

broad plains to little nooks in the mountain fastnesses, all, when irrigable, of great fertility and perfect loveliness, and affording pleasant sites for a vast number of quiet, happy and prosperous homes. Many of these were selected by the early missionaries for their extensive establishments, and in their days of prosperity exhibited a wealth of resource since but rarely reached throughout the section.

Apparently, the San Gabriel Range is the continuation of the Sierra Nevada, extending the great chain south to the Peninsula of California; but south of 35° 30' that mountain falls away to Tehichipa Valley, or trends westerly to the Tejon Pass, and making a more intimate junction with the coast ranges. From the thirty-fifth parallel the Sierra rises, a grand and mighty range, extending to the northern limit of the State, where, spreading in high plateaus circling to the west and to the ocean, or continuing through Oregon and to the north, it maintains an almost uninterrupted elevation of 6,000 to 8,000 feet, with several peaks rising to the sublime height of 14,000 and 15,000 feet above the sea, their summits far above the limit of vegetation, and forever buried in the accumulated ice and snows of preceding ages. Chief among these towering peaks are Mounts Whitney, 15,000; Brewer, 13,885; Williamson, 14,900; Kaweah, 14,000; King, 14,000; Tyndall, 14,385; and fifty or sixty others in the southern portion of the range over 13,000 feet high; with Lassen's Peak 10,577, and Mount Shasta 14,412 feet high, in the north. This grand range pursues its rigid course for 600 miles through the State, parallel with the coast, giving rise to many streams, which unite and form the great rivers San Joaquin and Sacramento, that break through the coast mountains to the sea by the Bay of San Francisco. From the western base to the summit is about seventy miles. With different altitudes are different climates, soils and productions. The lower foot-hills possess a thin, red soil, usually requiring enriching and irrigation to make it fertile, and then it produces abundantly of fruits, vines and cereals. At a greater elevation the soil is more fertile, but the climate limits the range of plants. The distinguishing features of this noblest of mountain ranges are its mines of gold and its forests of pine, with its precipitous chasms, its grand scenery, and the mammoth *sequoia gigantea*, the largest trees of the earth. The gold production of the western slope of this mountain from 1848 to 1885 was estimated at \$900,000,000, and since that date the product has averaged about \$28,000,000 annually, making an aggregate of \$1,250,000,000 of that precious metal which stands as the basis of the currency of the world. Nor is the mineral wealth of the chain confined to gold alone. Copper, lead, silver, iron, coal, petroleum, granite, marble, lime and various other metals and substances are produced. Still the resources of the great Sierras are hardly known. Gold having been chiefly sought and its production attended with great excitement and extravagance, other sources of wealth were overlooked.

The Sierra Nevada, branching or curving westward, between the parallels of 40° and 41°, connects with the northern system of Coast ranges which enclose the Valley of the Sacramento. North of the fortieth parallel, these are gold-bearing, are lofty and rugged, with forests of pine, spruce and redwood, and of similar geological formation to the great mountain of the eastern portion of the State. Southward are a number of distinct ranges, so disposed as to enclose many valleys of greater or less extent, such as Clear Lake, Berreyesa, Napa, Ukiah, Russian River, Hoopa, Sonoma, etc., all of exceeding beauty and fertility.

Scott Mountain, in the northwestern part of the State, is the loftiest and most extensive range, branching off from the great peak of Mount Shasta, and running southerly toward the ocean. The principal peaks of this system of mountains west of the Sacramento are Yallobally, 8,000 feet; Mount Baldy, 6,337; Mount St. Johns, 4,500; Mount Ripley, 4,000; Mount Cobb, 3,800; Mount St. Helena, 4,343; Sulphur Peak, 3,471; and Mount Tamalpais, 2,600 feet high, overlooking the Golden Gate.

Recent discoveries of quicksilver-bearing rock in this region have given it increased importance. Mines of undoubted wealth have been opened in various parts of Lake, Sonoma and Napa Counties, and a valuable vein of gold-bearing quartz is found on Mount St. Helena. Hot and medicinal springs are numerous, and in one of the gorges of the western slope of Sulphur Peak are the singular boiling and spouting fountains known as the Geysers. These, with the romantic and beautiful scenery of the country, offer great attractions to health and pleasure-seeking tourists.

This system of mountains is indefinitely called the Coast Range, and it occupies the entire northwestern portion of the State, from the Golden Gate and Bay of San Francisco on the south, the Sacramento Valley on the east, to the Pacific Ocean on the west. Near the Ocean the mountains are clothed with a dense forest of redwood, which is a very valuable timber and easily worked, and is produced in large quantities. In this section too is found the laurel, one of the most beautiful ornamental woods known to the cabinetmaker.

Mount San Bernardino in the southern district and Mount Diablo in the northern are established as the initial points for the base and meridian lines of the United States system of land surveys.

RIVERS.

The rivers of California are quite numerous, and some are of great extent, although few are navigable. The largest is the Colorado, running near five hundred miles along the eastern border, and having a total length, from the source of its principal branch, Green River, in Idaho, of about two thousand miles. This great stream drains all the western slope of the Rocky Mountains, from the Snake River to Mexico, receiving in its course the Yampah, Uintah, White River, Grand, San Juan, Colorado Chiquito, Gila, and others of less note. From California it receives no water, the arid desert through which it flows having no streams. The Colorado, at ordinary stages, has a breadth of about four hundred yards, and always a rapid current flowing over a changing bed of sand, often so shallow as to forbid navigation by vessels drawing three feet of water. At its mouth, in the Gulf of California, its strong current meets the rising tide in a dangerous swell, rolling up the river a wall of waters, grand to the sight, but a terror to navigators. Its season of flood is in the months of June and July, when the melting snows of the Rocky Mountains have reached the mouth, sending the water over the valley lands and flowing a large stream into the desert of the Colorado. This stream bears the name of New River, but exists only when the Colorado is above its banks. An effort has recently been made, or rather was long ago proposed and now renewed, to obtain governmental aid to conduct the waters of New River over a large extent of desert for the purpose of irrigation, but as it leaves the parent stream within Mexican territory, a serious obstacle to the enterprise is interposed. A survey shows that much of the country is below the level of the Colorado, and that the valley of New River could, by proper engineering, be reclaimed. This stream, in periods of very high water, extends one hundred and fifty miles into the desert, and as the soil possesses elements of great fertility, upon receding, vegetation is rank and prolific.

White River, or Agua Blanco, rises among the snows of Mount San Bernardino, draining the eastern slope of that towering peak and flowing southerly into the desert, is soon lost in the sands. While in its mountain course this is a very pretty stream of from twelve to twenty yards in breadth, and takes its name from the purity of its waters. The basin into which it debouches is at the eastern foot of the San Geronio Pass, and is the northern extremity of the great Coahuilla Valley, which extends to and includes the valley of New River—the whole evidently being below the level of the sea.

The Mohave is one of the largest of the desert streams. Rising in Mount San Bernardino it drains the northern slope, and flowing northerly and northeasterly for a distance of about one hundred and fifty miles, sinks in the basin of Soda Lake. Several fertile valleys are along its line, but in the latter part of its course the desolation is supreme.

The Amargosa is a singular river of the desert, rising in the State of Nevada, on the northeastern side