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OUTDOOR INDUSTRIES IN SOUTHERN CALIFORNIA.

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 favor. 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.

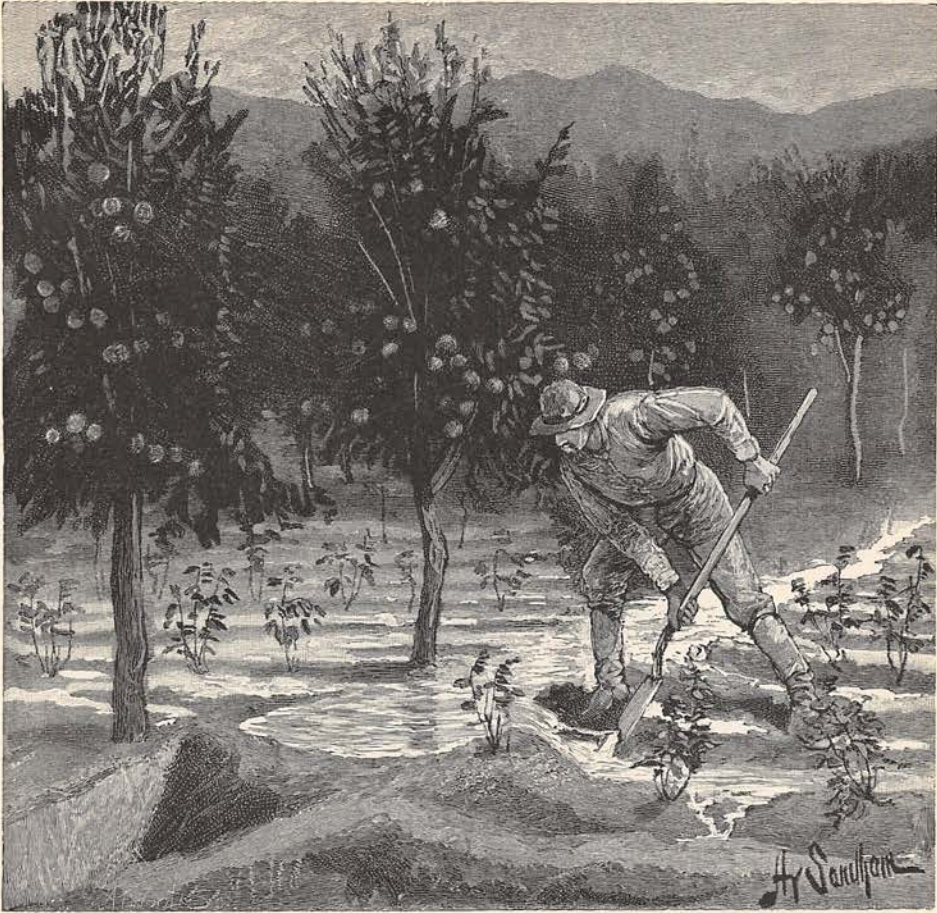
To provide for a wholesome variety and succession of seasons, in a country where both winter and summer were debarred full reign, was a meteorological problem that might well have puzzled even nature's ingenuity. But next to a vacuum, she abhors monotony; and to avoid it, she has, in California, resorted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



VALLEY IRRIGATION.

under ground. By opening valves in these pipes the water is let out and up, but never comes above the surface.

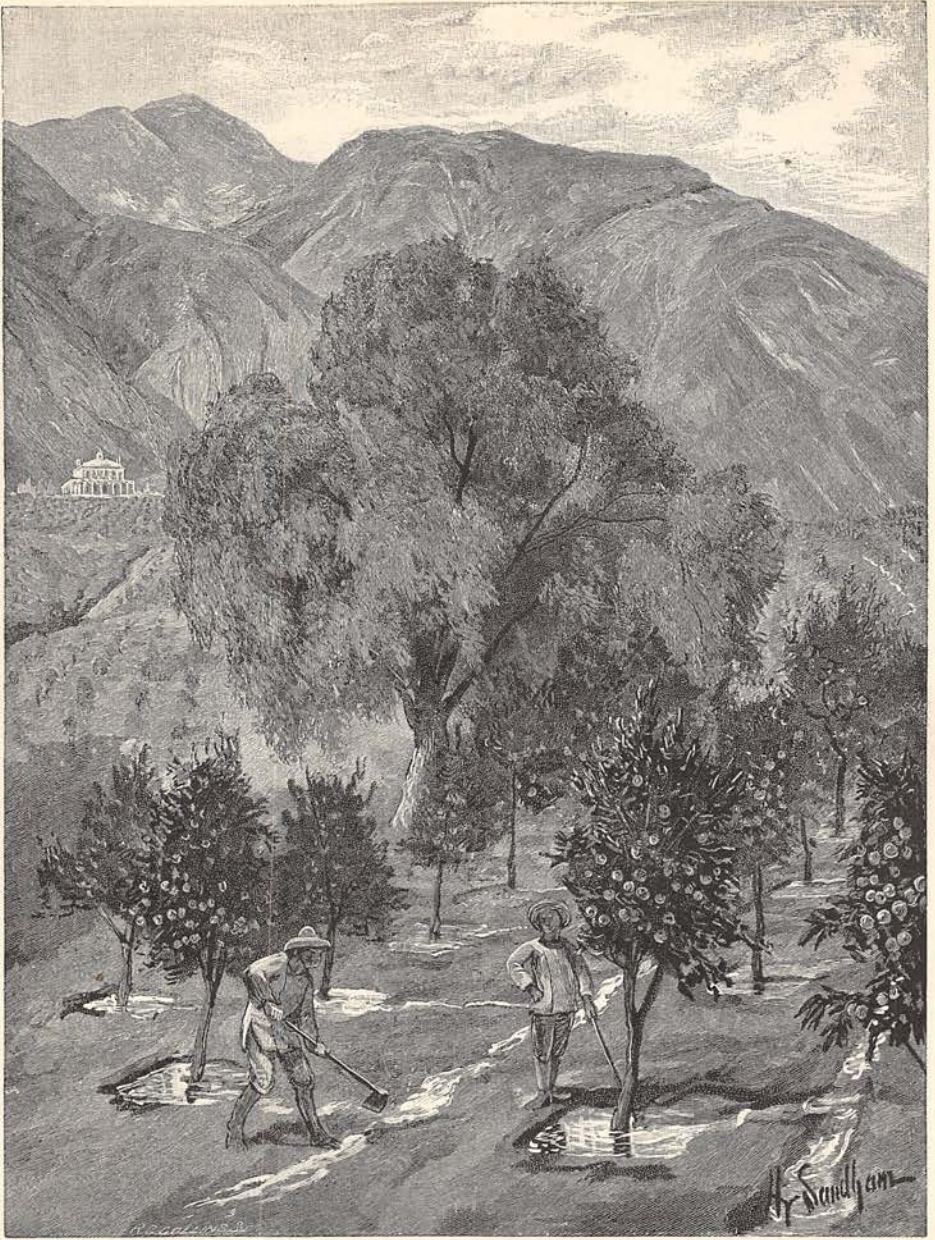
The appliances of one sort and another belonging to these irrigation systems add much to the picturesqueness of South California landscapes. Even the huge, tower-like, round-fanned windmills by which the water is pumped up are sometimes, spite of their clumsiness, made effective by gay colors and by 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



MOUNTAIN IRRIGATION.

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 centers 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 preëminently 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 plen-



HEAD GATE ON IRRIGATING DITCH.

tiful 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 payroll, which averages \$4000 a month. Another \$4000 does not more than meet its running expenses. It has \$6000 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.

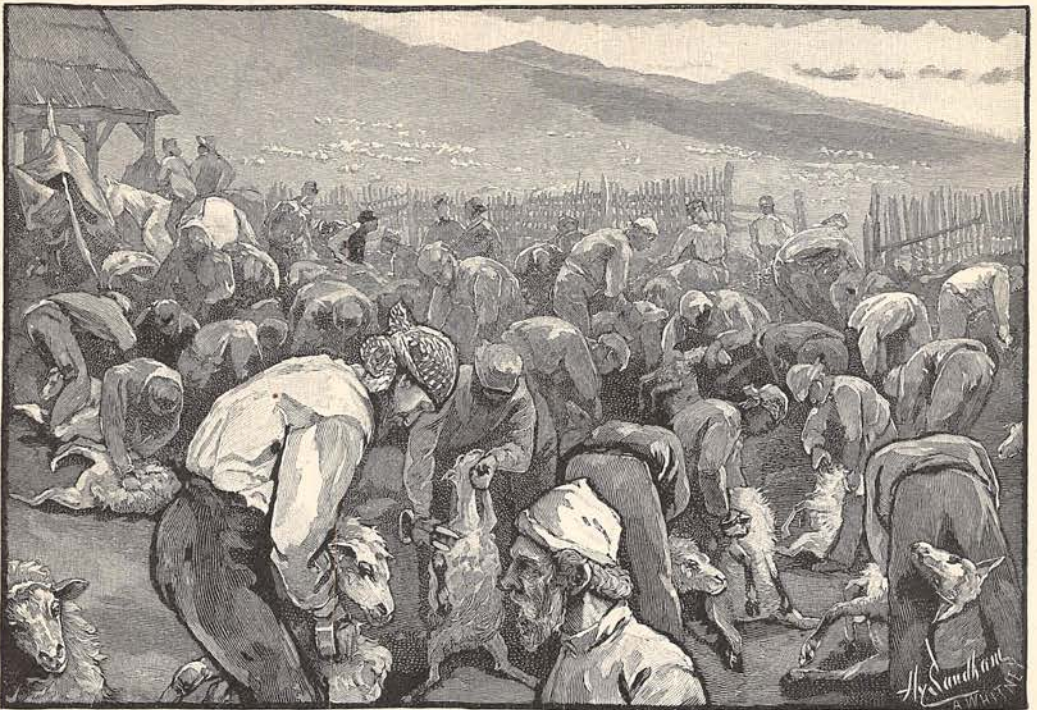
The orange orchard is not the unqualifiedly beautiful spectacle one dreams it will be; nor, in fact, is it so beautiful as it ought to be, with its evergreen shining foliage, snowy blossoms, and golden fruit hanging together and lavishly all the year round. I fancy that, if travelers told truth, ninety-nine 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



CALIFORNIA SHEEP RANCH.

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



SHEEP-SHEARING.

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 two hundred and nine thousand orange trees, of which twenty-eight thousand are in bearing, twenty thousand lemon trees, and eight thousand 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:

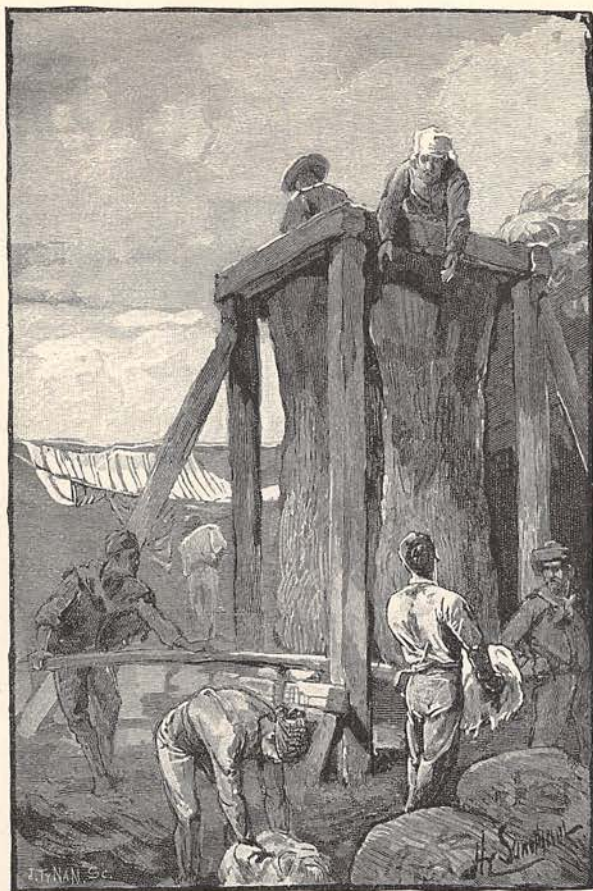
10 acres of land, at \$75 per acre.....	\$750.00
1000 trees, at \$75 per hundred.....	750.00
Plowing and harrowing, \$2.50 per acre	25.00
Digging holes, planting, 10 cents each	100.00
Irrigating and planting.....	10.00
Cultivation after irrigation.....	4.50
3 subsequent irrigations during the year	30.00
3 subsequent cultivations the first year	13.50

Total cost, first year..... \$1683.00

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 plowing 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.....	1000.00
Total.....	\$3250.00

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:



BAGGING WOOL FOR TRANSPORTATION.

75,000, at \$10 per thousand net.....	\$750.00
The fifth year, 250 per tree, 250,000, at \$10 per thousand.....	2500.00
Total	\$3250.00

The orchard is now clear gain, allowing \$1000 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 1000 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 in-

sect, 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



A CALIFORNIA VINEYARD.

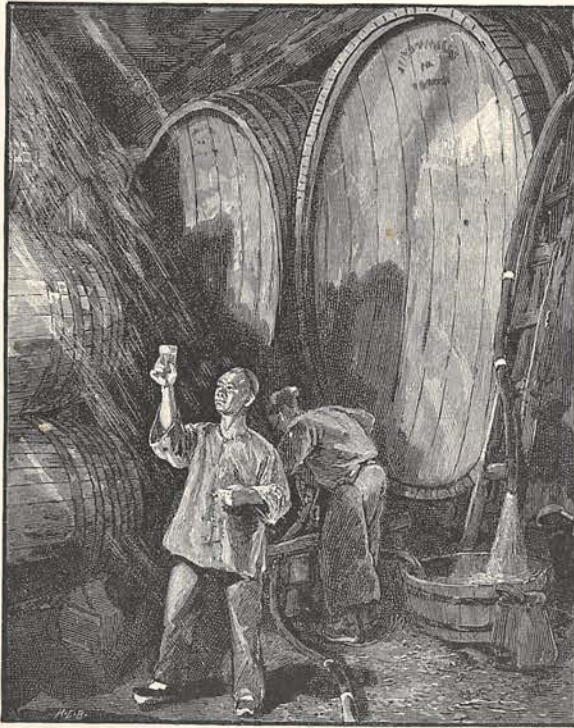
with the solid green of the orange orchards. The exquisite revelation of tree systems which stripped boughs give is seen to more perfect advantage against a warm sky than a cold one, and is heightened in effect standing side by side with the flowing green pepper trees and purple eucalyptus.

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,

orations 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



TESTING WINE.

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 dec-

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 1000 gallons piled full of grapes, huge wire wheels driving round and round in the spurling, 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 oval, dark, and fragrant. Forty-eight great oval-shaped butts, ten feet in diameter, holding 2100 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 marvelous. 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 20,000 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, 2000 tons to be sent fresh to the Eastern States, and 5000 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."*

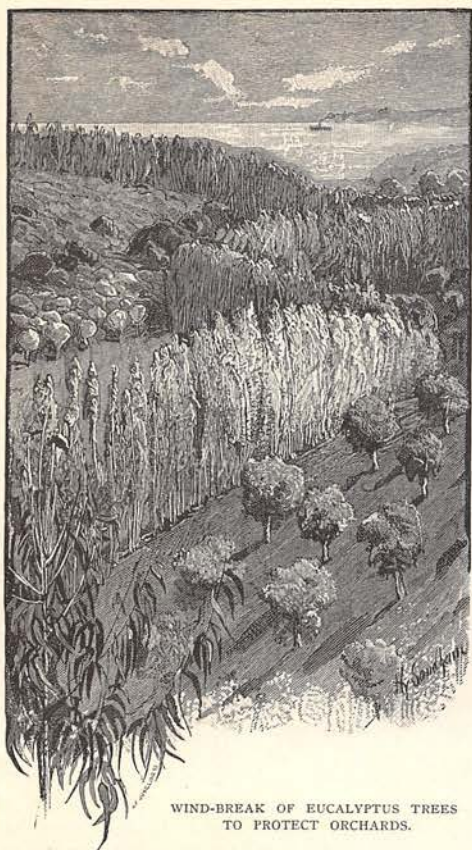
The California wines are as yet of inferior quality. A variety of still wines and three champagnes are made; but even the best are looked on with distrust and disfavor by connoisseurs, and until they greatly improve they will not command a ready market in America. At present, it is to be feared that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

* John G. Hittell's "Commerce and Industries of the Pacific Coast."



WIND-BREAK OF EUCALYPTUS TREES
TO PROTECT ORCHARDS.

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 warrant 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 marvelous 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



A LIVE-OAK GROVE.

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

lamb, worth 75 cents each. But there have been droughts in California which have killed over one million of 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.

The loneliness of the life is, of itself, a salient objection to the industry. Of this the great owners need know nothing; they can live where they like. But for the small sheepmen, the shepherds, and, above all, the herders, it is a terrible life,—how terrible is shown by the frequency of insanity among herders. Sometimes, after only a few months of the life, a herder goes suddenly mad. After learning this fact, it is no longer possible to see the picturesque side of the effective groups one so often comes on suddenly in the wildernesses: sheep peacefully grazing, and the shepherd lying on the ground watching them, or the whole flock racing in a solid, fleecy, billowy scamper up or down a steep hill-side, with the dogs leaping and barking on all sides at once. One scans the shepherd's face alone, with pitying fear lest he may be losing his wits.

A shearing at a large sheep ranch is a grand sight. We had the good fortune to see one at Baldwin's, at La Puente. Three thousand sheep had been sheared the day before, and they would shear twenty-five hundred on this day.

A shed sixty feet long by twenty-five wide, sides open; small pens full of sheep surrounding it on three sides; eighty men bent over at every possible angle, eighty sheep being tightly held in every possible position, eighty shears flashing, glancing, clipping; bright Mexican eyes shining, laughing, Mexican voices jesting. At first, it seemed only a confused scene of phantasmagoria. As our eyes became familiarized, the confusion disentangled itself, and we could note the splendid forms of the men and their marvelous dexterity in using the shears. Less than five minutes it took from the time a sheep was grasped, dragged in, thrown down, seized by the shearer's knees, till it was set free, clean shorn, and its three-pound fleece tossed on a table outside. A good shearer shears seventy or eighty sheep in a day; men of extra dexterity shear a hundred. The Indians are famous for skill at shearing, and in all their large villages are organized shearing bands, with captains, that go from ranch to ranch in the shearing season. There were a half dozen Indians lying on the ground outside this shearing

shed at Puente, looking on wistfully. The Mexicans had crowded them out for that day, and they could get no chance to work.

A pay clerk stood in the center of the shed with a leathern wallet full of five-cent pieces. As soon as a man had sheared his sheep, he ran to the clerk, fleece in hand, threw down the fleece, and received his five-cent piece. In one corner of the shed was a barrel of beer, which was retailed at five cents a glass; and far too many of the five-cent pieces changed hands again the next minute at the beer barrel. As fast as the fleeces were tossed out from the shed, they were thrown up to a man standing on the top of the roof. This man flung them into an enormous bale-sack, swinging wide-mouthed from a derrick; in the sack stood another man, who jumped on the wool to pack it down tight.

As soon as the shearers perceived that their pictures were being drawn by the artist in our party, they were all agog; by twos and threes they left their work and crowded around the carriage, peering, commenting, asking to have their portraits taken, quizzing those whose features they recognized; it was like Italy rather than America. One tattered fellow, whose shoeless feet were tied up in bits of gunny-bags, was distressed because his trowsers were too short. "Would the gentleman kindly make them in the drawing a little farther down his legs. It was an accident they were so short." All were ready to pose and stand, even in the most difficult attitudes, as long as was required. Those who had done so asked, like children, if their names could not be put in the book, so I wrote them all down: "Juan Canero, Juan Rivera, Felipe Ybara, José Jesus Lopez, and Domingo Garcia." The space they will fill is a little thing to give, and there is a satisfaction in the good faith of printing them, though the shearers will most assuredly never know it.

The faces of the sheep being shorn were piteous; not a struggle, not a bleat, the whole of their unwillingness and terror being written in their upturned eyes. "As a sheep before her shearers is dumb" will always have for me a new significance.

The shepherd in charge of the Puente ranch is an Italian named Gaetano. The porch of his shanty was wreathed with vines and blossoms, and opened on a characteristic little garden, half garlic, the other half pinks and geraniums. As I sat there looking out on the scene, he told me of a young man who had come from Italy to be herder for him, and who had gone mad and shot himself.

"Three go crazy last year," he said. "Dey come home, not know noting. You see, never got company for speak at all."

This young boy grew melancholy almost at once, was filled with abnormal fears of the coyotes, and begged for a pistol to shoot them with. "He want my pistol. I not want give. I say, You little sick; you stay home in house; I send oder man. My wife she go town buy clothes for baptism one baby got. He get pistol in drawer while she gone." They found him lying dead with his catechism in one hand and the pistol in the other. As Gaetano finished the story, a great flock of two thousand shorn sheep were suddenly let out from one of the corrals. With a great burst of bleating they dashed off, the colly running after them. Gaetano seized his whistle and blew a sharp call on it. The dog halted, looked back, uncertain for a second; one more whistle, and he bounded on.

"He know," said Gaetano. "He take dem two thousand all right. I like better dat dog as ten men."

ON the list of South California's outdoor industries grain stands high, and will always continue to do so. Wheat takes the lead, but oats, barley, and corn are of importance. Barley is always a staple, and averages twenty bushels to the acre.

Oats average from thirty to forty bushels an acre, and there are records of yields of considerably over a hundred bushels.

Corn will average forty bushels an acre. On the Los Angeles River it has grown stalks seventeen feet high and seven inches round.

The average yield of wheat is from twenty to twenty-five bushels an acre, about thirty-three per cent. more than in the States on the Atlantic slope.

In grains, as in so many other things, Los Angeles County is far in advance of the other counties. In 1879, there were in the county 31,500 acres in wheat; in 1881, not less than 100,000; and the value of the wheat crop for 1882 was reckoned at \$1,020,000.

The great San Fernando valley, formerly the property of the San Fernando Mission, is the chief wheat-producing section of the county. The larger part of this valley is in two great ranches. One of them was bought a few years ago for \$275,000, and \$75,000 paid down, the remainder to be paid in installments. The next year was a dry year; crops failed. The purchaser offered the ranch back again to the original owners, with his \$75,000 thrown in, if they would release him from his bargain. They refused. The next winter rains came, the wheat crop was large, prices were high, and the ranch actually paid off the entire debt of \$200,000 still owing on the purchase.

From such figures as these, it is easy to see

how the California farmer can afford to look with equanimity on occasional droughts. Experience has shown that he can lose crops two years out of five, and yet make a fair average profit for the five years.

The most beautiful ranch in California is said to be the one about twelve miles west of Santa Barbara, belonging to Elwood Cooper. Its owner speaks of it humorously as a little "pocket ranch." In comparison with the great ranches whose acres are counted by tens of thousands, it is small, being only two thousand acres in extent; but in any other part of the world except California, it would be thought a wild jest to speak of an estate of two thousand acres as a small one.

Ten years ago this ranch was a bare, desolate sheep ranch,—not a tree on it, excepting the oaks and sycamores in the cañons. Today it has twelve hundred acres under high cultivation; and, driving from field to field, orchard to orchard, one drives, if he sees the whole of the ranch, over eleven miles of good made road. There are three hundred acres in wheat, one hundred and seventy in barley; thirty-five hundred walnut trees, twelve thousand almond, five thousand olive, two thousand fig and domestic fruit trees, and one hundred and fifty thousand eucalyptus trees, representing twenty-four varieties; one thousand grape-vines; a few orange, lemon, and lime trees. There are on the ranch one hundred head of cattle, fifty horses, and fifteen hundred sheep.

These are mere bald figures, wonderful enough as statistics of what may be done in ten years' time on South California soil, but totally inadequate even to suggest the beauty of the place.

The first relief to the monotony of the arrow-straight road which it pleased an impatient, inartistic man to make westward from Santa Barbara, is the sight of high, dark walls of eucalyptus trees on either side the road. A shaded avenue, three-quarters of a mile long, of these represents the frontages of Mr. Cooper's estate. Turning to the right, through a break in this wall, is a road, with dense eucalyptus woods on the left and an almond orchard on the right. It winds and turns, past knolls of walnut grove, long lines of olive orchard, and right-angled walls of eucalyptus trees shutting in wheat-fields. By curves and bends and sharp turns, all the time with new views, and new colors from changes of crop, with exquisite glimpses of the sea shot through here and there, it finally, at the end of a mile, reaches the brink of an oak-canopied cañon. In the mouth of this cañon stands the house, fronting south on a

sunny meadow and garden space, walled in on three sides by eucalyptus trees.

To describe the oak kingdom of this cañon would be to begin far back of all known kingdoms of the country. The branches are a net-work of rafters upholding roof canopies of boughs and leaves so solid that the sun's rays pierce them only brokenly, making on the ground a dancing carpet of brown and gold flecks even in winter, and in summer a shade lighted only by starry glints.

Farther up the cañon are sycamores, no less stately than the oaks, their limbs gnarled and twisted as if they had won their places by splendid wrestle.

These oak-and-sycamore-filled cañons are the most beautiful of the South California cañons; though the soft, chaparral-walled cañons would, in some lights, press them hard for supremacy of place. Nobody will ever, by pencil, or brush, or pen, fairly render the beauty of the mysterious, undefined, undefinable chaparral. Matted, tangled, twisted, piled, tufted—everything is chaparral. All botany may be exhausted in describing it in one place, and it will not avail you in another. But in all places, and made up of whatever hundreds of shrubs it may be, it is the most exquisite carpet surface that nature has to show for mountain fronts or cañon sides. Not a color that it does not take; not a bloom that it cannot rival; a bank of cloud cannot be softer, or a bed of flowers more varied of hue. Some day, between 1900 and 2000, when South California is at leisure and has native artists, she will have an artist of cañons, whose life, and love, and work will be spent in picturing them: the royal oak canopies; the herculean sycamores; the chameleon, velvety chaparral; and the wild, throe-built, water-quarried rock gorges, with their myriad ferns and flowers.

At the head of Mr. Cooper's cañon are broken and jutting sandstone walls over three hundred feet high, draped with mosses and ferns, and all manner of vines. I saw the dainty thalictum, with its clover-like leaves, standing in thickets there, fresh and green, its blossoms nearly out on the first day of February. Looking down from these heights over the whole of the ranch, one sees for the first time the completeness of its beauty. The eucalyptus belts have been planted in every instance solely with a view to utility: either as wind-breaks to keep off known special wind-currents from orchard or grain-field, or to make use of gorge sides too steep for other cultivation. Yet, had they been planted with sole reference to landscape effects, they could not better have fallen into place. Even out to the very ocean edge the groves run, their

purples and greens melting into the purples and greens of the sea when it is dark and when it is sunny blue—making harmonious lines of color, leading up from it to the soft grays of the olive and the bright greens of the walnut orchards and wheat-fields. When the almond trees are in bloom, the eucalyptus belts are perhaps most superb of all, with their dark spears and plumes waving above and around the white and rosy acres.

The leading industry of this ranch is to be the making of olive oil. Already its oil is known and sought; and to taste it is a revelation to palates accustomed to the compounds of rancid cocoanut and cotton seed with which the markets are full. The olive industry will no doubt ultimately be one of the great industries of the whole country: vast tracts of land which are not suitable or do not command water enough for orange, grape, or grain culture, affording ample support to the thrifty and unexacting olive. The hill-slopes around San Diego, and along the coast line for forty or fifty miles up, will no doubt one day be as thickly planted with olives as is the Mediterranean shore. Italy's olive crop is worth thirty million dollars annually, and California has as much land suited to the olive as Italy has.

The tree is propagated from cuttings, begins to bear the fourth year, and is in full bearing by the tenth or twelfth. One hundred and ten can be planted to an acre. Their endurance is enormous. Some of the orchards planted by the friars at the missions over a hundred years ago are still bearing, spite of scores of years of neglect, and there are records of trees in Nice having borne for several centuries.

The process of oil-making is an interesting spectacle, under Mr. Cooper's oak trees. The olives are first dried in trays with slat bottoms, tiers upon tiers of these, being piled in a kiln over a furnace fire. Then they are ground between stone rollers, worked by huge wheels, turned by horse-power. The oil, thus pressed out, is poured into huge butts or tanks. Here it has to stand and settle three or four months. There are faucets at different levels in these butts, so as to draw off different layers of oil. After it has settled sufficiently, it is filtered through six layers of cotton batting, then through one of French paper, before it is bottled. It is then of a delicate straw color, with a slight greenish tint—not at all of the golden yellow of the ordinary market article. That golden yellow and the thickening in cold are sure proofs of the presence of cotton seed in oil,—the pure oil remaining limpid in a cold which will turn the adulterated oils white and thick. It is estimated that an acre of

olives in full bearing will pay fifteen hundred dollars a year if pickled, and two thousand dollars a year made into oil.

In observing the industries of South California and studying their history, one never escapes from an under-current of wonder that there should be any industries or industry there. No winter to be prepared for; no fixed time at which anything must be done or not done at all; the air sunny, balmy, dreamy, seductive, making the mere being alive in it a pleasure; all sorts of fruits and grains growing a-riot, and taking care of themselves;—it is easy to understand the character, or, to speak more accurately, the lack of character, of the old Mexican and Spanish Californians.

There was a charm in it, however. Simply out of sunshine, there had distilled in them an Orientalism as fine in its way as that made in the East by generations of prophets, crusaders, and poets.

With no more curiosity than was embodied in "Who knows?"—with no thought or

purpose for a future more defined than "Some other time; not to-day,"—without greeds, and with the unlimited generousities of children,—no wonder that to them the restless, inquisitive, insatiable, close-reckoning Yankee seemed the most intolerable of all conquerors to whom they could surrender. One can fancy them shuddering, even in heaven, as they look down to-day on his colonies his railroads, his crops—their whole land humming and buzzing with his industries.

One questions also whether, as the generations move on, the atmosphere of life in the sunny empire they lost will not revert more and more to their type, and be less and less of the type they so disliked. Unto the third and fourth generation, perhaps, pulses may keep up the tireless Yankee beat; but, sooner or later, there is certain to come a slacking, a toning down, and a re-adjusting of standards and habits by a scale in which money and work will not be the highest values. This is "as sure as that the sun shines," for it is the sun that will bring it about.

H. H.

HIS QUEST.

WHAT seek'st thou at this madman's pace?
 "I seek my love's new dwelling place;
 Her house is dark, her doors are wide,
 There bat and owl and beetle bide,
 And there, breast-high, the rank weeds grow,
 And drowsy poppies nod and blow.
 So mount I swift to ride me through
 The world to find my love anew.
 I have no token of the way;
 I haste by night, I press by day.
 Through busy cities I am borne,
 On lonely heights I watch the morn
 Climb up the east, and see the light
 Of waning moon gleam thwart my flight.
 Sometimes a light before me flees;
 I follow it, till stormy seas
 Break wide before, then all is dark.
 Sometimes on plains, wide, still, and stark,
 I hear a voice; I seek the sound,
 And ride into a hush profound.
 To find her dwelling I will ride
 Worlds through and through, whate'er betide."

To find her dwelling rode he forth,
 In vain rode south, in vain rode north;
 In vain in mountain, plain, and mart
 He searched, but never searched his heart.

L. Frank Tooker.