend to several thousand acres, and though his returns would be slow, they would in time be ample. The suggestion may sometime be found practicable.

The second drawback is want of water, or rather of rain, for there is plenty of the article in streams which are the source of supply.

At the first settlement of Utah there were periods of five or six months without rain, but of late years there has been a great change in that respect, and last summer rains were so frequent along the streams that many tracts required no irrigation at all. This is probably due to the same cause as the similar phenomenon in other places; but the change has probably been greater here, as irrigation, distributing the water so generally over the land in ditches and through fields, has presented a greater scope for solar evaporation, the great right hand of "cloud-compelling Jove."

This has increased the fall of rain, which must, in turn, add to the productive force of nature, till in time irrigation will be needless for the small grains and cereals.

Under the present system, each settlement becomes a sort of "socialistic community" as to its water supply. Enough of families must make a settlement together in some convenient valley, to construct a dam further up the cañon, from which reservoir a main canal is carried through the settlement, and from this side canals and ditches convey the water among the farms, and thence into fields, and by tiny rivulets between the rows of vegetation.

The various crops are watered from one to three times per week, according to their nature, during the dry season. The greatest labor is in establishing a settlement, and opening these sources of public supply, but thereafter, the whole settlement turns out each spring, at the call of the Water-Marshal, and a few days' work gets all in order.

Hence the settlement must move as a unit in this case, and every man claims a supply of water according to the money or labor contributed to the first construction.

For many years, in certain settlements, the Water-Marshal turned the supply to different districts at different hours, and the proprietors in each district further divided the time when each might take water; day and night during the dry season, being devoted to the work. In some settlements, and in the city, fines as high as sixty dollars were imposed for "stealing water," that is, for turning it on one's fields out of the prescribed time. But with the increase of rain and heavy dews which now water "the garden of the Lord and modern Zion," this aquatic penuriousness has ceased to be necessary, and there are but few if any localities where one may not "take water" at any hour.

The great expense is in getting the system started; after that it need not be as great as the losses attendant on waiting for rain in other regions, or having too much of it at a time. Herein also is an important politico-religious feature of the system; no Gentile can start in with a new settlement, formed as it is by a "call " from the Church authorities, and he cannot of course go it alone. Gentiles could only settle by entire, neighborhoods together, or in some place buy out a Saint whose water-rights are already established, and run with the land. For these and other reasons, one rarely meets with a Gentile outside of the towns.

Alkali is another enemy of the Utah farmer. A moderate infusion is thought to be an advantage, but in many places it is so thick as to "flower out" like a heavy frost or light snow on the surface; there it is fatal to most crops, and many think it will not yield to the longest continued cultivation. Some crops will flourish, where it is abundant, others are ruined by the slightest sprinkle. The common pie-plant entirely loses its acidity, and the sorghum cane is completely "alkalied."

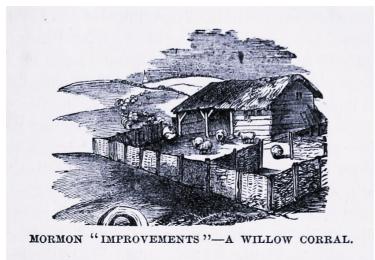
But the principle of compensation in nature applies even here, and the Utah farmer has some marked advantages. There are neither droughts nor freshets—both considerable items to an Illinois farmer; the latter are unknown, and the former of no consequence in the practice of irrigation. In the summer of 1866, there occurred a furious wind and rain storm in the locality of the writer's resi-

dence in the States, which destroyed corn, wheat, and fruit, to the value of fifty thousand dollars in one township. This amount would have irrigated for many years, a tract in Utah as large as that township.

Wheat for many seasons has required but one or two waterings, and in 1867 the average yield, according to Mormon statistics, was seventeen bushels per acre. With flour at eighteen dollars per barrel, and last year it was sometimes above that, this would pay well for irrigation.

Barley and potatoes yield very heavily, and have heretofore sold at enormous prices. But the last year there has been a great decline in prices. The land produces all the small grains, especially wheat, oats and barley, in great abundance; a little Indian corn is raised, but the climate is not favorable; nearly all the fruits and vegetables of the temperate zone, pumpkins, beets and carrots—in Gentile slang, "Mormon currency"—in great size and plenty. Peaches of fine flavor, and in great quantity, are grown in almost every valley. Salt Lake Valley and the lower tracts adjacent being most favorable. But I do not fully appreciate the apples of Salt Lake; they seem insipid, stunted in some places and overgrown in others, and decidedly "pithy." The lower part of Bear River Valley and the slopes leading thereto, have all the natural indications for one of the finest fruit countries in the world, the easy changes of the winter and spring being peculiarly favorable.

Beets and onions grow to an unusual size, which suggested, in 1853, the idea of making beet sugar. The "inspired priesthood," headed by "Brother Brigham," entered into the matter with zeal; one hundred thousand dollars were expended upon the building and machinery, but the Lord must have "spoken to the Prophet with an uncertain voice;" for the experiment failed utterly; on account of the alkali, the Mormons say; for want of good management, say the perverse Gentiles, who sometimes add that the Saints made a fiery article of "Valley Tan" whiskey out of the useless material. But other sweets abound; there is great profit in sorghum, and one farmer near Kaysville reports that last year he made one hundred and five gallons from one-third of an acre, and two hundred gallons per acre throughout his field. At the low price of one dollar per gallon, this will pay for irrigation. But cane



farmers must avoid the alkali lands. Of farm improvements there is little to be said. The impression prevails quite generally that the Mormons are remarkably industrious. I have impartially endeavored to find the evidence, but, with due regard for others' opinions, I fail to see it. They have built houses, barns and fences, but such as they were absolutely forced to have in order to live at all. If there is a single farm-house between Salt Lake City and Bear River, which shows an advanced idea of architecture, I do not remember it.

If there is any particular development of taste, outside a few of the cities, any adornment which shows an aspiration for the higher and more beautiful, or any improvements indicating comprehensive grasp and energy of thought, I have missed them in my travels. The Mormon converts are drawn from the most industrious races of Europe; it was impossible for even Mormonism to entirely spoil them, and they have done nearly as well, perhaps, as any other people would have done under the same circumstances.

Compared with the same races in the Western States, the Swedes, Norwegians, Danes and English, of Iowa or Minnesota, the latter have made as much progress in five years after settlement as the Mormons in ten or twenty. But on the credit side of

the estimate for the latter, we must set down the fact of their great distance from civilization, the natural barrenness of much of their country, the grasshoppers, crickets, wild beasts and Indians with which they had to contend; the spiritual despotism under which they labor; their poverty and their ignorance of this mode of farming; on the debit side, the advantages from overland travel, and neighboring mining regions, which enabled them to obtain fabulous prices for their grain, the general advantages of a new country in "fur, fin and feather," the rare healthfulness of their climate, the unlimited range for stock and the benefits of unity in their labor system.

The wonder is that they settled there at all; having settled there they, have done less in the way of improvement than their countrymen in other sections in half the time.

But the true wealth of the Territory is in grazing and mining. The range is practically unlimited and the mountain bunch-grass is the best in the world for cattle. This valuable and rather anomalous provision of nature seems to be indigenous to the interior plains of the Rocky Mountains. It is first found, I believe, on the western slope of the Black Hills, and extends to the eastern slope of the Sierra Nevadas. West of that boundary it gives place to other seeded grasses of the Pacific slope, and to the "wild oats" of California, which are supposed to have been introduced by the Spaniards. Millions of acres are rendered valuable by the presence of bunch-grass, which, without it, could hardly be traversed by cattle. As the name indicates it grows in clumps, and to an eastern eye would appear as if it sought the most barren spots, flourishing even upon slopes of sandy and stony hills. Like winter wheat it remains green and juicy under the snow; it usually commences growing in February or March, and continues till May or June, when it dries up and appears to die, but in the form of a light straw contains abundant nutriment. In places, during autumn and after shedding the seed, it puts forth a green shoot, apparently within the old withered stalk; with the advance of summer the best is found higher up the mountains, and it thus furnishes food the year round.

It yields a small pyriform seed, which is greedily devoured by cattle, and has remarkable fattening properties, giving an excel-

lent flavor to the beef. It is often a subject of remark, how little food will fatten cattle upon the elevated prairies, and interior plateaus of the West; the exceeding purity, dryness and rarity of the air, by perfecting the processes of digestion and assimilation, no doubt accounts for this.

The same has been observed of the highlands of Central Asia. From the same causes cattle endure a greater degree of cold without shelter, and the plains can be made to produce abundant forage for winter. The finest, ju[i]ciest, tenderest steaks of home growth, appear daily upon the tables of the Utah publicans, and there is scarcely

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a limit to the possible supply. By greater improvement in irrigation, and by the increase of rain, Utah will in time have great agricultural wealth, but stock raising will be her best paying interest.

Facilities for grazing are practically unbounded, the valleys supply plentiful pasturage in winter, and as spring advances and the snow line recedes up the hills, cattle will find fresh pastures.

In the valleys of Green, Grand and Colorado rivers, are many thousand square miles of the finest country in the world for wool growing; on all the mountain slopes west of Bear River grass grows luxuriantly, and the higher portions of Sevier Valley contain millions of acres of grazing land, the natural home of the Merino sheep and Cashmere goat; the climate and elevation are exactly suitable for the production of the finest wools; all the fa-

cilities for manufacturing exist along the lower course of the mountain streams, and the day *will* come when the finest of shawls and other fabrics will be produced in Utah, rivalling the most famous productions from the highlands of Persia and Hindoostan.<sup>3</sup>

Of "fur, fin and feather," the Great Basin is rather deficient, in an economical view. There are minks, ermines, American badgers, wolverines, woodchucks, musk-rats, beavers and otters, the last two rare in other parts, but still found in such plenty on the upper tributaries of Bear River, as to make trapping profitable. The principal carnivora are the cougar, cat-o-mountain, large and small wolf, and a variety of foxes. Of the ruminants we find the antelope, deer, elk, and Rocky Mountain sheep. The buffalo is seldom found west of Laramie plains, not at all in the Great Basin, though the Indians have a tradition that they were once very numerous even to the Sierra Nevadas, and old hunters and travelers speak of finding traces of their former existence there. The Shoshonees [sic] give the following account of their banishment: When the buffaloes herded in great numbers in these valleys, the crickets were less in number than now, but being the weakest of all the animals, they had the ear of the Great Spirit when oppressed. The buffaloes, in crowding to the rivers to drink, trampled upon the crickets and did not heed their cries, upon which the latter complained to the Great Spirit, who by a sweeping decree changed all the buffaloes to a small race of crickets, leaving nothing of the buffalo but the milt! It is a singular fact that the crickets found in the basin contain a "milt" or spleen, exactly similar in shape to that of the bovine genus.

Of game birds there are several varieties: quail or partridges; two varieties of grouse, the most common called the sage-hen; the mallard duck is found in great plenty on the lower part of Bear River and Jordan, and is particularly abundant on the Sevier; while brant, curlew, plover and wild geese are much more numerous than the appearance of the country would indicate. Of useless animals and reptiles there are quite enough to give variety to animated nature. That purely western American phenomenon,

<sup>&</sup>lt;sup>3</sup> "Hindustan" is the Persian name for India.

half toad, half lizard, locally known as the "horned toad" or "sandy toad," scientifically ranked *Phrynosoma*, is found on all the high, dry plains. Its scaly body and inability to jump prevents its ranking strictly among "batrachians." It is found on the highest and driest ridges, is calloused on the belly like an alligator, its back is thickly studded with horny points about a quarter of an inch in length, it has legs like a common toad, but runs swiftly like a lizard.

Of serpents, there are rattlesnakes, water snakes and swamp adders, and a few others, all very rare. The fishes are perch, pike, bass, chub, mountain trout, and a species of salmon trout, of which thirty-pound specimens have been caught. There are very few molluscs, periwinkles or snails. There has been much discussion of a project to plant oysters in Salt Lake at the various river mouths, but the scheme seems to have been abandoned. Probably it would not succeed, from the extreme density of the lake water, which is often driven some distance up the rivers by high winds.

In view of the desirableness of any country as a place of residence, the entomology is no inconsiderable item. Utah, in regard to insect life, is subject to great extremes. On entering the Territory from the east, the visitor's first impression would be that both animal and insect life were rare. On the road from Green River to Salt Lake City, particularly in the early part of the season, there are few stock flies, few scavengers and few large birds; troublesome insects are rare, even in the valleys, and unknown on the upland desert; but in other localities there is a surplus, and after longer residence one finds enough of them to be troublesome.

In Salt Lake City the flies are probably worse, both as to number and peculiarities, than in any other city in America, but fortunately their time is very short. During the spring and early summer they are rarely seen; in August they begin to multiply, "coming in with the emigration," according to local phrase, meaning the Mormon emigrants, who formerly completed the journey across the plains by the latter part of July.

From the middle of August till cool weather they are perfectly fearful, certainly much worse than they need be if proper cleanliness were practised; large, flat-headed, light-winged and awk-

ward, they light and crawl over the person in the most annoying manner, not yielding, like "Gentile flies," to a light brush or switch, but requiring literally to be swept off. No other part of the Territory I have visited, is half so bad in this respect as Salt Lake City, and the southern valleys seem peculiarly free from this pest.

Fleas are, in western phrase, "tolerable bad," but bed bugs are intolerable; both in numbers and voracity those of Utah beat the world, particularly in the country towns, and among the poorer classes of foreign-born Mormons. In certain settlements their ravage is incredible, and Mormon bed-bugs seem as much worse than others as their human companions. Like the latter, too, they seem to regard the Gentile as fair prey. More than once, in some secluded valley, has the writer retired to rest (intentionally) with reckless confidence, and after an hour of fierce resolution to hold out against any amount of blood letting, has risen from his couch with a full appreciation of Byron's beautiful line:

"No sleep till morn—"4

I have given the worst side of affairs first, and in other respects the resident is rather free from annoyance. Mosquitoes are bad in very few places; three-fourths of the country is entirely exempt, lacking humidity enough to produce them. With stock flies the case is much the same; in places along Bear River, and other streams where the current is sluggish they are troublesome, though such places are rare. In places around the Lake gnats are troublesome, and Captain Stansbury speaks of encountering on the western shore dense swarms of small black flies, of which he says: "An incredible number perfectly covered the white sand near the shore, changing its color completely—a fact only revealed as the swarms rose upon being disturbed by our footsteps. They, too, had apparently been driven in by the storm; for I afterwards discovered that they were as thick upon the water as the land, moving over its surface with great ease and swiftness. In the shallows left by the receding waters, I noticed also quite a number of ants (the first I had seen) drowned seemingly by the over-flow. Both of these insects furnished food for the gulls and snipes,

<sup>&</sup>lt;sup>4</sup> Lord Byron, Childe Harold's Pilgrimage - XXII (London, England: John Murray, 1812), 14.

which are almost the only birds found along this shore. [... ¶] Across the little bay ran a broad streak of froth or foam, formed by the meeting of counter currents, and driven in by the wind. Passing through it I found it filled with the small black flies, in the midst of which were flocks of gulls, floating upon the water and industriously engaged in picking them up, precisely as a chicken would pick up grains of corn, and with the same rapidity of motion."

With the exceptions noted, the whole of Utah is remarkably free from insects; there are few, if any, of the thousand varieties of wood-borers, aphides, terebræ, curculio, weevil, wheat-fly, and the numberless insects that infest the grass and the bark of trees in lower altidudes; [sic] they are either totally wanting, or found so seldom as to be innoxious. In consequence there are very few birds of the insect-eating kinds, and no particularly dangerous reptiles. Of insects destructive to vegetation the cricket was once very troublesome, but ceased to be so at least ten years ago, though the grasshopper still makes occasional visits, as in all the Territories. The question has been raised in Utah, whether this insect, locally known as grasshopper is not really a locust—perhaps the locust mentioned in Scripture. But an examination shows it to be congeneric with the insect scientifically designated the OEDIPODA MIGRATORIA, which is certainly of the grasshopper species, though known in the East by the English name of "migratory locust."

The grasshopper of Utah is not so long and thin, light-bodied and "clipper built" as that of Nebraska and Kansas, but fully as destructive to vegetation; though of late years its ravages have been confined to certain limited localities. Though numerous enough in Salt Lake City the past season to constitute a "visitation," they did very little damage—"poisoning the skin of apples" to a slight extent.

From grasshoppers to Indians may seem to the Eastern mind an abrupt transition; but the original inhabitants of Utah merit a brief notice. All the old accounts represent the Indians of the

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<sup>&</sup>lt;sup>5</sup> Howard Stansbury, Exploration and Survey of the Valley of the Great Salt Lake of Utah (Philadelphia, PA: Lippincott, Grambo & Co., 1852), 205-206.

Great Basin as the lowest and most degraded of their race, and one is surprised in the chronicles of only thirty years ago to read of tribes, or rather bands and parts of tribes, now totally extinct.

The "Club-men," a race of savage and filthy cannibals were once quite numerous in all the central and western valleys, but are now entirely extinct; and many of the races mentioned by M. Violet, who lived among the Shoshonees [sic] thirty-five years ago, are no longer to be found.

From these and other facts, it is very probable that all the Indians known as "diggers" were mere outcasts from other tribes, or the remnants of more noble tribes conquered in war, which had been forced into the Basin as a place of refuge.

Their tribal organization broken up; their former hunting grounds forbidden them; and themselves compelled to subsist only on the meanest and least nourishing fare, they degenerated rapidly in *morale* and physique, at the same time that they decreased in number.

They subsisted chiefly upon roots dug from the ground, the seeds of various plants indigenous to the soil, ground into a kind of flour between flat stones; and upon lizards, crickets, and fish at some seasons of the year. Thus lacking the food which furnishes proper stimulus to the brain and muscles, each succeeding generation sank lower in the scale of humanity; the generative powers declined under a regimen of exposure and scant nourishment; few children were born and fewer reared to maturity, and the kindness of nature's law forbade increase where life promised naught but exposure and misery. Of such races the numerical decline must have been steady and rapid, and their numbers only maintained by the successive additions from the superior races north and east. A little above these, in the scale of humanity, are the Utes or Utahs, inhibiting nearly all the southern part of the Great Basin, and extending into Colorado as far as the boundary of the Arapahoes, with whom they are almost continually at war. The word Ute or Utah signifies, in their language, "man," "dweller," or "resident," and by the additions of other syllables, we have the three grand divisions of that race: Pi-Utes, Gosha-Utes, Pah-Utes, which may be freely translated "mountaineers," "valley men," and "dwellers by the water," those prefixes respectively

indicating "mountain," "valley," and "water." Of all these the bravest are the mountain Utes, among whom we might include the Uintahs; but the Indians of the lower countries are rather cowardly, and dangerous only by theft or treachery. Far superior to any of these are the Shoshonees [sic] or Snakes, found all along the northern border of Utah, and extending thence northeast to the Bannacks and westward into Idaho and Nevada.

They have a complete tribal organization, and something like government and council among themselves; own horses and cattle, and display some ingenuity in their dwellings, and in the construction of fish weirs and traps of willow bushes. They feel also something like pride of race, and to call a Shoshonee [sic] a "digger," is more of an insult than to stigmatize a very light mulatto as a "nigger."

The origin of the Indians has been a subject of frequent inquiry among American antiquarians. Some forty years ago, an idea was broached, and for awhile prevailed quite extensively, that they were the descendants of the "lost tribes" of ancient Israel, and that veracious chronicle, the "Book of Mormon," has traced their descent from a Jewish family, who left Jerusalem six hundred years before Christ. But if we are to to [sic] draw our arguments from any recognized human source, from language, features, customs, habits or traditions, there are no two races on earth of whose kinship there is so little proof.

The features may be greatly altered by climate, customs may change with circumstances, and two thousand years may be long enough to pervert the radical principles of a people's religion; but language, not as to single words but as to grammatical construction and derivation, has ever been considered the surest test of ethnological relationship; and every fact in the language of the Jews and those of various Indian tribes, disproves the theory of a common origin. To cite but one: languages are divided into primitive, and derivative or compound; the latter showing by their combinations a derivation from older tongues, and the former

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<sup>&</sup>lt;sup>6</sup> The use of this offensive label was common in 1868, even among individuals who appeared to be supportive of racial harmony.

maintaining their simple formation, consisting of a certain number of radical syllables.

A primitive language is never derived from a compound one, the latter is from the former.

The Indian languages are all primitive, showing no derivation from any older language, even the occasional words of similar sound being evidently accidental, and not nearly so numerous as those of the same form in the Greek and the language of the South Sea cannibals. The Hebrew, on the contrary is a derivative language, the outgrowth of older Semetic [sic] dialects, and by its finish and complex structure, the language of the Psalms shows that mankind had even then at least two thousand years of progress and cultivation in language. Such a speech may be corrupted in the mouths of a barbarous people, but can never return to its primitive type; through a thousand variations and centuries of corruption and foreign intermixture, though constantly debased, it will become more complex and farther from its radical formation. In all other branches of the inquiry, a parallel between the Jews and Indians is found only in two, or at most, three points of their religion; both believe in One God, an all prevading [sic] Spirit, and in sacrifices; the latter belief they share with nearly all the races of men, and the former with many of them. M. Violet, a Frenchman who came to California forty years ago, and spent many years among the Shoshonees, [sic] investigated their language and traditions with much care, and came to the conclusion that they were descendants of the Mantcheux Tartars. His reasons are good, and subsequent discoveries confirm the probable truth of his theory. The lately discovered Chinese annals, which give an account of the expeditions sent out by the Tartar Kublai Khan, about the year 1280, A.D., which visited California, Mexico, Central America and Peru, show that they then recognized the fact that the country had been previously settled by men of another branch of their race. But it is not necessary to suppose all the Indians descended from one branch of the Tartars: the passage of the North Pacific being a proved fact, no doubt several different invasions of our western coast took place, dating, perhaps, even as far back as the fourth generation after Noah,

who, it is generally agreed settled China, and who may be supposed to have known something about navigation.

Of the first discovery and exploration of the Great Basin this is not the proper place to treat; but after the Indians, in the order of time, came the Mormons. They were the first white residents, and their history is the history of the Territory. Since July 24th, 1847, this has been their gathering place, the Territory of "the Lord and Bro. Brigham;" a consecrated land of salt, alkali and religious concubinage; where their morals were to be *cured*, and their spiritual interests *preserved*.

When we consider how many million people there are in the world to whom Mormonism is the natural religion, how full modern society is of the material for such a church, that it promises a heaven exactly after the natural heart of man, and with the least sacrifice of human pride, lust and passion; when we add to this their vast and comprehensive missionary system, compassing sea and land to make one proselyte; and the still more powerful fact that Mormonism comes to the poor of the old world not merely with the attractiveness of a new religion, but with the certainty of assisted emigration to America, a land described to them as flowing with milk and honey, we would naturally expect their recruits to be numbered by tens of thousands annually.

That Utah has not filled up and overflowed half a dozen times with the scum of Europe, can only be accounted for by some inherent weakness in the system itself.

This weakness shows itself in two ways: inability to secure a class who would add real dignity and strength to a new commonwealth, and the constant loss through a steady and ever increasing apostasy. Unfettered American enterprise planted half a million people in Iowa in ten years; the vast machinery of the Mormon emigration system, the excitement of religious fanaticism, the utmost zeal of a thousand missionaries preaching temporal prosperity and eternal salvation to an ignorant people, backed by the assurance of a speedy passage to a new country, and aided by the advantages of an organization at once ecclesiastical and secular, have succeeded in twenty-three years in fixing an uncertain population of a hundred thousand in Utah. The Mormon system of exaggerating their numbers is well known. At the

death of Joe Smith, they numbered nearly 200,000 throughout the world; their own statistics showed half a million—(*Times and Seasons, Millennial Star*, etc.)

If they have half the latter number now, it is not shown by their published statistics.

Their missionaries in the Eastern States give their strength in Utah, in round numbers, at 200,000. When Brigham Young was last questioned [sic] on that point, by a well-known politician last summer, he put the number at 120,000.<sup>7</sup>

A Judge of the U.S. Court who has traveled extensively through the Territory, with good opportunities for judging, estimates the total population of Utah at 85,000, probably a little too low. Tourists usually state the population of Salt Lake City in round numbers, at 25,000. There are in that city a little less than 1,800 houses, of all sizes, counting the barely habitable; allowing ten persons to the dwelling, we have 18,000, a very full estimate. Gentile communities average five persons to the dwelling, but in Utah we must double to allow for infants and extra wives. The population of the Territory may be estimated with tolerable certainty from the census of former years, and well-known facts. By reference to the U.S. census of 1860, it appears there were then in Utah, 20,255 males and 20,018 females; total 40,273.

The rate of increase in ten years throughout the United States is less than 40 per cent.; if we allow the excessive ratio of 150 per cent. in Utah, it would make the population this year 100,000. It will not escape observation in passing that the males slightly outnumber the females, not exactly indicating polygamy as the natural law. The latest report we have at hand is that of Mr. Campbell, Mormon superintendent of common schools, for the year 1863, in which appears the following:

Number of boys between six and eighteen	3,950
Number of girls between four and sixteen	3,662
Total	7.612

We cannot suppose from any known law of population that the children between four and eighteen were less than one-sixth of the

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<sup>&</sup>lt;sup>7</sup> Historical estimates suggest that by 1870, there were around 100,000 to 150,000 members of the LDS Church worldwide.

whole people. This would give us 46,000, nearly, for 1863, a very moderate increase over 1860. It is hardly reasonable to suppose that the Mormons have increased more than 100 per cent. in seven years. Here again we see that the boys slightly outnumber the girls, which will make it rather difficult for some of them to get wives, if polygamy lasts through that generation. From personal observation, and the best information obtainable, I sum up the Mormon population of Utah, beginning on the north, as follows:

Cache and Bear Lake Valleys	13,000
Thence to Brigham City	
Brigham City	
West of Bear River	. 1,000
Thence to Ogden	. 1,000
Ogden and vicinity	
Kaysville and vicinity	
Farmington and vicinity	
Centreville	1,500
Bountiful (Session's Settlement)	2,000
Weber Valley to Echo	2,500
Coalville, Wanship and Upper Weber	4,000
Total north of Salt Lake City	37,000
Salt Lake City and near vicinity	20,000
Thence to Utah Lake	7,000
Provo	4,000
Remainder of Utah Lake district	8,000
Sevier and San Pete Valleys	. 3,000
Provo to St. George	6,000
St. George and vicinity	3,000
Southern settlements	7,000
Tooille [sic] and Ruby Valleys	4,000
West of the last named (?)	1,000
Grand total	100,000

This population extends along an irregular line, or rather arc, five hundred miles from north to south; a band fifty miles wide would include all the settlements, except a few immediately west, east and northeast of Salt Lake City; nor have I made any deductions on account of the southern settlements, now known to be in Nevada and Arizona, or the few in the southern edge of Idaho.

Of the entire population, the adult portion is made up very nearly as follows: from Great Britain, one-half; from Sweden, Norway and Denmark, one-third; a dozen or twenty each from

Ireland, Italy, France and Prussia; a few Orientals; five Jews; a score or two of Kanakas; and the remaining one-seventh or eighth, American. The children, of course, are nearly all natives. While the foreigners are as seven or eight to one in the body of the Church, the Americans are about six to one in the Presidencies, Quorum of Apostles, leading Bishops and Elders, showing pretty conclusively the "ruling race." We are bound to say that our fellow-countrymen are smart, if they are rascally.

The entire Mormon people probably include nearly ten thousand men capable of bearing arms, of whom those in the northern settlements, and the American portion generally, know something of drill and the use of fire-arms; of the Scandinavians, their skill may be judged from the fact that a thousand or more of them were driven out of Sevier Valley by three hundred Mountain Utes, twenty-two of the latter in one battle defeating a hundred and fifty militia. But the English and American Saints in the north displayed considerable bravery under Lot Smith, and other leaders, in 1857, when Buchanan "crushed the Mormons."

Whether they are still confident of their ability "to thrash the United States," cannot well be known. After a careful statement of its resources, Lieut. J.W. Gunnison, assistant to Capt. Stansbury, estimates that the entire Territory is capable of sustaining a population of one million persons, entirely by grazing and agriculture.

The area is but half as large as at that time, and from my knowledge of fertile land still unoccupied, I am convinced that his estimate will apply proportionably at present. Thus, within the present limits of Utah may be developed a State, with a population of half a million engaged in agriculture, grazing, and domestic manufacture, and a quarter of a million more engaged in mining. But long before that occurs, the Territory must undergo a political and social change, and Mormonism give way to Christianity, progress and enterprise.