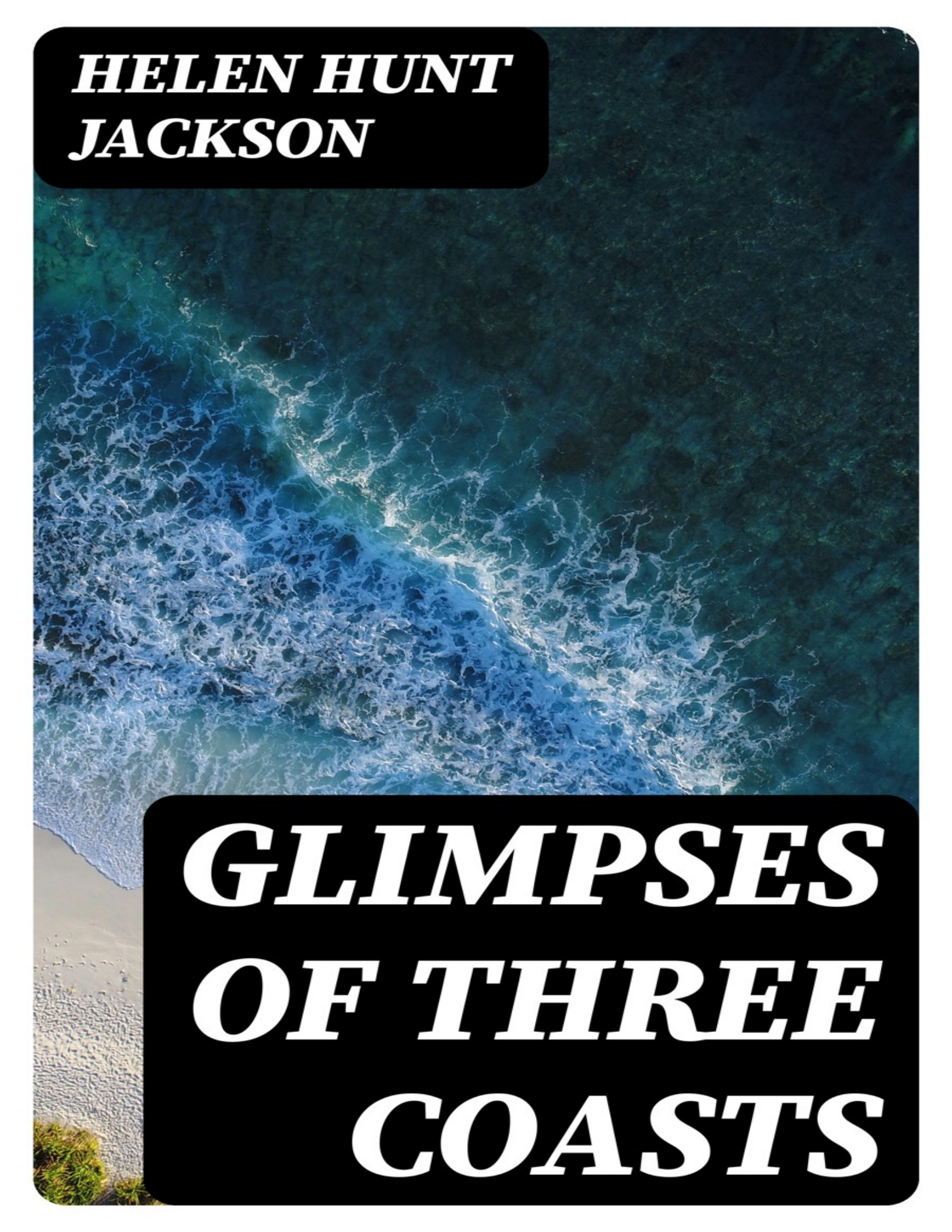
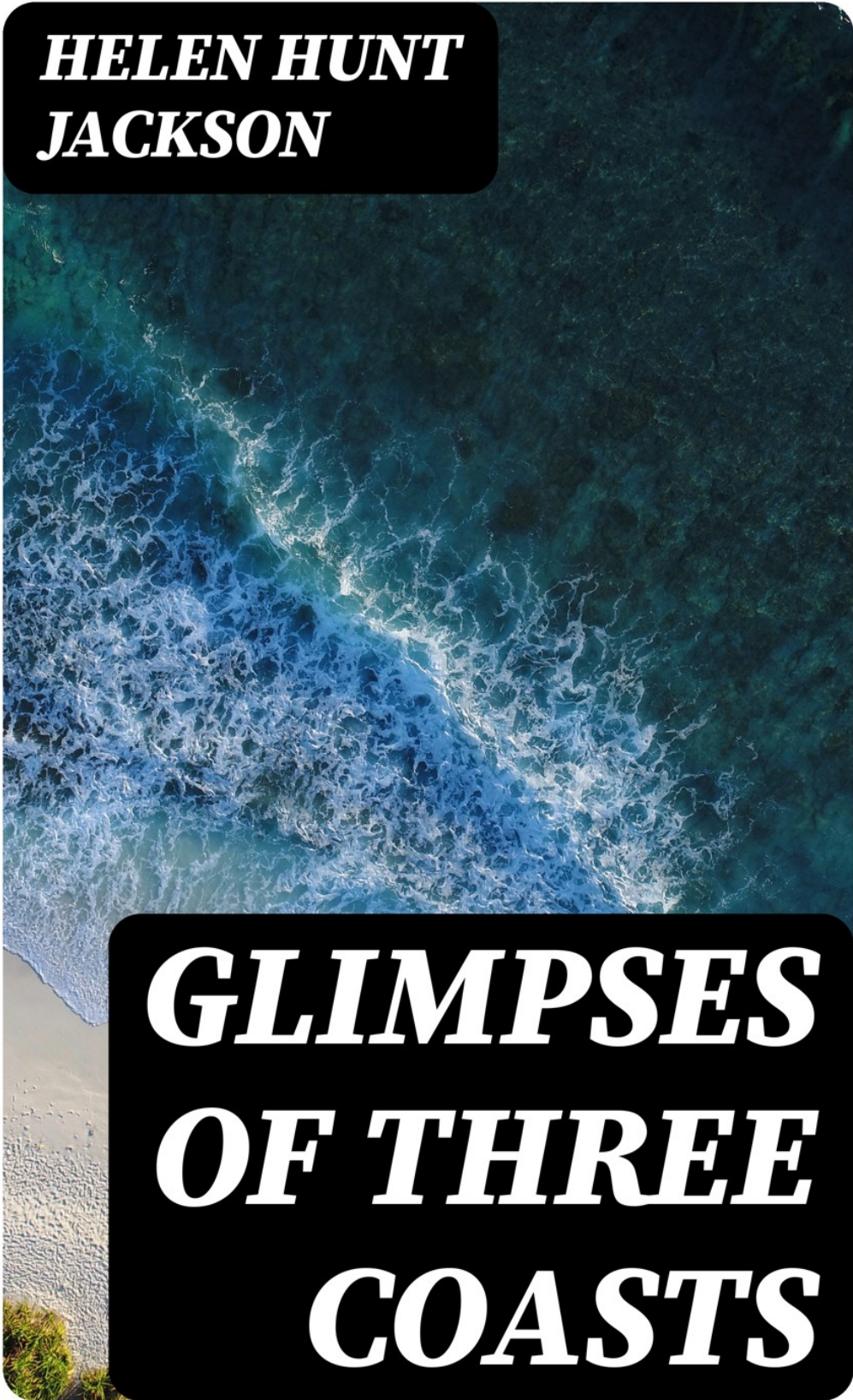


An aerial photograph of a coastline. The top half of the image shows deep turquoise water with intricate, swirling patterns of white foam and bubbles, suggesting a powerful wave or current. The bottom left corner shows a sandy beach with some green vegetation. The text is overlaid on the image in two black boxes with white text.

***HELEN HUNT
JACKSON***

***GLIMPSES
OF THREE
COASTS***

An aerial photograph of a coastline. The top half of the image shows dark, deep blue ocean water with white, frothy waves crashing. The bottom left corner shows a sandy beach with some green vegetation. A black rectangular box with rounded corners is in the top left, and a larger black rectangular box with rounded corners is in the bottom right, both containing white text.

***HELEN HUNT
JACKSON***

***GLIMPSES
OF THREE
COASTS***

Helen Hunt Jackson

Glimpses of Three Coasts

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I.

CALIFORNIA AND OREGON.

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OUTDOOR INDUSTRIES IN SOUTHERN CALIFORNIA.

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Climate is to a country what temperament is to a man,— Fate. The figure is not so fanciful as it seems; for temperament, broadly defined, may be said to be that which determines the point of view of a man's mental and spiritual vision,—in other words, the light in which he sees things. And the word "climate" is, primarily, simply a statement of bounds defined according to the obliquity of the sun's course relative to the horizon,—in other words, the slant of the sun. The tropics are tropic because the sun shines down too straight. Vegetation leaps into luxuriance under the nearly vertical ray: but human activities languish; intellect is supine; only the passions, human nature's rank weed-growths, thrive. In the temperate zone, again, the sun strikes the earth too much aslant. Human activities develop; intellect is keen; the balance of passion and reason is normally adjusted: but vegetation is slow and restricted. As compared with the productiveness of the tropics, the best that the temperate zone can do is scanty.

There are a few spots on the globe where the conditions of the country override these laws, and do away with these

lines of discrimination in favors. Florida, Italy, the South of France and of Spain, a few islands, and South California complete the list.

These places are doubly dowered. They have the wealths of the two zones, without the drawbacks of either. In South California this results from two causes: first, the presence of a temperate current in the ocean, near the coast; second, the configuration of the mountain ranges which intercept and reflect the sun's rays, and shut South California off from the rest of the continent. It is, as it were, climatically insulated,—a sort of island on land. It has just enough of sea to make its atmosphere temperate. Its continental position and affinities give it a dryness no island could have; and its climatically insulated position gives it an evenness of temperature much beyond the continental average.

It has thus a cool summer and a temperate winter,—conditions which secure the broadest and highest agricultural and horticultural possibilities. It is the only country in the world where dairies and orange orchards will thrive together.

It has its own zones of climate; not at all following lines parallel to the equator, but following the trend of its mountains. The California mountains are a big and interesting family of geological children, with great gaps in point of age, the Sierra Nevada being oldest of all. Time was when the Sierra Nevada fronted directly on the Pacific, and its rivers dashed down straight into the sea. But that is ages ago. Since then have been born out of the waters the numerous coast ranges, all following more or less closely the shore line. These are supplemented at Point Conception

by east and west ranges, which complete the insulating walls of South, or semi-tropic, California. The coast ranges are the youngest of the children born; but the ocean is still pregnant of others. Range after range, far out to sea, they lie, with their attendant valleys, biding their time, popping their heads out here and there in the shape of islands.

This colossal furrow system of mountains must have its correlative system of valleys; hence the great valley divisions of the country. There may be said to be four groups or kinds of these: the low and broad valleys, so broad that they are plains; the high mountain valleys; the rounded plateaus of the Great Basin, as it is called, of which the Bernardino Mountains are the southern rim; and the river valleys or cañons,—these last running at angles to the mountain and shore lines.

When the air in these valleys becomes heated by the sun, it rushes up the slopes of the Sierra Nevada as up a mighty chimney. To fill the vacuum thus created, the sea air is drawn in through every break in the coast ranges as by a blower. In the upper part of the California coast it sucks in with fury, as through the Golden Gate, piling up and demolishing high hills of sand every year, and cutting grooves on the granite fronts of mountains.

The country may be said to have three distinct industrial belts: the first, along the coast, a narrow one, from one to fifteen miles wide. In this grow some of the deciduous fruits, corn, pumpkins, and grain. Dairy and stock interests flourish. The nearness of the sea makes the air cool, with fogs at night. There are many *ciénagas*, or marshy regions, where grass is green all the year round, and water is near

the surface everywhere. Citrus fruits do not flourish in this belt, except in sheltered spots at the higher levels.

The second industrial belt comprises the shorter valleys opening toward the sea; a belt of country averaging perhaps forty miles in width. In this belt all grains will grow without irrigation; all deciduous fruits, including the grape, flourish well without irrigation; the citrus fruits thrive, but need irrigation.

The third belt lies back of this, farther from the sea; and the land, without irrigation, is worthless for all purposes except pasturage. That, in years of average rain-fall, is good.

The soils of South California are chiefly of the cretaceous and tertiary epochs. The most remarkable thing about them is their great depth. It is not uncommon, in making wells, to find the soil the same to a depth of one hundred feet; the same thing is to be observed in cañons, cuts, and exposed bluffs on the sea-shore. This accounts for the great fertility of much of the land. Crops are raised year after year, sometimes for twenty successive years, on the same fields, without the soil's showing exhaustion; and what are called volunteer crops, sowing themselves, give good yields for the first, second, and even third year after the original planting.

To provide for a wholesome variety and succession of seasons, in a country where both winter and summer were debarred full reign, was a meteorological problem that might well have puzzled even Nature's ingenuity. But next to a vacuum, she abhors monotony; and to avoid it, she has, in California, resorted even to the water-cure,—getting her

requisite alternation of seasons by making one wet and the other dry.

To define the respective limits of these seasons becomes more and more difficult the longer one stays in California, and the more one studies rain-fall statistics. Generally speaking, the wet season may be said to be from the middle of October to the middle of April, corresponding nearly with the outside limits of the north temperate zone season of snows. A good description of the two seasons would be—and it is not so purely humorous and unscientific as it sounds—that the wet season is the season in which it can rain, but may not; and the dry season is the season in which it cannot rain, but occasionally does.

Sometimes the rains expected and hoped for in October do not begin until March, and the whole country is in anxiety; a drought in the wet season meaning drought for a year, and great losses. There have been such years in California, and the dread of them is well founded. But often the rains, coming later than their wont, are so full and steady that the requisite number of inches fall, and the year's supply is made good. The average rain-fall in San Diego County is ten inches; in Los Angeles, San Bernardino, and Ventura counties, fifteen; in Santa Barbara, twenty. These five counties are all that properly come under the name of South California, resting the division on natural and climatic grounds. The political division, if ever made, will be based on other than natural or climatic reasons, and will include two, possibly three, more counties.

The pricelessness of water in a land where no rain falls during six months of the year cannot be appreciated by one

who has not lived in such a country. There is a saying in South California that if a man buys water he can get his land thrown in. This is only an epigrammatic putting of the literal fact that the value of much of the land depends solely upon the water which it holds or controls.

Four systems of irrigation are practised: First, flooding the land. This is possible only in flat districts, where there are large heads of water. It is a wasteful method, and is less and less used each year. The second system is by furrows. By this system a large head of water is brought upon the land and distributed in small streams in many narrow furrows. The streams are made as small as will run across the ground, and are allowed to run only twenty-four hours at a time. The third system is by basins dug around tree roots. To these basins water is brought by pipes or ditches; or, in mountain lands, by flumes. The fourth system is by sub-irrigation. This is the most expensive system of all, but is thought to economize water. The water is carried in pipes laid from two to three feet under ground. By opening valves in these pipes the water is let out and up, but never comes above the surface.

The appliances of one sort and another belonging to these irrigation systems add much to the picturesqueness of South California landscapes. Even the huge, tower-like, round-fanned windmills by which the water is pumped up are sometimes, spite of their clumsiness, made effective by gay colors and by vines growing on them. If they had broad, stretching arms, like the Holland windmills, the whole country would seem a-flutter.

The history of the industries of South California since the American occupation is interesting in its record of successions,—successions, not the result of human interventions and decisions so much as of climatic fate, which, in epoch after epoch, created different situations.

The history begins with the cattle interest; hardly an industry, perhaps, or at any rate an unindustrious one, but belonging in point of time at the head of the list of the ways and means by which money has been made in the country. It dates back to the old mission days; to the two hundred head of cattle which the wise Galvez brought, in 1769, for stocking the three missions projected in Upper California.

From these had grown, in the sixty years of the friars' unhindered rule, herds, of which it is no exaggeration to say that they covered thousands of hills and were beyond counting. It is probable that even the outside estimates of their numbers were short of the truth. The cattle wealth, the reckless ruin of the secularization period, survived, and was the leading wealth of the country at the time of its surrender to the United States. It was most wastefully handled. The cattle were killed, as they had been in the mission days, simply for their hides and tallow. Kingdoms full of people might have been fed on the beef which rotted on the ground every year, and the California cattle ranch in which either milk or butter could be found was an exception to the rule.

Into the calm of this half-barbaric life broke the fierce excitement of the gold discovery in 1849. The swarming hordes of ravenous miners must be fed; beef meant gold. The cattlemen suddenly found in their herds a new source of undreamed-of riches. Cattle had been sold as low as two

dollars and a half a head. When the gold fever was at its highest, there were days and places in which they sold for three hundred. It is not strange that the rancheros lost their heads, grew careless and profligate.

Then came the drought of 1864, which killed off cattle by thousands of thousands. By thousands they were driven over steep places into the sea to save pasturage, and to save the country from the stench and the poison of their dying of hunger. In April of that year, fifty thousand head were sold in Santa Barbara for thirty-seven and a half cents a head. Many of the rancheros were ruined; they had to mortgage their lands to live; their stock was gone; they could not farm; values so sank, that splendid estates were not worth over ten cents an acre.

Then came in a new set of owners. From the north and from the interior poured in the thriftier sheep men, with big flocks; and for a few years the wide belt of good pasturage land along the coast was chiefly a sheep country.

Slowly farmers followed; settling, in the beginning, around town centres such as Los Angeles, Santa Barbara, Ventura. Grains and vegetables were grown for a resource when cattle and sheep should fail. Cows needed water all the year round; corn only a few months. A wheat-field might get time to ripen in a year when by reason of a drought a herd of cattle would die.

Thus the destiny of the country steadily went on toward its fulfilling, because the inexorable logic of the situation forced itself into the minds of the population. From grains and vegetables to fruits was a short and natural step, in the balmy air, under the sunny sky, and with the traditions and

relics of the old friars' opulent fruit growths lingering all through the land. Each palm, orange-tree, and vineyard left on the old mission sites was a way-signal to the new peoples; mute, yet so eloquent, the wonder is that so many years should have elapsed before the road began to be thronged.

Such, in brief, is the chronicle of the development of South California's outdoor industries down to the present time; of the successions through which the country has been making ready to become what it will surely be, the Garden of the world,—a garden with which no other country can vie; a garden in which will grow, side by side, the grape and the pumpkin, the pear and the orange, the olive and the apple, the strawberry and the lemon, Indian corn and the banana, wheat and the guava.

The leading position which the fruit interest will ultimately take has been reached only in Los Angeles County. There the four chief industries, ranged according to their relative importance, stand as follows: Fruit, grain, wool, stock, and dairy. This county may be said to be pre-eminently the garden of the Garden. No other of the five counties can compete with it. Its fruit harvest is nearly unintermitted all the year round. The main orange crop ripens from January to May, though oranges hang on the trees all the year. The lemon, lime, and citron ripen and hang, like the orange. Apricots, pears, peaches, nectarines, strawberries, currants, and figs are plentiful in June; apples, pears, peaches, during July and August. Late in July grapes begin, and last till January. September is the best month of all, having grapes, peaches, pomegranates, walnuts,

almonds, and a second crop of figs. From late in August till Christmas, the vintage does not cease.

The county has a sea-coast line of one hundred miles, and contains three millions of acres; two thirds mountain and desert, the remaining million good pasturage and tillable land. What is known as the great Los Angeles valley has an area of about sixty miles in length by thirty in width, and contains the three rivers of the county,—the Los Angeles, the Santa Ana, and the San Gabriel. Every drop of the water of these rivers and of the numberless little springs and streams ministering to their system is owned, rated, utilized, and, one might almost add, wrangled over. The chapters of these water litigations are many and full; and it behooves every new settler in the county to inform himself on that question first of all, and thoroughly.

In the Los Angeles valley lie several lesser valleys, fertile and beautiful; most notable of these, the San Gabriel valley, where was the site of the old San Gabriel Mission, twelve miles east of the town of Los Angeles. This valley is now taken up in large ranches, or in colonies of settlers banded together for mutual help and security in matter of water rights. This colony feature is daily becoming more and more an important one in the development of the whole country. Small individual proprietors cannot usually afford the purchase of sufficient water to make horticultural enterprises successful or safe. The incorporated colony, therefore, offers advantages to large numbers of settlers of a class that could not otherwise get foothold in the country,—the men of comparatively small means, who expect to work with their hands and await patiently the slow growth of

moderate fortunes,—a most useful and abiding class, making a solid basis for prosperity. Some of the best results in South California have already been attained in colonies of this sort, such as Anaheim, Riverside, and Pasadena. The method is regarded with increasing favor. It is a rule of give and take, which works equally well for both country and settlers.

The South California statistics of fruits, grain, wool, honey, etc., read more like fancy than like fact, and are not readily believed by one unacquainted with the country. The only way to get a real comprehension and intelligent acceptance of them is to study them on the ground. By a single visit to a great ranch one is more enlightened than he would be by committing to memory scores of Equalization Board Reports. One of the very best, if not the best, for this purpose is Baldwin's ranch, in the San Gabriel valley. It includes a large part of the old lands of the San Gabriel Mission, and is a principality in itself.

There are over a hundred men on its pay-roll, which averages \$4,000 a month. Another \$4,000 does not more than meet its running expenses. It has \$6,000 worth of machinery for its grain harvests alone. It has a dairy of forty cows, Jersey and Durham; one hundred and twenty work-horses and mules, and fifty thoroughbreds.

It is divided into four distinct estates: the Santa Anita, of 16,000 acres; Puente, 18,000; Merced, 20,000; and the Potrero, 25,000. The Puente and Merced are sheep ranches, and have 20,000 sheep on them. The Potrero is rented out to small farmers. The Santa Anita is the home estate. On it are the homes of the family and of the laborers. It has

fifteen hundred acres of oak grove, four thousand acres in grain, five hundred in grass for hay, one hundred and fifty in orange orchards, fifty of almond trees, sixty of walnuts, twenty-five of pears, fifty of peaches, twenty of lemons, and five hundred in vines; also small orchards of chestnuts, hazel-nuts, and apricots; and thousands of acres of good pasturage.

From whatever side one approaches Santa Anita in May, he will drive through a wild garden,—asters, yellow and white; scarlet pentstemons, blue larkspur, monk's-hood; lupines, white and blue; gorgeous golden eschscholtzia, alder, wild lilac, white sage,—all in riotous flowering.

Entering the ranch by one of the north gates, he will look southward down gentle slopes of orchards and vineyards far across the valley, the tints growing softer and softer, and blending more and more with each mile, till all melt into a blue or purple haze. Driving from orchard to orchard, down half-mile avenues through orchards skirting seemingly endless stretches of vineyard, he begins to realize what comes of planting trees and vines by hundreds and tens of hundreds of acres, and the Equalization Board Statistics no longer appear to him even large. It does not seem wonderful that Los Angeles County should be reported as having sixty-two hundred acres in vines, when here on one man's ranch are five hundred acres. The last Equalization Board Report said the county had 256,135 orange and 41,250 lemon trees. It would hardly have surprised him to be told that there were as many as that in the Santa Anita groves alone. The effect on the eye of such huge tracts, planted with a single sort of tree, is to increase enormously the apparent

size of the tract; the mind stumbles on the very threshold of the attempt to reckon its distances and numbers, and they become vaster and vaster as they grow vague.

The orange orchard is not the unqualifiedly beautiful spectacle one dreams it will be; nor, in fact, is it so beautiful as it ought to be, with its evergreen shining foliage, snowy blossoms, and golden fruit hanging together and lavishly all the year round. I fancy that if travellers told truth, ninety-nine out of a hundred would confess to a grievous disappointment at their first sight of the orange at home. In South California the trees labor under the great disadvantage of being surrounded by bare brown earth. How much this dulls their effect one realizes on finding now and then a neglected grove where grass has been allowed to grow under the trees, to their ruin as fruit-bearers, but incomparably heightening their beauty. Another fatal defect in the orange-tree is its contour. It is too round, too stout for its height; almost as bad a thing in a tree as in a human being. The uniformity of this contour of the trees, combined with the regularity of their setting in evenly spaced rows, gives large orange groves a certain tiresome quality, which one recognizes with a guilty sense of being shamefully ungrateful for so much splendor of sheen and color. The exact spherical shape of the fruit possibly helps on this tiresomeness. One wonders if oblong bunches of long-pointed and curving fruit, banana-like, set irregularly among the glossy green leaves, would not look better; which wonder adds to ingratitude an impertinence, of which one suddenly repents on seeing such a tree as I saw in a Los Angeles garden in the winter of 1882,—a tree not over thirty

feet high, with twenty-five hundred golden oranges hanging on it, among leaves so glossy they glittered in the sun with the glitter of burnished metal. Never the Hesperides saw a more resplendent sight.

But the orange looks its best plucked and massed; it lends itself then to every sort and extent of decoration. At a citrus fair in the Riverside colony in March, 1882, in a building one hundred and fifty feet long by sixty wide, built of redwood planks, were five long tables loaded with oranges and lemons; rows, plates, pyramids, baskets; the bright redwood walls hung with great boughs, full as when broken from the tree; and each plate and pyramid decorated with the shining green leaves. The whole place was fairly ablaze, and made one think of the Arabian Nights' Tales. The acme of success in orange culture in California is said to have been attained in this Riverside colony, though it is only six years old, and does not yet number two thousand souls. There are in its orchards 209,000 orange-trees, of which 28,000 are in bearing, 20,000 lemon trees, and 8,000 limes.

The profits of orange culture are slow to begin, but, having once begun, mount up fast. Orange orchards at San Gabriel have in many instances netted \$500 an acre annually. The following estimate, the result of sixteen years' experience, is probably a fair one of the outlay and income of a small orange grove:—

10 acres of land, at \$75 per acre	\$750.00
1000 trees, at \$75 per hundred	750.00

Ploughing and harrowing, \$2.50 per acre	25.00
Digging holes, planting, 10 cents each	100.00
Irrigating and planting	10.00
Cultivation after irrigation	4.50
3 subsequent irrigations during the year	30.00
3 subsequent cultivations the first year	13.50
Total cost, first year	\$1,683.00

This estimate of cost of land is based on the price of the best lands in the San Gabriel valley. Fair lands can be bought in other sections at lower prices.

Second year.—An annual ploughing in January	\$25.00
Four irrigations during year	40.00
Six cultivations during year	27.00
Third year	125.00
Fourth year	150.00
Fifth year	200.00
Interest on investment	1,000.00
Total	\$3,250.00

If first-class, healthy, thrifty budded trees are planted, they will begin to fruit the second year. The third year, a few boxes may be marketed. The fourth year, there will be an average yield of at least 75 oranges to the tree, which will equal:

75,000, at \$10 per thousand net	\$750.00
The fifth year, 250 per tree, 250,000, at \$10 per thousand	2,500.00
Total	\$3,250.00

The orchard is now clear gain, allowing \$1,000 as interest on the investment. The increase in the volume of production will continue, until at the end of the tenth year an average of 1,000 oranges to a tree would not be an extraordinary yield.

To all these formulas of reckoning should be added one with the algebraic x representing the unknown quantity, and standing for insect enemies at large. Each kind of fruit has its own, which must be fought with eternal vigilance. No port, in any country, has more rigid laws of quarantine than are now enforced in California against these insect enemies. Grafts, cuttings, fruit, if even suspected, are seized and compelled to go through as severe disinfecting processes as if they were Cuban passengers fresh from a yellow fever epidemic.

The orange's worst enemy is a curious insect, the scale-bug. It looks more like a mildew than like anything alive; is

usually black, sometimes red. Nothing but violent treatment with tobacco will eradicate it. Worse than the scale-bug, in that he works out of sight underground, is the gopher. He has gnawed every root of a tree bare before a tooth-mark on the trunk suggests his presence, and then it is too late to save the tree. The rabbit also is a pernicious ally in the barking business; he, however, being shy, soon disappears from settled localities; but the gopher stands not in fear of man or men. Only persistent strychnine, on his door-sills and thrust down his winding stairs, will save the orchard in which he has founded a community.

The almond and the walnut orchards are beautiful features in the landscape all the year round, no less in the winter, when their branches are naked, than in the season of their full leaf and bearing. In fact, the broad spaces of filmy gray made by their acres when leafless are delicious values in contrast with the solid green of the orange orchards. The exquisite revelation of tree systems which stripped boughs give is seen to more perfect advantage against a warm sky than a cold one, and is heightened in effect standing side by side with the flowing green pepper-trees and purple eucalyptus.

In the time of blossoms, an almond orchard, seen from a distance, is like nothing so much as a rosy-white cloud, floated off a sunset and spread on the earth. Seen nearer, it is a pink snow-storm, arrested and set on stalks, with an orchestra buzz of bees filling the air.

It is a pity that the almond-tree should not be more repaying; for it will be a sore loss to the beauty of the country when the orchards are gone, and this is only a

question of time. They are being uprooted and cast out. The crop is a disappointing one, of uncertain yield, and troublesome to prepare. The nuts must be five times handled: first picked, then shucked, then dried, then bleached, and then again dried. After the first drying, they are dipped by basketfuls into hot water, then poured into the bleachers,—boxes with perforated bottoms. Underneath these is a sulphur fire to which the nuts must be exposed for fifteen or twenty minutes. Then they are again spread in a drying-house. The final gathering them up to send to market makes really a sixth handling; and after all is said and done, the nuts are not very good, being flavorless in comparison with those grown in Europe.

The walnut orchard is a better investment, and no less a delight to the eye. While young, the walnut-tree is graceful; when old, it is stately. It is a sturdy bearer, and if it did not bear at all, would be worth honorable place and room on large estates, simply for its avenues of generous shade. It is planted in the seed, and transplanted at two or three years old, with only twenty-seven trees to an acre. They begin to bear at ten years, reach full bearing at fifteen, and do not give sign of failing at fifty.

Most interesting of all South California's outdoor industries is the grape culture. To speak of grape culture is to enter upon a subject which needs a volume. Its history, its riches, past and prospective, its methods, its beautiful panorama of pictures, each by itself is worth study and exhaustive treatment. Since the days of Eschol, the vine and the vineyard have been honored in the thoughts and the imaginations of men; they furnished shapes and designs for

the earliest sacred decorations in the old dispensation, and suggestions and symbols for divine parables in the new. No age has been without them, and no country whose sun was warm enough to make them thrive. It is safe to predict that so long as the visible frame of the earth endures, "wine to make glad the heart of man" will be made, loved, celebrated, and sung.

To form some idea of California's future wealth from the grape culture, it is only necessary to reflect on the extent of her grape-growing country as compared with that of France. In France, before the days of the phylloxera, 5,000,000 of people were supported entirely by the grape industry, and the annual average of the wine crop was 2,000,000,000 gallons, with a value of \$400,000,000. The annual wine-yield of California is already estimated at about 10,000,000 gallons. Nearly one third of this is made in South California, chiefly in Los Angeles County, where the grape culture is steadily on the increase, five millions of new vines having been set out in the spring of 1882.

The vineyards offer more variety to the eye than the orange orchards. In winter, when leafless, they are grotesque; their stocky, twisted, hunchback stems looking like Hindoo idols or deformed imps, no two alike in a square mile, all weird, fantastic, uncanny. Their first leafing out does not do away with this; the imps seem simply to have put up green umbrellas; but presently the leaves widen and lap, hiding the uncouth trunks, and spreading over all the vineyard a beautiful, tender green, with lights and shades breaking exquisitely in the hollows and curves of the great leaves. From this on, through all the stages of blossoms and

seed-setting, till the clusters are so big and purple that they gleam out everywhere between the leaves,—sometimes forty-five pounds on a single vine, if the vine is irrigated, twelve if it is left to itself. Eight tons of grapes off one acre have been taken in the Baldwin ranch. There were made there, in 1881, 100,000 gallons of wine and 50,000 of brandy. The vintage begins late in August, and lasts many weeks, some varieties of grapes ripening later than others. The vineyards are thronged with Mexican and Indian pickers. The Indians come in bands, and pitch their tents just outside the vineyard. They are good workers. The wine-cellars and the great crushing-vats tell the vineyards' story more emphatically even than the statistical figures. A vat that will hold 1,000 gallons piled full of grapes, huge wire wheels driving round and round in the spurting, foaming mass, the juice flying off through trough-like shoots on each side into seventy great vats; below, breathless men working the wheels, loads of grapes coming up momentarily and being poured into the swirling vat, the whole air reeking with winy flavor. The scene makes earth seem young again, old mythologies real; and one would not wonder to see Bacchus and his leopards come bowling up, with shouting Pan behind.

The cellars are still, dark, and fragrant. Forty-eight great oval-shaped butts, ten feet in diameter, holding 2,100 gallons each, I counted in one cellar. The butts are made of Michigan oak, and have a fine yellow color, which contrasts well with the red stream of the wine when it is drawn.

Notwithstanding the increase of the grape culture, the price of grapes is advancing, some estimates making it forty

per cent higher than it was five years ago. It is a quicker and probably a more repaying industry than orange-growing. It is reckoned that a vineyard in its fourth year will produce two tons to the acre; in the seventh year, four; the fourth year it will be profitable, reckoning the cost of the vineyard at sixty dollars an acre, exclusive of the first cost of the land. The annual expense of cultivation, picking, and handling is about twenty-five dollars. The rapid increase of this culture has been marvellous. In 1848 there were only 200,000 vines in all California; in 1862 there were 9,500,000; in 1881, 64,000,000, of which at least 34,000,000 are in full bearing.

Such facts and figures are distressing to the advocates of total abstinence; but they may take heart in the thought that a by no means insignificant proportion of these grapes will be made into raisins, canned, or eaten fresh.

The raisin crop was estimated at 160,000 boxes for 1881. Many grape-growers believe that in raisin-making will ultimately be found the greatest profit. The Americans are a raisin-eating people. From Malaga alone are imported annually into the United States about ten tons of raisins, one half the entire crop of the Malaga raisin district. This district has an area of only about four hundred square miles. In California an area of at least twenty thousand square miles is adapted to the raisin.

A moderate estimate of the entire annual grape crop of California is 119,000 tons. "Allowing 60,000 tons to be used in making wines, 2,000 tons to be sent fresh to the Eastern States, and 5,000 tons to be made into raisins, there would still remain 52,000 tons to be eaten fresh or wasted,—more

than one hundred pounds for each resident of California, including children."[\[1\]](#)

The California wines are as yet of inferior quality. A variety of still wines and three champagnes are made; but even the best are looked on with distrust and disfavor by connoisseurs, and until they greatly improve they will not command a ready market in America. At present it is to be feared that a large proportion of them are sold under foreign labels.

Prominent among the minor industries is honey-making. From the great variety of flowers and their spicy flavor, especially from the aromatic sages, the honey is said to have a unique and delicious taste, resembling that of the famous honey of Hymettus.

The crop for 1881, in the four southern counties, was estimated at three millions of pounds; a statistic that must seem surprising to General Fremont, who, in his report to Congress of explorations on the Pacific coast in 1844, stated that the honey-bee could not exist west of the Sierra Nevadas.

The bee ranches are always picturesque; they are usually in cañons or on wooded foot-hills, and their villages of tiny bright-colored hives look like gay Lilliputian encampments. It has appeared to me that men becoming guardians of bees acquire a peculiar calm philosophy, and are superior to other farmers and outdoor workers. It would not seem unnatural that the profound respect they are forced to entertain for insects so small and so wholly at their mercy should give them enlarged standards in many things; above

all, should breed in them a fine and just humility toward all creatures.

A striking instance of this is to be seen in one of the most beautiful cañons of the San Gabriel valley, where, living in a three-roomed, redwood log cabin, with a vine-covered booth in front, is an old man kings might envy.

He had a soldier's warranty deed for one hundred and sixty acres of land, and he elected to take his estate at the head of a brook-swept gorge, four fifths precipice and rock. In the two miles between his cabin and the mouth of the gorge, the trail and the brook change sides sixteen times. When the brook is at its best, the trail goes under altogether, and there is no getting up or down the cañon. Here, with a village of bees for companions, the old man has lived for a dozen years. While the bees are off at work, he sits at home and weaves, out of the gnarled stems and roots of manzanita and laurels, curious baskets, chairs, and brackets, for which he finds ready market in Los Angeles. He knows every tree and shrub in the cañon, and has a fancy for collecting specimens of all the native woods of the region. These he shapes into paper-cutters, and polishes them till they are like satin. He came from Ohio forty years ago, and has lived in a score of States. The only spot he likes as well as this gorge is Don Yana, on the Rio Grande River, in Mexico. Sometimes he hankers to go there and sit under the shadow of big oaks, where the land slopes down to the river; but "the bee business," he says, "is a good business only for a man who has the gift of continuance;" and "it's no use to try to put bees with farms: farms want valleys, bees want mountains."

"There are great back-draws to the bee business, the irregularities of the flowers being chief; some years there's no honey in the flowers at all. Some explain it on one hypothesis and some on another, and it lasts them to quarrel over."

His phrases astonish you; also the quiet courtesy of his manner, so at odds with his backwoodsman's garb. But presently you learn that he began life as a lawyer, has been a judge in his time; and when, to show his assortment of paper-cutters, he lifts down the big book they are kept in, and you see that it is Voltaire's "Philosophical Dictionary," you understand how his speech has been fashioned. He keeps a diary of every hive, the genealogy of every swarm.

"No matter what they do,—the least thing,—we note it right down in the book. That's the only way to learn bees," he says.

On the outside wall of the cabin is fastened an observation hive, with glass sides. Here he sits, watch in hand, observing and noting; he times the bees, in and out, and in each one of their operations. He watches the queen on her bridal tour in the air; once the drone bridegroom fell dead on his note-book. "I declare I couldn't help feeling sort of sorry for him," said the old man.

In a shanty behind the house is the great honey-strainer, a marvellous invention, which would drive bees mad with despair if they could understand it. Into a wheel, with perforated spokes, is slipped the comb full of honey, the cells being first opened with a hot knife. By the swift turning of this wheel, the honey flies out of the comb, and pours through a cylinder into a can underneath, leaving the comb

whole and uninjured, ready to be put back into the hive for the patient robbed bees to fill again. The receiving-can will hold fifteen hundred pounds; two men can fill it in a day; a single comb is so quickly drained that a bee might leave his hive on his foraging expedition, and before he could get his little load of honey and return, the comb could be emptied and put back. It would be vastly interesting to know what is thought and said in bee-hives about these mysterious emptyings of combs.

A still more tyrannical circumvention has been devised, to get extra rations of honey from bees: false combs, wonderful imitations of the real ones, are made of wax. Apparently the bees know no difference; at any rate, they fill the counterfeit full of real honey. These artificial combs, carefully handled, will last ten or twelve years in continual use.

The highest yield his hives had ever given him was one hundred and eighty pounds a hive.

"That's a good yield; at that rate, with three or four hundred hives, I'd do very well," said the old man. "But you're at the mercy of speculators in honey as well as everything else. I never count on getting more than four or five cents a pound. They make more than I do."

The bee has a full year's work in South California: from March to August inexhaustible forage, and in all the other months plenty to do,—no month without some blossoms to be found. His time of danger is when apricots are ripe and lady-bugs fly.

Of apricots, bees will eat till they are either drunk or stuffed to death; no one knows which. They do not live to

get home. Oddly enough, they cannot pierce the skins themselves, but have to wait till the lady-bug has made a hole for them. It must have been an accidental thing in the outset, the first bee's joining a lady-bug at her feast of apricot. The bee, in his turn, is an irresistible treat to the bee-bird and lizard, who pounce upon him when he is on the flower; and to a stealthy moth, who creeps by night into hives and kills hundreds.

"Nobody need think the bee business is all play," was our old philosopher's last word. "It's just like everything else in life, and harder than some things."

The sheep industry is, on the whole, decreasing in California. In 1876, the wool crop of the entire State was 28,000 tons; in 1881, only 21,500. This is the result, in part, of fluctuations in the price of wool, but more of the growing sense of the greater certainty of increase from agriculture and horticulture.

The cost of keeping a sheep averages only \$1.25 a year. Its wool sells for \$1.50, and for each hundred there will be forty-five lambs, worth seventy-five cents each. But there have been droughts in California which have killed over one million sheep in a year; there is always, therefore, the risk of losing in one year the profits of many.

The sheep ranches are usually desolate places: a great stretch of seemingly bare lands, with a few fenced corrals, blackened and foul-smelling; the home and out-buildings clustered together in a hollow or on a hill-side where there is water; the less human the neighborhood the better.