FRUIT WEALTH.

CONSIDERATION OF THE SIERRA FOOTHILL REGION.

The Soil, Climate and Adaptation to Fruit and Grape Culture.

The following address was delivered by E. W. Maslin at Grass Valley, on the 5th instant, before the El Dorado District Agricultural Association, and will be read with interest as a careful review of the question concerning the foothill region and its adaptability to the production of fruits, grapes, etc.:

Mr. President, Ladies and Gentlemen: An agricultural address is a very pleasing production. It is rarely listened to, and more rarely read. A few lines from Virgil, some happy quotations, the usual assertion notwithstanding that Cain was a farmer, that "agriculture is the base of civilization," a little advice to farmers, some poetry at the close, and the thing is done. When I received the invitation to address you, I began to collect my quotations and poetry, but a gentle hint from one of your Directors, who is a practical farmer, that such an address would not be tolerated, constrained me to take the path indicated by him, and if I am tedious I intend to lay the blame upon him, for I fear that before I close you will find I have only told you what you already know. I therefore beg your indulgence for the few facts which I shall lay before you, premising that they were hastily gathered amid the engrossing cares of my official duties, which at this time are especially onerous.

I think myself happy to appear before you to-day, among so many of the friends of my boyhood. I shall be much more happy if I can say anything which shall encourage you to renewed efforts to place this district, and especially this county, in the van of material progress.

More than thirty-three years ago I set foot here, a beardless boy. All was then excitement and life. I have lived to see three of the then, and for more than a decade, most populous and wealthy counties of the State—El Dorado, Placer and Nevada—decline until they now occupy in the same relation only the twentieth in a scale of fifty-two.

A more beautiful scene never greeted my eye than that which I witnessed on the morning after my arrival. A lovely valley, covered with a luxurious growth of native grasses, stretched away to the east, the hills were crowned with majestic pines, a creek ran pellucid by the town, the air was balmy and bracing, and the rich soil, the abundance of water, the vegetation so luxuriant, the incomparable climate, and all conditions invited to the natural use of the fertile soil with which the Creator has blessed this county. How changed the aspect in a few years! The hills were denuded of their trees, the valley was ravished of its beauty, the stream ran turbid—the very winds, once warm, were cold in their embrace.

But we came for gold, and gold we must have, and no place was too beautiful, no soil was too rich to save it from the miner's pick. I did my share of the work of spoliation, and shall take my share of the shame. For thirty-five years the inhabitants of Nevada, El Dorado and Placer have pursued principally the vocation of mining. They have extracted millions upon millions of gold. Where is your glittering prize? I will tell you: the farmers have got it. You have toiled and sown, but they have reaped.

Suppose that thirty years ago one had been asked, what will be the future of the counties named. Here, would say the questioner, are thousands upon thousands of brawny men, of cultivated intellects, of the best blood of the land, firm of purpose, fertile in resources; able and willing to dare and do, and eager for wealth. Here are millions upon millions of gold only awaiting the Sesame of labor to be the slave of man. He who thus would be questioned, if unacquainted with the fate of mining countries, would have replied:

"Gold you will get; the world wants gold, and you can buy the world with gold. Property must increase in value, your counties will be densely populated, your gold will go to the uttermost parts of the world and the riches of Indies will be yours; wealth will induce culture, and culture foster intellect; the mining counties will rule the State, and the toilers of the valleys will be the slaves of the lamp to supply your every desire." Who would at that date have questioned the truth of the prophecy? Has it been fulfilled? Alas! no. You have been like "the nightingale that leans its breast against a thorn and sings in pain." You have sung your golden notes to enchant the world, and little else remains to you but memory. But I will no longer permit memory "to blend with the twilight charm and bear us back to other days."

I wish to show you a better way. I am not here to pronounce a panegyric upon agriculture; that has been done by many a more able and eloquent tongue than mine. I am here rather to awaken you to a keener perception of the wide and inexhaustible resources of this district, and to point out to you how you can regain your vantage ground. I hope you will pardon the last expression. The man who lives on Shasta cann t see the mountain. Only the dweller in the valley sees the grim peak in all its grandeur of dimensions. And so having lived among you, and now dwelling in the valley, I do not think it til becomes me to return and tell you of the beauties and possibilities of your mountain slopes.

I firmly believe that the tide has now come to you at its flood, which, if taken, will lead you to fortune, and that the first generation of pioneers shall not pass away until it has seen this district among the first and wealthiest portion of the State.

To those of you who yet cling to the belief that mining is the first industry of the State, I would invite you to a comparison between the counties of this district and certain other counties devoted mainly to agriculture. I know of no more acceptable mode to show you the true path to wealth and of progress. I hope no one will be offended at the comparison.

I select these counties because they are not strictly horticultural counties, and because they occupy the lowest scale in intelligent, wealth-producing, energizing agriculture, to wit: that of grain growing.

The assessment of property began to approach a uniform and equal standard of valuation after the passage of the Political Code, and I therefore take the year 1872 as a year of comparison with 1882, a period of ten years.

The following is a table showing the assessed valuation in 1872 and 1882 of the counties of Nevada, Placer, El Dorado, Butte, Colusa, Stanislaus and Yolo:

	1872.	1882.
Placer	$8,146,336	$ 4,912,374
Nevada	8,041,468	6,737,549
El Dorado	2,431,757	2,896,259
Butte	7,871,374	11,617,835
Colusa	8,545,927	16,982,318
Stanislaus	7,105,968	10,141,149
Yolo	8,721,402	12,490,697

We perceive that in ten years Placer decreased in valuation 40 per cent, Nevada decreased 16 per cent, and El Dorado increased 11 per cent, while Butte increased 47.6 per cent, Colusa 98.7 per cent, Stanislaus 42.7 per cent and Yolo 43.2.

Take another view. What has been the man-power during ten years in the above-named counties? In other words, what has been the average production of wealth, retained in the county and not exported, per man of the male population over 21 years of age? I take the census returns of 1870 and 1880, as I cannot obtain the figures for 1872 and 1882, but for our purpose the first named years are sufficient. The male population over 21 years was as follows:

	1870.	1880.
Placer	6,122	6,700
Nevada	9,338	9,043
El Dorado	5,163	5,136
Butte	5,828	9,053
Colusa	2,657	5,834
Stanislaus	2,773	3,716
Yolo	4,049	4,324

The wealth created per capita, and retained in the county, is in Placer and Nevada nothing. In El Dorado $72 72, in Butte $503 52, in Colusa $2,035 07, Stanislaus $934 05, and in Yolo $909 35. There is a little gleam of light in this wofully dark array of figures, of which we may well be proud.

Of the number of children in 1880, between the ages of 5 and 18, El Dorado has 2,390, Colusa, 2,953; Placer, 3,087; Yolo, 3,078; Butte, 4,000, and old Nevada, 5,192. We rest our laurels on child production.

While the agricultural counties were thus increasing in store, what were we doing? Sending out a stream of gold such as history furnishes no parallel. From 1848 to 1881 California produced $1,115,000,000 of gold, of which $18,301,828 was produced, according to the late census, in the year 1880. Am I far wrong when I estimate that El Dorado, Nevada and Placer produced one-third of the latter sum? Eighteen millions of wheat! What does it not represent? Railroads, steamers, warehouses, busy markets, cities, homes, factories, churches, school-houses and all the refinements of civilization. Eighteen millions of gold leaves little to those who by toil produced it. It has always been thus and always will be so. The money has moved the crops, built the railroads, cultivated the fields, enriched the farmer in lands which it was alien by birth, but how little has its potentiality benefited you.

The auspicious time has come to you when all conditions favor a change in your vocation, when you can arrest the flow of the golden stream, and with it fertilize these waiting hills and crown them with choicest fruits of the earth.

These figures are more eloquent than figures of speech to depict the relative advantages of agriculture over mining, and now, having, I hope, aroused your interest in the subject of agriculture, I wish to devote some time to an enumeration of advantages your section offers for the cultivation of fruit. The question of transportation has determined that your efforts must tend to the cultivation of fruit rather than of grain.

THE CLIMATE

Is the first consideration. In the coast range there are a thousand climates, dependent upon the course of the cool winds which blow from the ocean, and the shelter which projecting points or a rising hill affords. Each section, therefore, has some fruit in which it excels. In the great valleys oppressive heats occur in midsummer, to be followed by too cool nights, while in those sections to the south, near the base of the Sierra, frost is apt to occur late in the spring and materially decrease the crop.

In the foothills of the Sierra, at an elevation of from 300 to 3,000 feet, the climate is about the same at corresponding elevations, being genial in summer and favorable to out-door work, while the nights are not too cool and are sufficiently warm to encourage the continuous growth of vegetation. To those who have never experienced the superlative charm of our foothill climate, a statement of the temperature both of winter and summer may be interesting.

I have no data in relation to El Dorado and Nevada counties, but as Auburn has an elevation of 1,360 feet, Colfax 2,422 feet, Grass Valley about 2,200 feet, Placerville about 2,600 feet, and Rocklin, which represents the base of the foothills, 250 feet, I have taken Rocklin, Auburn and Colfax as representing the temperatures of Grass Valley and Placerville, and Rocklin as corresponding to the temperature of other places of the same elevation.

The yearly mean of the maximum temperature of Auburn is 83.17°, Colfax 85.42°, and Rocklin 84.83°. The yearly mean of the minimum temperature of Auburn is 39.33°, Colfax 41.50°, and Rocklin 42.17°.

The climate which these figures indicate the foothills to possess establish beyond a doubt that there is ample heat in summer to bring to maturity even tropical fruits, and cool enough in winter to secure the rest which vegetation needs without endangering its existence.

You have a still further advantage in being generally exempt from spring frosts, which do so much damage to the vineyards and orchards in the valley and coast portions of the State. April and May are the months most to be feared. In the foothills the lengthened winter retards the growth of the bud, and when the frost comes, if it does come in April and May, the buds are not advanced enough to be hurt thereby.

The minimum temperature in April and May, respectively, at Auburn is 32° and 41°; at Colfax, 33° and 40°; at Rocklin, 46° and 50°. These temperatures indicate an almost entire exemption from destructive frost. Not that the dew point is lower than 32°, but that the vegetation is not advanced enough for the slight frost to do it any damage. Even the famed Napa valley has a minimum temperature in April and May of 35° and 45°, but the vegetation in that beautiful valley is at least, each year, a month in advance of that at Auburn or Colfax, and hence more liable to the ravages of frost.

Finally the mean temperatures of April and May are at Auburn, respectively, 50.55° and 59.01°; at Colfax, 49.34° and 56.61°, and at Rocklin, 59.24° and 66.88°.

But you need not fear frost. Mr. Haraszthy, a most competent observer and viticulturist, testifying before a committee on "Grape Culture," in 1880, said as follows:

"We have no severe frosts in this country. If a frost comes it diminishes our crop only in part—five or ten or twenty per cent., according to circumstances. In France they will have one frost after another until the entire crop is destroyed. This is one of the many advantages possessed here."

Mr. Mathews, a member of the committee, asked, "This land you speak of lies mostly in the foothills, does it not?

"Mr. Haraszthy—Yes, sir.

"Mr. Mathews—Is it not a fact that they have earlier and heavier frosts in the foothills?

"Mr. Haraszthy—No, sir; it is just the reverse. There are lands on the sides of our mountains where goats would starve that will produce the best wines."

The above figures present to the acute observer and searcher for propitious land for fruit culture more than can eloquent description or rhetorical display, our incomparable climate. To the Eastern or Western man, accustomed to the icy rigors of long winters and the melting heats of summer, when the "grasshopper is a burden," our climate is a revelation and a foretaste of an earthly paradise.

Here there is no malaria to deaden one's energies, no fevers to prostrate and no consumption; here, if anywhere, life should be lengthened to the Scriptural span.

THE RAINFALL

Is ample for the cultivation of all fruits except possibly berries. At Sacramento the average fall is about 20 inches, at Rocklin 23, at Auburn 30 and at Colfax 40 inches.

And this brings me to the subject of irrigation. It is a bugbear. Somehow the impression prevails in the valley that irrigation is necessary. Nearly everyone to whom I have spoken about the foothills replies: "But you have to irrigate." And this in face of the most incontestable testimony of the scores of vineyards in our district which never had a drop of water save that which fell from the heavens. The doubters are not confined to the valleys. Those who started vineyards and orchards in the foothills by irrigation still adhere to the practice; it would be death to let go and so they keep on irrigating.

Irrigation, I repeat, is not necessary, but cultivation is. The use of cultivation is to put, as it were, a blanket of non-conducting fine soil on the top to prevent evaporation of the water which the soil has absorbed in the winter season. By plowing in the winter, where the land does not wash, you get all the rain which falls, and by cultivating in the summer you keep it in for the thirsty vine and tree roots to drink as their necessity demands.

To the doubter I wish to relate my experience. Perhaps there is no drier-looking district than that about Loomis, in Placer county. The soil is granitic, about four feet deep, underlaid with rotten granite; the elevation 400 feet above the sea. I plowed and subsoiled my land in the winter of 1881 and 1882, and in April, 1882, which was a dry season, the grape-roots (Vitas California) were planted. The stocks were not over one-eighth of an inch in diameter. They have never been irrigated. When I grafted them in April of this year the stocks were from one inch to two and one-half inches in diameter. The canes of the grafted scions have made a growth of three to six feet, and, had I not cut off the blossoms, would have borne a handsome crop. Mr. Morrison, Mr. Williams and Mr. Ryder each set out this spring an orchard at Loomis of prunes, pears, apricots, figs, walnut trees and peaches. The doubters went by, wagging their heads and saying, "Wait till the clouds pass by."

The clouds did pass by, and at this present moment the trees are living and clothed in the bright green of health, all without one drop of water of irrigation. Mr. Costa and Mr. Himes has each a vineyard near by which bears abundantly without the aid of irrigation. Mr. Filcher, of the *Herald*, has also been successful in growing corn and melons without irrigation, and Mr. Whitcomb, at Colfax, who produced the largest clusters of grapes ever exhibited in this State, cultivates his vineyard without the aid of water.

I have introduced my neighbors' names and my own into this statement, because I wished to state simply what I knew, and I have dwelt with some prolixity upon the question of irrigation, because it is the one question of this district which shall determine our future as a fruit-growing section. It should be determined, once for all, that trees and vines will grow in the foothills, and that they will bear abundantly enough to satisfy any but the most greedy. Let not the newcomer be afraid; let him plant with faith. Heaven's bounty is enough for him if he but cultivate his land.

SOIL.

Much of the exquisite flavor which characterizes the fruit of the foothills is due to the nature of the soil. It is deficient in the elements which produce an excess of wood, but abounds in mineral substances which enter into the composition of fine fruits.

My remembrance is that about Placerville the soil rests on slate, tilted and seamed, into which the vine and the roots find ample moisture and food. As you go north and west you enter the granite belt, in which is located Coloma, famous now and for years past for the peaches grown there, which for size, juiciness and flavor are not excelled, if equaled, in the State. The soils of Green and Garden valleys have no superior in the State in adaptability to fruit culture.

In Placer county there is a section of granite soil which begins below Rocklin and extends north to Auburn, and in width extends from a mile west of Rocklin eastward to the American river, and contains about four townships of land, say at least 70,000 acres of land.

In this section lie the towns of Rocklin, Pino or Loomis, Penryn and Newcastle, all developing into extensive fruit cultures. Further to the north, beginning at Auburn, is the slate belt extending to Colfax and to Bear river, the dividing line between Placer and Nevada counties. The sections named are divided in Placer county by a ridge composed of bowlders from the farming lands proper of Placer county, which contain the wealthiest portion of the population of Placer.

After crossing Bear river you enter into Nevada county. The soil from thence to Grass Valley is volcanic, and the substratum trap, slate and syenite. In the southern part of the county, lying between Bear river and Wolf creek, is a section of land which, in my judgment, is not excelled in the State for the production of wine grapes. The soil is red, slaty and mixed with quartz pebbles, and easily tilled. The climate is even and mild; no snow falls there, and it is peculiarly exempt from frost. What I have seen of the grapes raised there without irrigation strengthens my judgment that the future is full of promise for that section as a wine-producing country. Lack of transportation facilities is the only impediment to its growth, but the railroad will go there if the people have faith and plant their vineyards and orchards.

Much has been said about the red soil as being the best for grape culture. This may mislead many. It is true that red soil is preferable to any other, but only because of the presence of oxide of iron, which is an essential element in the production of a deep and permanent red color in wine. In all the foothills there is sufficient iron for the maturity of fruit, and white wine can be made from grapes grown on any colored soil. The only question in the production of a good and transportable wine is the right kind of grape on the right soil.

And this brings me to the question which is uppermost in the mind of every man engaged in tilling the soil of the foothills, What shall I plant? The time allotted me is not sufficient to state fully all the reasons which induce me to believe that eventually the grape must be the principal product of the foothills, and of the grape such as are commended for wine.

Transportation and nearness to railroads must always determine the character of the productions of a country.

Wine will bear a longer distance of carriage to a railroad than any other product of the farm, and is better able to bear the cost of transportation to distant markets by rail or sail. The three counties of this district are especially favored by railroad facilities. The Central Pacific railroad runs through the whole length of Placer county, and at a distance of three miles apart are stations and ample side tracks for the convenience of shippers. Nevada county is connected with this road by a narrow gauge road, and should the northern part of the county be devoted to viticulture a railroad from Auburn or Clipper Gap would no doubt be extended to Grass Valley; and even if a railroad should not be built, the distance by wagon to a shipping point is not more than ten or twelve miles. El Dorado has a railroad from Shingle Springs to Sacramento, and as soon as sufficient encouragement is offered, doubtless the road will be extended to Placerville. No portion of the State is better supplied with the means of transportation than these three counties.

Again, our soil is especially adapted to the culture of the grape. It will bear comparison with the most noted of the soils of France. While it may be very tedious to listen to the tables of comparison, I am persuaded that they will be of interest to you when you come to study the capicity of your soil and determine the variety of grape to which the soil will be most kindly.

Mr. Haraszthy, in his work on grape culture, gives the following as an analysis of the soil upon which is grown the claret of Margeaux:

Oxide of iron	3.341
Alumina	1.590
Magnesia	.263
Soluble silicates	.380
Phosphoric acid	.147
Potash	1.241
Carbonate of lime	.891
Organic matter	6.670
Insoluble residue	85.427
	100.000

The vine grown on the estate known as the Chateau Lafitte, in the Bordeaux District of France, is conceded to be the best claret of the world. The constituents of the soil of the estate are as follows:

Silicous pebbles	62.900
Fine sand	28.300
Fine silex	6.220
Humus	1.250
Alumina	.750
Lime	4.000
Iron	8.600
	112.050

The Burgundy soil has 12.72 per cent. of oxide of iron and 12.95 of carbonate of lime.

Prof. E. W. Hilgard, of the University of California, in his report for 1882 to the the Regents of the University, a work which should be read by every tiller of the soil, reports two analyses of the soil of Placer county. One from about Auburn and one from Pino or Loomis. The first, I should judge, was upon slate, the second is upon red rotten granite. The analyses are as follows:

	Auburn.	Pino.
Insoluble matter	62.50	78.942
Soluble silica	65.52	6.283
Potash	.38	.653
Soda	.07	.296
Lime	.96	.758
Magnesia	1.09	1.280
Peroxide manganese	.39	.087
Peroxide of iron	12.42	2.301
Alumina	10.97	6.816
Phosphoric acid	.16	.031
Sulphuric acid	.01	.018
Water and organic matter	5.14	2.598
Totals	101.11	100.055
Humus	1.14	.514

Professor Hilgard says of the soil of Auburn that it "is altogether the best of the foothill soils thus far examined (in 1882), having a large supply of phosphoric acid, with plenty of lime, a fair supply of potash and a high percentage of humus. The analysis shows good reason for the high estimate in which this region is held for the production of fruits, grapes, etc." The soil is a dark, orange color, rather light in tillage and pulverulent when dry, forming a very fine reddish dust of considerable repute.

Of the soil of Pino (now Loomis), taken from the hillside, he writes: "It is a reddish gray, sandy loam, the sand mostly coarse and consisting largely of granite debris; it should till easily at all times.

"The analysis shows the soil to contain good percentages of mineral plant food except phosphoric acid, of which the supply is quite small. Compared with the red soil around Auburn this soil contains only one-fifth as much phosphoric acid, somewhat less lime, but nearly twice the amount of potash—a circumstance that with the comparatively small amount of humus, low retentiveness but usually considerable depth, and a substratum of rotten granite, points to its adaptation to the production of grapes. The fig and olive would also do well on the hillside, while in the valleys where both phosphates and humus are doubtless more abundant, and the soil is more retentive, other fruits would thrive. Except as to inferior retentiveness and humus, this soil is very similar in composition to that of Vola valley, on which cherries flourish."

I deem it proper at this point to note what the professors say as to the defect of our soil: "It is important to note the frequent deficiency in phosphates that characterizes the soils of many regions in the State, and the importance of an adequate supply of phosphatic fertilizers to the continued prosperity of such districts. Wherever the growth languishes the use of bone meal should be very effective."

You will perceive that Auburn soil exceeds the soils of France in phosphoric acid, iron, lime (except the Lafitte soil) and in alumina, the characteristic constituent of clay.

The defect of both the Auburn and Loomis soils can easily and cheaply be supplied when needed by lime, which is manufactured at your very doors, and by bone meal.

I have my hobby like every other man, and it is to see these foothills devoted to the culture of grapes. We have been delighted in the past with the eulogiums on the foothills, but there has so far been but little system pursued in the planting of the proper kinds of fruits.

The time has passed for haphazard planting. Given the right soil and the proper fruit adapted to soil and climate, an independence must be the fortune of the possessor. As a fruiterer said to a friend of mine: "The man who will plant a good-keeping apple in the foothills, on line of railroad, will be a bonanza." You must look beyond the market of the State. There are 50,000,000 people who will eat our fruit in the United States if we can get to them cheaply. They will buy our pears, apricots, plums and grapes, because they cannot in open air or hot-house raise those fruits. We have a complete monopoly of these four fruits. At present the tariff on a carload from Sacramento to the East is from $500 to $900, and many persons are exclaiming that the fruit business will be overdone. My impression is that it has not begun.

I am told that the market now is about equal to the demand and that 40 per cent. of the trees planted are not in bearing. In three or four years we shall have more fruit than the home market demands and more than the dealers will buy. At that point is our opportunity. The railroad company will carry out its own doctrine that the "service is what the traffic will bear." It will be a good doctrine for us then. The traffic will bear probably $300 per carload, and that sum in a few years must be the tariff. The railroad companies are not going to see the fruit wanting a market and must of self-interest come to our rescue.

The valley will probably excel us in the quantity of pears and plums raised per acre, but if they should excel us in the quantity of grapes and apricots we are more than compensated by the superiority of our fruit.

Can the wine business be overdone? Not while you and I live, provided we make a cheap, and as Mr. Wetmore says, "a potable and transportable wine." I am able, from the reports of the Assessors to the State Board of Equalization, to state the number of acres devoted to wine culture in the State. Of course these tables are somewhat faulty and perhaps understate the truth, as for instance Placer is stated not to have produced any raisins, when there is a raisin vineyard of 200 acres within a few miles of Rocklin.

There were planted at the close of 1883, of table grapes, 15,446 acres; of wine grapes, 65,702 acres; of raisin grapes, 5,907 acres, making a total of 87,055 acres. The estimate is exclusive of Los Angeles, whose Assessor failed to report. I suppose the true estimate is 100,000 acres. Estimating that in time there will be 100,000 acres devoted to wine and the product at the rate of 500 gallons per acre, California's yield will be 50,000,000 gallons. This seems immense, but compare this with France alone, which produces 2,000,000,000 gallons. Cheap, good wine will make its own market, and the taste for it will increase as good morals increase and people become refined and temperate.

You have along the line of the railroad an advantage over the present vine growing counties. You are one day nearer the Eastern markets. For green fruits this one day in value can hardly be over-estimated. One acre in the foothills is worth two of the lower valleys in the mere matter of facility of transportation. Again, look at the first cost of the land. Naked land in Napa and Sonoma, near a railroad, cannot be purchased for less than $100, and in some localities, such as St. Helena, at less than $300, while land in the foothills can be purchased at from $10 to $50 per acre.

Most of you know the average product of grapes per acre in the foothills, and most of us are accustomed to think that Los Angeles, Napa, Sonoma and Santa Clara excel us. It will be a surprise to most of you to know that, according to the Assessor's report, the average production per acre of table grapes, the yield of which is larger than wine grapes, in Sonoma is three tons; Napa, two tons; Sacramento, two and one-half tons, and Santa Clara, four tons. I am sorry that I cannot give you the yield of Placer, as none of the Assessors reported it. El Dorado reported the yield at three tons. I would like to hear from some of our El Dorado and Placerville viticulturists on this question.

I conclude that the soil, climate, nearness to market, railroad facilities, rainfall, pure water, timber, and the superiority of the fruit produced, all combine to make the foothills of the Sierra, and especially the hills of this district, the most desirable section of the State for a home, founded upon absolute security of a comfortable independence.

As to the kind of grapes to plant I am not prepared to say. I have diligently studied the question, with the light which the work of Mr. Wetmore and Professor Hilgard afforded me, but I fear to offer you my judgment. But this I can recommend: Just do not be in too much hurry; plow and summer-fallow your land, and expose it one year to the fertilizing and ameliorating influence of the air; then plant resistant vines, such as the wild grapevines grown from seeds and Riparia seedlings.

You will then be safe from the fatal attacks of the phylloxera, for it has been proven by experiment in France and in this State that these vine roots are truly resistant. The insect may visit the district, and while its progress is slow it is sure. In the district below Auburn, in the sandy soil, the progress will be slow, because the soil is sandy, and in such soil the insect cannot travel, but in the more clayey and compact soil he is to be feared.

In two years from planting graft in the grape desired. The cost of grafting need not exceed $5 or $6 per acre.

The advantage of planting the resistant vines are obvious. First, the security obtained against the ravages of the insect; and secondly, in the increased product of the vine, as the root system of the wild vine is more vigorous than that of the *vitis vinefera*, and correspondingly the air growth will be healthier and more luxuriant. The *vitis Californica*, or wild grapevine of this State, has a tendency to throw down a tap root and thus find moisture below. Hence it is perfectly safe to plant this vine on the driest hillside. In my judgment, in ten years from now the sale of a vineyard not grown upon resistant stock will be difficult to effect.

Mr. Haraszthy, the President of the Viticultural Commission, informed me that the future white wine of California would be grown somewhere within the snow line of the Sierra, and this is a hint for our Colfax friends.

The plan I would advise is for those concerned to write Mr. Wetmore, to make an examination of your district, compensate him for his pains, and when the time comes he will, better than any one in the State, advise you. If you make a mistake all your labor is for nothing, and perhaps a generation will pass before the error is rectified. For instance, I notice that some are planting the "Mission," simply out of pure ignorance that the conditions of the grape industry have changed in the last five years. Such persons are only obstacles to our progress. I can say this much, however: Where the foothills are warm, and the grape matures early, plant for wine the late maturing kinds, such as the Matoro, Grenache and Corignan; you cannot make a mistake with these three kinds. If you wish to make a port try the Trosseau, which the Viticultural Commission say is one of the true port wine grapes.

To you who live in these mountains who are parents, the thought that accompanies you in your daily toil is: "What shall I do with my boys?" The time has gone by when he can seek in the miner's life, by independent action, his livelihood.

Mines, following the example of most industries, are being concentrated in the hands of capitalists, and can only be worked by the large expenditure of capital. Surely the miner's daily life for wages is not an inviting one, neither is it favorable for intellectual or moral culture. The very conditions of the permanency of your homes is not secure. There is always an unspoken dread that the mines upon which the towns and surrounding country depend may at any time fail, and this unrest prevents progress. It drives men from your midst. Look at the list of men who by mining accumulated fortunes in these counties, who have departed to found homes in the cities and valleys of the State. What they sought was permanency, solidity, security. It is yours, then, while your children are growing up around you, to create new vocations and industries that shall entice them to stay within the hallowing influences of their natal homes. It is not alone the material progress of the country which you will thus advance, but you will be laying deep the foundations of good morals and true religion. The man whose mother's eye is upon him is not apt to go wrong, and the pride of a family name is a great conservator of virtue. A home is better than a policeman, and grandmothers are better than laws.

Now the want in this State, and a want that will in ten years be more forcibly felt, is a corps of intelligent men scientifically trained in the culture of fruit. The man who simply knows how to plow must give way before the educated farmer.

Fruit producing will soon be an art; the adept must be a student, and his vocation elevated to the dignity of a profession. He must be an entomologist, a chemist, a naturalist, a student of vegetable physiology—in fine, an observing scholar.

Your boy, educated as he should be for the vocation of a horticulturist or viticulturist, will come back to you as a giant. He will no longer be a plodder or find his highest ambition in being a clerk, or lawyer, or doctor. He will know that he has the forces of nature at his command, and command them he will.

These hills will glow with the fervor of his energies. He will find in these foothills the richest field for his efforts. He will not be a tradesman. He will have smelt the clover's bloom, and like the contending men with the gods, when wearied he must embrace the earth. He will build himself a home—here he will stay and set up his rest, his altar and his fires. He will be close to your eyes at your latest day, and his children shall call him blessed.

Choose therefore that your sons be educated to till the soil. I do not mean to learn the manual labor of a farm, but educated in a higher sense. Brain is manure nowadays. Learning is a fertilizer. Send such as you can spare to the University. If your public schools do not afford at least the primary education to fit your son for entry into the agricultural department of the University, see to it that the curriculum is enlarged.

The University now offers almost every facility for the education of young men who intend to follow farming, and especially fruit growing. It is doing a noble work. Its professors are analyzing soils, classifying lands into sections suitable for special fruits, advising all inquirers, experimenting at their gardens with plants and trees from all parts of the globe, distributing seed, and with marvelous zeal are stimulating a genuine love for rural pursuits.

In the past five years it has repaid to the State by the aid it has extended to farmers, orchardists and vineyardists more than its whole cost. I bespeak for the University your fostering care. This winter your representatives will assemble at Sacramento in the Legislature. The University may need an appropriation to enable it to carry on its agricultural department. I know that Professor Hilgard is already hampered by want of means, and I hope your Senators and Assemblymen will stand ready to vote such an appropriation as is necessary to enable the University to enlarge its field of usefulness. It will be good seed sown on good ground and will yield to you an hundred fold.

My friends, long since I dreamed a dream and still I dream. I am the son of a farmer, "proud of his field lore and harvest craft," and my dream was and is of a farmer's mountain home. For me now I doubt if it is to be, but my vision is of those who shall come after me and people these mountain slopes.

For the young men, for your sons, who are stirred by ambition's rage, the richest possibilities lie within their reach.

Here are the mountains to enlarge their natures and quicken the imagination; here a pure atmosphere, the very inspiration of energy; here a soil responsive to solicitation, and which will return of ministering love a thousandfold.

They will have inherited from you your rugged virtues born of pioneer struggles, your courage and endurance, and learning and culture will add luster to their lives. They will be as Whittier says: "Men to match their mountains, not to creep dwarfed and abashed below them." The slopes will be gracious with festooning vines bearing purple grapes, whose price will make glad the heart of man.

But the bravery of California will be the homes, the hallowed homes that shall be set as gems in the Sierra, the coronet upon her brow.

There will be no acres broad to separate and chill the impulse of hospitality, nor wide domains to nurse luxurious pride, but brother linked to brother man by common aims and equal lot, shall make religion of honest toil until Sierra shall blossom as a rose, and seed-time, and harvest, and virtue, and faith and love shall never fail.

The Golden Age must come. The eye that looks for it, the faith that endures for it, the heart that believes in it are already at its threshold. Let each of us pray with Whittier:

O! Golden Age, whose lights is of the dawn,
And not of sunset, forward, not behind,
Flood the new heavens and earth, and with thee bring
All the old virtues, whatsover things
Are pure and honest and of good repute,
But add thereto whatever bard has sung
Or seer has told of when in trance or dream
They saw the Happy Isles of prophecy!

MAKING A CHILD A LIAR.—I remember the case of a clergyman, who, by taking a case of ecclesiastical law into his own hands, laid himself open to a tremendous retort. When he asked the name of a child in baptism the godmother gave some extremely fine name—"Letitia Adelina Angelina," or some such group of names. "Mary," calmly said the parson, and so baptized her. The father followed the parson into the vestry. "I hope you will not mind the alteration I have made," said the vicar. "I think it will prove very useful to the child in after life—so many names are a mistake." "All I have got to say," said the parent, "is that you have made my child a liar when she repeats her catechism." "How so?" "Why, she will have to say that her name was given her by her godfathers and godmothers, when it was nothing of the sort, and was only given her by the parson."—[London Society.

"Will you have salt on your eggs?" asked the hotel waiter of the guest. "Oh, no; they are not at all fresh." Then the waiter went out to consult the landlord to see if the hotel had been insulted.—[Merchant Traveler.

MISCELLANEOUS.

A Great Problem.

—*Take* all the Kidney and Liver *Medicines*,
—Take all the *Blood* purifiers,
—Take all the *Rheumatic* remedies,
—Take all the *Dyspepsia* and indigestion *cures*,
—Take all the *Ague* Fever and bilious *specifics*,
—Take all the *Brain* and Nerve force *restorers*,
—Take all the *Great* health restorers.
—*In short*, take all the best qualities of all these, and the *—best —Qualities* of all the best medicines in the world, and you will find that *—Hop —Bitters* have the best curative qualities and powers of all *—concentrated* —In them, and that they will cure when any or all of these, singly or *—combined* —Fail. A thorough trial will give positive proof of this.

Hardened Liver.

Five years ago I broke down with kidney and liver complaint and rheumatism. Since then I have been unable to be about at all. My liver became hard like wood; my limbs were puffed up and filled with water.

All the best physicians agreed that nothing could cure me. I resolved to try Hop Bitters; I have used seven bottles; the hardness has all gone from my liver, the swellings from my limbs, and it has *worked a miracle* in my case; otherwise I would have been now in my grave. J. W. MORRY. Buffalo, October 1, 1881.

Poverty and Suffering.

"I was dragged down with debt, poverty and suffering for years, caused by a sick family and large bills for doctoring.

"I was completely discouraged, until one year ago, by the advice of my pastor, I commenced using Hop Bitters, and in one month we were all well, and none of us have seen a sick day since, and I want to say to all poor men, you can keep your families well a year with Hop Bitters for less than one doctor's visit will cost. I know it."—A WORKINGMAN.

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The reputation of Hostetter's Stomach Bitters as a preventive of epidemics, a stomachic, an invigorant, a general restorative, and a specific for fever and ague, indigestion, bilious affections, rheumatism, nervous debility, constitutional weakness, is established upon the sound basis of more than twenty years experience, and can no more be shaken by the claptrap nostrums of unscrupulous pretenders, than the everlasting hills by the winds that rustle through their defiles. For sale by all Druggists and Dealers generally. ap1-1yMWF&wly

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