OUR INSECT PESTS.

INQUIRIES AND REPORTS FROM VARIOUS LOCALITIES.

A Worm Pest—Black Bugs Among Gooseberries—Grasshoppers in Vineyards—Hawk Moths.

In a letter written by G. F. Merriam, of Apex, San Diego county, dated May 21st, a plague of cut-worms in the vineyards in that vicinity is described, and from which letter the following extracts are taken:

The cut-worm, if it is a cut-worm, works as much by day as by night. We find it buried half an inch in loose soil, but it seems to prefer to lie while quiescent under grass on top of the ground, in the crevices of boxes, under boards, and often under leaves; they are everywhere. At first when young the worm is very dark, or greenish black in color. As it grows it gets lighter, turning grayish yellow, striped, etc. When full-grown it measures about two inches in length, and nearly one-quarter of an inch in diameter. I took a hoe this morning (May 21st) and walked over the vineyard, and only in a few spots found worms in large numbers. In places where they had been very thick, they are all in the chrysalis stage. In fact, I think all will be in that stage in a few days. In some places by pulling aside old dried grass and hoeing off one-half or three-quarters of an inch of the surface of the ground, I found the chrysalis as thick as they could well be crowded. The worm changes to a brown chrysalis, with a very tender shell, but does not spin a cocoon.

The specimens sent arrived in bad condition, the gentleman who presented the letter could not give further description of the caterpillars than it contained. He asks the following questions:

Can you give me any information as to what class of insects deposits the eggs which produce those caterpillars or cut-worms? May more than one brood be expected, if so, when? Where did they come from—none being seen the previous year, and now the country is covered by them. What remedy would you advise for immediate relief?

WHAT THEY PROBABLY ARE.

Reply: From the contents of the letter, my impressions are that the caterpillars described are species of what are commonly termed the army-worm. If they are, those now in the pupa state will produce moths during the present month; and if so, another brood of caterpillars may be expected this season.

My reasons for giving this opinion are as follows: In the Northern Atlantic States there is said to be only one brood of the so-called army worm each year, but Professors Riley and Thomas state that in the vicinity of St. Louis, and in Southern Illinois, there are two or three broods. Professor Thomas states that the time required by these insects for passing through the various stages of insect life, is about as follows: Egg, 14 days; larva, 30 days; pupa, 17 days; and a moth commences laying her eggs in from 12 to 16 days, making a total of seventy-seven days. Now, if these insects belong to the army worm tribe, and the first eggs were deposited by the 5th of April, allowing fourteen days before hatching, and thirty days in the larva state, the full-grown larva would enter the pupa state about the 20th of May. The perfect insects should then emerge from the pupa state after remaining seventeen days—about the 4th or 5th of June—then allowing twenty-six days from the perfect insect emerging from the pupa, until the second brood of eggs is hatched, the larva of the second brood would appear early in July.

HOW TO DEAL WITH THEM.

As to where the worms come from, would say that, for the present, we know the pests are on the premises, and the important query is, how to destroy them? To this end I would advise that the vineyard grounds be thoroughly but lightly cultivated, and then rolled, by which method the pupa can be destroyed to a great extent. On removing the surface ground from around the vines by hoeing and by passing a roller over it, should the caterpillar appear on the vines, take green alfalfa or cabbage leaves, etc., dip in a solution of one pound of Paris green to fifteen or twenty gallons of water and place near the trunk of the vine for the worms to feed upon. It would be well to try this, and no doubt quite a portion of them will thereby be destroyed. Or spray the vines with a solution of one gallon of alcohol, six pounds of buhach, and forty gallons of water. This will destroy all the caterpillars which the solution touches.

Mr. Merriam also describes an enemy to the caterpillars. This is probably the larvæ or grubs of the ground beetles—the *Calosoma*, or of the rose beetles—*Staphynilidæ*.

BLACK BUGS AND WORMS.

J. B. Saunders, of Susanville, writes:

I send you larva from some moth laid on the ends of limbs that were cut off in pruning; also a bug caught on gooseberry bushes. Wherever the black bugs are found the berries drop off, and small worms are found inside. Give them a name in the RECORD-UNION.

Reply: The larva found on limbs that were pruned are not the larva of a moth, but belong to the plant lice family *Aphididæ*, and to the genus *Eriosoma*. Our typical insect of this family is the woolly aphis of the apple tree. The description is: About one-twelfth of an inch long; dark or purplish brown color, and covered with a white cottony secretion. They are without honey tubes, but in their stead are two small circular scars or aborted tubercles.

The specimen which is referred to as the black bug, found on the gooseberry bush, belongs to the family *Perlidæ*, of the order Nueroptera. Their larvæ are aquatic, therefore the worms in the gooseberries are not caused by the presence of this insect. Its description is: Length of body, three-quarters of an inch; spread of wings, one and a quarter inches; color, brownish-black; under side of abdomen, rust-colored.

DESTRUCTIVE BROWN GRASSHOPPER.

D. D. Hudson, of the Fresno vineyard, says in a letter received:

A small brown grasshopper, that does not fly, has put in an appearance in our vineyard in great numbers, threatening destruction on our crop, which, we think, good for 1,500 tons. I am much alarmed over them, and am trying to find some consolation or remedy. Have you ever had any experience, or do you know anything about their length of stay or the probable amount of damage liable to be done before disappearing? An early reply will very much oblige.

Reply: The small, brown grasshoppers which you write of as being without wings are probably the larvæ or pupæ of our common California grasshopper. Some years ago the vineyard of R. B. Blowers, of Woodland, was infested by grasshoppers. Mr. Blowers destroyed the invaders by the use of a pan, or trough, rigged upon part of the running-gear of a wagon, in which a solution of coal oil and tar was placed. The machine was run between the rows of vines, and bushels of the pests captured and destroyed. I cannot lay my hand at present on Mr. Blowers' description of the machine, but by writing to him you can ascertain, or, as he will probably be at Fresno next week, at the Viticultural Convention, you can ascertain personally. You should use every effort to destroy the grasshoppers before they become winged, which is about seven weeks after they are hatched from the eggs.

STEEL-BLUE FLEA BEETLE.

J. H. W., San Francisco.—The beetles that you send are known by the popular name of the steel-blue flea beetle. They belong to the family *Chrysomelidæ*. Their technical name is *Haltica* (*Graptodera*) *chalybea*. These beetles are very destructive to the foliage of grapevines by eating holes in the leaves. The larvæ also feed on the foliage.

Remedy: For an immediate remedy, a solution of one gallon of alcohol, six pounds of buhach, and 25 to 30 gallons of water, applied with a pump and cyclone nozzle, will destroy them. Or take a light frame of wood, made with a slot or opening to let in the trunk of the vine, if the frame is covered with cloth (sheeting) and saturated with coal-oil. This is placed on the ground under the vine where the beetles are feeding, and by shaking the vine the beetles will fall off, possum-like. As soon as they fall upon the saturated cloth they are killed by the coal-oil. The larva can be destroyed by dusting powdered lime on the leaves, but the solution given above, made of 40 gallons even of water, instead of 30, will destroy them effectually.

HAWK-MOTHS AND ANTS.

E. A. Williams, County Superintendent of Public Schools, Susanville, Lassen county—The eggs which you send belong to a species of the hawk-moths (*Sphyrgidæ*) and probably the *Smerinthus excæcatus*. The caterpillars of the hawk-moths are all injurious to vegetation. (See "Injurious Insects," pages 179 to 186.)

Mr. Fusenmeyer, St. Helena—The insects in the grapevine that you send are known by the popular name of white ants (*Termites*). They work actively in decaying wood on vines and trees.

"MAMMA, DO YOU LOVE ME?"

Love thee, my child? Why, precious one,
The flowers that brighten all the plain,
And thou wert taken from my side,
Would waste their sweetness but in vain;
Such blindness would o'erspread mine eyes,
I ne'er could look on them again;
Such tears would flow from out mine eyes—
Flow down and fall as from dark skies
The drops of rain.

Love thee, my child? Why, as the sun
Lends light and glory to the day;
So dost thou brighten all my life
With thy pure love's each sparkling ray;
And, tho' the stars might glimmer bright,
I could but grope through darksome night,
And tremble as with rude affright
Wert thou away.

Love thee, my child? Yes, were it need,
My life for thine I'd forfeit make,
And haste the hand to strike the blow,
Or bind me to the flaming stake.
Love holds o'er me such strength of thrall
Glad would I die for thy sweet sake.

Child, thou'rt my all—my sun—my star—
The treasure of my heart and home—
My precious little human flow'r,
Pure as the mountain's daisy's bloom!
Draw near me, sweet! Life's but an hour—
A step 'twixt childhood and the tomb;
And such as thou the Savior loves,
And bids them to His mansion come.
—[Chicago Tribune.

Rough on Ingersoll.

The Catholic *Union and Times*, published at Buffalo, N. Y., pays its respects to Robert Ingersoll in this fashion:

Ingersoll, the orator of "scintillating volubility" has come, abolished Christianity again in his usual style and departed. He is richer by a few hundred dollars and his credulous dupes are just that much poorer. The plus in his pocket is the equation of the deficit in theirs. They should sue him for obtaining money under false pretenses, in promising them some new music and playing off on them the same old familiar serenade. They do not deserve anything better; but that does not justify him. But "honor bright," "let us tell the truth to each other." Is it honest to advertise a new lecture and then palm off on his audience odds and ends of the same old stuff that has been made to do duty under one name or another for the last dozen years or more? Come now; "Let us come together and say: Now let us be honest. Let us teach other, honor bright." At one time the lecture is called "Mistakes of Moses," at another "Skulls," at another "The Gods," at another "Orthodoxy," and so on and so on—a litany of titles; but under whatever name if is advertized it is the same old original Jacobs of a song. Sometimes he begins at the first verse and sings it through to the last; then he shifts the cylinder, starts at the last verse and grinds it through to the first; again, shifting the cylinder, he begins in the middle and reels it off in both directions—but always the same old tune. There is one advantage at least in this method of abolishing Christianity: when you have heard any one of the lectures you have the whole collection, and all for fifty cents. When the fiddler plays "O Susanna" for the first time you rather like it; when he fiddles it again as "Yankee Doodle" you may let it pass, but when he rasps it off again as "Life on the Ocean Wave" it grows monotonous. After reading any one of Ingersoll's lectures, you have gone over the whole ground of his antagonism to Christianity; you know all he has said or appears to be able to say. The lecture of many titles changes its name every season as the snake changes its skin, while it remains the same old serpent. Ingersoll and Barnum are educating the public—gradually educating them up to a knowledge of the thrifty philosophy that a played-out attraction needs only to be re-christened before its proprietor begins his annual tour. This trick of showmanship, however, will not last forever. The people grow familiar with the attraction, and familiarity begets contempt.

We give in another column extracts from our city contemporaries which indicate the turn of the tide and decline of Ingersoll's star. The papers made him, and it will not take them long to unmake him, now that they have begun.

How Gun-Barrels are Made.

The beautiful waved lines and curious flower-like figures that appear on the surface of the barrels are really the lines of welding, showing that two different metals, iron and steel, are intimately blended in making the finest and strongest barrels. The process of thus welding and blending steel and iron is a very interesting one. Flat bars, or ribbons, of steel and iron are alternately arranged together and twisted into a cable. Several of these cables are then welded together and shaped into a long, flat bar, which is next spirally coiled around a hollow cylinder, called a mandrel; after which the edges of these spiral bars are heated and firmly welded. The spiral coil is now put upon what is called a welding mandrel, is again heated and carefully hammered into the shape of a gun-barrel. Next comes the cold hammering, by which the pores of the metal are securely closed. The last, or finishing, operation is to turn the barrel on a lathe to exactly its proper shape and size. By all the twistings and weldings and hammerings, the metals are so blended that the mass has somewhat the consistency and toughness of woven steel and iron. A barrel thus made is very hard to burst. But the finishing of the inside of the barrel is an operation requiring very great care and skill. What is called a cylinder-bored barrel is where the bore or hole through the barrel is made of uniform size from end to end. A choke-bore is one that is a little smaller at the muzzle than it is at the breech end. There are various ways of "choking" gun-barrels, but the object of all methods is to make the gun throw its shot close together with even and regular distribution and with great force. There are several kinds of metallic combinations that gunmakers use, the principal of which are called Damascus, Bernard and laminated steel; the Damascus barrels are generally considered the best.—[St. Nicholas.

THE EVOLUTION OF THE CORSET.—As long ago as the days of the Greeks and Romans a slight, *elançée* figure was admired and stoutness looked upon as a deformity, Martial ridiculed fat women, and Ovid put large waists in the first rank of his remedies for love. Several means were tried then, as now, not only to restrain an expanding figure, but to exhance the beauties of a very slight one. But they were of a different kind from those with which we are familiar. Bandages were worn, with the generic name of *fasciæ mamillares*. These consisted of the *strophium*, the cloth worn around the bosom; the *tenia*, a simple band below, and the *zona*, or waist-belt. When bandages failed, those who valued the beauty of their figures had recourse to a remedy prescribed by Serenus Sammonicus. They enveloped their busts with garlands of ivy, which were thrown on the fire as soon as withdrawn, and afterwards rubbed all the upper part of their figures either with goose fat mixed with warm milk, or with the egg of a partridge. Men were as vain as the women, if we are to believe Aristophanes and other writers. The great comic dramatist mocked his contemporary Cinesias for wearing busks of linen-wood; and Capitolinus, in his biography of the Emperor Anthony, mentions that he also had recourse to them to compress his swelling figure. Testimony is conflicting, however. Some contend that the ancients wore veritable corsets, arguing that when Homer, in describing Juno's toilet when she wishes to captivate Jupiter, speaks of the two girdles worn around her waist—the one bordered with gold fringe, the other borrowed from Venus—he was really describing a Greek corset; and that the egide or cuirass of Minerva which Virgil describes is to be interpreted in the same manner. But this view is surely mistaken, for no monument of antiquity, no artistic work, no evidence gleaned from other sources, point to the use of stiff, unyielding, whalebone corsets. —[Good Words.

The Connecticut Senate has passed an Act prescribing the studies in the public schools, which specifies that these shall be "reading, writing, arithmetic, English grammar, geography, and such other studies, including training in the manual arts, as may be prescribed by the school visitors." Senator Plunkett, a member of the New Haven Board of Education, said the system of manual arts had been introduced there, children that stood perfect being allowed a little time to work with carpenter's tools, and it was found very successful.

ZINFANDEL GRAPES.

REPORT OF OFFICIAL EXAMINATION RECENTLY CONCLUDED.

At the University Agricultural Experiment Station, of Wines from Different Localities.

The following (Bulletin No. 12) has just been issued officially from the Agricultural Experiment Station, Berkeley:

In a previous bulletin (No. 9, April 2, 1884) were given the analyses of thirteen red (main crop) Zinfandel wines from different localities in the State, with five others referring to second crop and white wines from the same grape variety. The great predilection towards this grape, and the great breadth of vineyards now established in which it forms the leading ingredient, renders a full understanding of its general as well as local peculiarities a matter of considerable importance to the viticultural interests of the State.

Hence, the conclusions apparently foreshadowed by the analyses heretofore published have called forth widespread interest; and contributions of samples from localities and locations not before represented have since so far supplemented the data of the former bulletin, as to render it desirable to publish them in connection and juxtaposition with those before reported.

In the table below are given eleven additional analyses (or twenty-four in all), the additional localities represented being Cloverdale, Glen Ellen in the Sonoma valley, and the neighborhood of San Jose and Mountain View, Santa Clara county:

No.	Contributor.	Locality.	Vint.	1.	2.	3.	4.	5.
1	I. DeTurk	Santa Rosa	1881	3.097	10.67	13.20	.....	6.75
2	I. DeTurk	Santa Rosa	1883	3.065	9.92	12.36	.068	.468
3	Charles Kruse	Cloverdale	1883	2.910	9.41	11.80	.066	.583
4	J. H. Drummond	Glen Ellen	1882	2.785	11.00	13.42	.100	.570
5	J. H. Drummond	Glen Ellen	1883	2.910	9.41	11.80	.066	.583
6	J. H. Drummond	Glen Ellen	1883	2.910	9.41	11.80	.066	.583
7	Charles Krug	St. Helena	1882	2.940	10.82	13.27	.092	.408
8	Charles Krug	St. Helena	1882	2.940	9.20	11.40	.066	.394
9	H. W. Crabb	Oakville	1882	2.800	10.07	12.35	.074	.432
10	H. W. Crabb	Oakville	1883	2.910	9.92	12.36	.150	.570
11	W. Scheffler	St. Helena	1883	3.015	10.32	12.72	†	.394
12	G. Husmann	Talcoa Vineyard	1882	2.710	8.62	10.72	.097	.468
13	* George West	Stockton	1881	3.190	11.62	14.20	.041	.729
14	J. Gallegos	Mission San Jose	1882	2.575	11.57	14.26	.065	.457
15	J. Gallegos	Mission San Jose	1882	2.940	10.81	13.27	.079	.599
16	John T. Doyle	Cupertino Creek	1882	3.005	11.62	14.20	.120	.599
17	J. P. Foral	West San Jose	1883	2.900	11.26	13.75	.108	.690
18	F. Bantsen	Felton	1883	3.465	9.92	12.36	.152	.438
19	F. Bugeaud	Fresno	1882	2.765	9.92	12.36	.152	.378
20	F. Bugeaud	Fresno	1883	3.115	12.40	15.20	.162	.378
21	C. Denicke	Fresno	1882	2.800	9.92	12.36	.152	.438
22	C. Richter	Fresno	1883	3.000	12.25	15.00	.338	.397
23	Sherman	El Cajon	1883	2.715	10.07	12.50	.134	.615

* From grapes sent to the laboratory by the producers. The rest are samples sent ready made, but with assurance of their authenticity.
† Very light.

[In the above table, in the column numbered 1 is given the solid contents, by spindle; 2, alcohol, by weight; 3, alcohol, by volume; 4, tannin; 5, acid calculated as tartaric.]

In comparing the data of this table with those given in Bulletin No. 9, it becomes necessary to take into account difference in the location of the several vineyards of the same locality. Thus, the conclusion that the Zinfandels of Napa valley are deficient in tannin appears here to be contradicted, yet only apparently; for the Napa wines showing a good to high tannin percentage in the present table are not from valley lands proper, but from hill lands adjacent; thus showing very important differences to arise from what are commonly considered slight variations in location. Considering first the point of

"SOLID CONTENTS" OR "BODY,"

We find in the northern localities of Santa Rosa and Cloverdale two vintages (Nos. 2 and 3) showing a heavy body, somewhat over 3 per cent., while in three vintages of Glen Ellen (Nos. 4, 5 and 6) the average body is quite light, like that of the valley wines of Napa (Nos. 8 and 9). Alongside of the latter appear two others (Nos. 7 and 10) from higher lands of the same localities, viz., Krug's and Crabb's vineyards, both alike showing a markedly heavier body, as also does No. 12, from the hills of Talcoa vineyard. Whether No. 13 grew on low land in the same locality is not on record, but seems probable.

No. 11, from Mr. Scheffler's vineyard near St. Helena, shows an abnormally heavy body for the latitude, though in other respects it does not differ markedly from other wines of the same region. The anomaly may be traceable to some peculiarity in its treatment or location.

Passing southward, we find a remarkable agreement in the Zinfandels of the Santa Clara valley, Nos. 15, 16, 17 and 18, those from Mission San Jose, west San Jose and Cupertino creek alike coming within a trifle of three per cent. of solid contents. As none of these wines contain any unfermented sugar, the indication that in this region the Zinfandel yields too heavy a body for claret proper seems quite definite; and it is not a little remarkable that a region so near the coast should in this respect stand next to Fresno, an interior region of steady high summer temperature.

As regards the latter, Richber's wine (No. 23) adds to the list of extraordinarily heavy-bodied wines from that region, while Denicke's 1882 (No. 22) stands between these and Eisen's (No. 19), in which the percentage is only 2.69. It will probably be found that both the latter are from low ground, while the rest are from higher land.

ALCOHOLIC STRENGTH.

Since the alcohol percentage can, to a certain extent, be governed at will by the producer in the degree to which he allows the grapes to ripen, the data of the table are largely, no doubt, affected by individual practice; yet heretofore it has been usual to give the wines, as nearly as possible, the maximum strength, in accordance with the curiously irrational demand of the wine merchants. On the whole the alcohol percentage runs nearly parallel with that of the "body," being highest, closely approaching the possible maximum, at Fresno, next highest in the Santa Clara valley and at Stockton; a lower average in the Napa and Sonoma valleys, rising somewhat at Santa Rosa and Cloverdale. The great variation in the three Glen Ellen vintages (Nos. 4, 5 and 6) is quite remarkable, and so far as that of 1883 (No. 6) is concerned, is probably in part due to the unfavorable season that so generally affected the crop in the northern part of the State.

THE TANNIN PERCENTAGE.

The analyses given in the previous bulletin (No. 9) led to the conclusion that the Zinfandels of Napa valley were remarkably deficient in tannin, as exemplified in Nos. 8 and 9. The more ample data of the present table show, however, that the outcome is quite different in the hill lands adjoining, for Krug's 1882 (No. 7) from such lands shows, in strong contrast to No. 8, next to the highest tannin percentage of the whole table (29 pro mille), requiring to be blended in order to subdue the harshness. Crabb's 1883 (No. 10), also from higher land, gives over 7 pro mille, and Scheffler's (No. 11), likewise from slope land, 15 pro mille. Of Drummond's Glen Ellen wines, from red slope lands, one shows 14 pro mille, the other two respectively 7 and 8.6. It thus appears that while in but few cases the tannin rises quite as high as the average of French clarets (20 pro mille), yet a respectable amount is obtained in the hill lands of Napa and Sonoma; so that there can be little difficulty in obtaining all that is desirable by blends with grapes naturally richer in tannin than the Zinfandels.

Denicke's 1882 (No. 22) shows again the tendency of Fresno wines to high tannin, as already previously shown. But the climax is reached in Richber's 1883 (No. 23), which shows the astonishing amount of 33.8 pro mille, making with its high body, high alcohol and low acid, a product of exaggerated Fresno peculiarities, hardly pleasant to drink as it is, but exceedingly useful for blending purposes. It will be highly interesting to ascertain in what precise locality and under what circumstances Mr. Richber's wine was produced, as it will give important indications as to the relations between soil and grape product in that region.

IN THE MATTER OF ACID,

It is interesting to find that in the vintages of 1883 the acid is in Napa and Sonoma almost throughout lower than in 1882, or than the average of previous vintages on record in the Santa Clara valley. However, Doyle's and Portal's 1883 show an average near to that of Gallegos' 1882, indicating that the causes that depressed this factor to northward were less active here. Similarly, Duquesne's and Denicke's wines of 1883, Fresno, show a good acid percentage, the latter being almost throughout a remarkably well proportioned and palatable wine of its age, almost identical with that of the Cajon valley, No. 24.

CONCLUSIONS.

The showing made by the above table in respect to the wide differences caused by locality and climate in the composition of Zinfandel wines is sufficiently eloquent of the need of detailed and close observation, in each region, of the prominent peculiarities, in order to adapt to them the proper blends. If a certain proportion of Mataro or Trousseau makes the most acceptable blend in the Santa Clara and Livermore valleys, it does not prove that the same will be best in Napa and Fresno; the more as the other grape varieties are undoubtedly similarly modified in the several localities. It has been thought best to push through, at once, a full series of examinations of one of the most widely diffused grape varieties, in order to show the importance of the results that may be thus obtained; since the material on hand does not allow of such extensive comparisons in the case of any other grape. Several smaller but nevertheless very important series of samples are in progress of examination, and their analyses will be published as fast as their completion may render it profitable. The occurrence of the University vacation of ten weeks from date will, for the time being, interrupt the work; but it is hoped that those able to contribute samples of authentic origin from single grape varieties will in the meantime add as much as possible to the collection, and that during the vintage many will in the meantime add as much as possible to the collection, and that during the coming vintage many will prepare samples for the express purpose of obtaining, through such examination, an insight into the peculiarities of their wines and grapes. Thus far the foothills of the Sierra are almost entirely unrepresented; and yet the future importance of that region in grape-growing can hardly be a matter of doubt. E. W. HILGARD.

Berkeley, May 30, 1884.

Moderate Drinking.

There are found in all parts of the country men and women who use alcohol regularly and in limited quantities. To the casual observer they go on for years in this state and are apparently no worse, and finally die at last of some common disease, leaving the reputation of having lived what the inebriate would call an "ideal life" of moderate drinking. Why they drink is not clear. If they have any reasons it is always sustained by their unbounded faith in the capacity to abstain at any time at will. These cases are inebriates in every respect, except in the prominence and intensity of the symptoms. There is no difference between the chronic case of the lowest type and the highly respectable moderate drinker, except one of degree.

Both are suffering from a positive physical disease. In one case the disorder is developed, in the other it is in the incipient stage. In the latter, from some obscure reason, the case never goes on to full development, but is always on the "border land," awaiting the action of some exciting cause, which may or may not be applied. A repelling power exists, which builds up and neutralizes the injuries received from alcohol to a certain extent. It is not will power which makes the difference between the inebriate and moderate drinker. It is physiological and pathological conditions of the brain, which the possessor ascribes to will power. Alcohol cannot be used in moderation without grave injuries to the nerve centers.

The moderate drinker is always diseased, although to the non-expert there are no clear symptoms or coarse lessons that can be seen. A careful study will reveal physically an irritable condition of the heart, with stomach and digestive troubles, also changing and disordered functional activity of all the organs, at times. Psychically the disposition, habits, temper and mental state slowly and gradually degenerate and become more unstable. The higher mental forces drop down or give place to lower motives and ambitions. No matter what his position of life may be, or his objects or plans, the moderate use of alcohol will alter and break down both physical energy and precipitate destruction. Moderate users of alcohol always die from diseases provoked and stimulated by this drug. They always transmit a legacy of defective cell energy and exhaustion, which most readily finds relief in any alcohol or narcotic.

But only a small per cent. of moderate drinkers remain so until death. The disease goes on to full development in inebriety in a vast majority of cases. The boasted will power to stop at all times is powerless before its peculiar exciting cause. Those who never go beyond this moderate use have simply never been exposed to this peculiar exciting cause. The moderate use of spirits for a life time is a mere accident in the order of nature, and the ability to stop resting in the will power is a popular fallacy. A certain number of cases have signs of incipient phthisis, which may never burst out into the full disease. A small number of cases exposed to smallpox, or any infectious disease, never take it; but these are the rare exceptions, whose causes are unknown, from which no deductions can be drawn.

Moderate drinking that does not go on to inebriety is also the exception. The chain of exciting causes that bring on these extreme stages may or may not be understood, but they always break out sooner or later in the history of the case. Practically the study of this early stage of inebriety is of the utmost value in the treatment. Here remedial measures can be made of the greatest avail in checking and preventing any further progress of the disease. When inebriety is fully recognized as a diseased condition, requiring study and medical care, this prodromic period of moderate drinking will receive the attention it deserves.

In the mean time, as scientific men, we must continue to call attention to this early beginning of inebriety, so full of indications and hints of the march of the disease, whose progress and termination can often be predicted with positive certainty.—[Journal of Inebriety.

THE HONOLULU FISH MARKET.—A visit to the fish market of Honolulu on Saturday afternoon, winter or summer (for there are no seasons here, remember), is a sight seldom elsewhere to be met. Situated on the street lying beside the still surface of the bay, it seems as if the fish had only to be angled for with the fingers from the piers in order to be caught, cooked, cleaned and eaten. Every variety of fin afloat is to be seen in the market, pre-eminently the nutritious mullet. Fish-wives, fish-husbands and fish-children barter the scaly merchandise from stalls or counters covered with fish and specie. Nowhere else that I know of could vendors leave in parallel piles upon their tables with impunity gold and silver coins often amounting to scores of dollars. A good deal of chatting, joking and bargaining accompany proceedings in this place of trade, the picturesque natives preponderating both as buyers and sellers, while all around is life, noise, flutter and business eagerness. The scene reminds one of the Neapolitan fish market in the square where Masaniello organized his popular uprising and revolutionary revolt—that bold fisherman, king of but three days' reign. Fish is a favorite food of the Hawaiian at all times, which, with a bowl of poi, makes up his usual meal. Shell fish, shrimps especially, are sold for salads a la mayonnaise, but there is no native edible oyster. The oyster of the Pacific, anywhere I have ever been—even on our California coast—in nowise equals our Atlantic Blue Points, Chesapeakes or East river bivalves, either as regards size, flavor or subsequent epicurean satisfaction.—[The United Service.

The Fish river caves of New South Wales are of vast extent and singularly attractive. Their only rivals in grandeur are in this country. One of the Fish river caverns is estimated to be not less than 500 feet in hight and of proportionate width and length.

MISCELLANEOUS.

Surface Indications

What a miner would very properly term "surface indications" of what is beneath, are the **Pimples, Sties, Sore Eyes, Boils, and Cutaneous Eruptions** with which people are annoyed in spring and early summer. The effete matter accumulated during the winter months, now makes its presence felt, through Nature's endeavors to expel it from the system. While it remains, it is a poison that festers in the blood and may develop into **Scrofula.** This condition causes derangement of the digestive and assimilatory organs, with a feeling of enervation, languor, and weariness—often lightly spoken of as "only spring fever." These are evidences that Nature is not able, unaided, to throw off the corrupt atoms which weaken the vital forces. To regain health, Nature must be aided by a thorough blood-purifying medicine; and nothing else is so effective as

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which is sufficiently powerful to expel from the system even the taint of **Hereditary Scrofula.**

The medical profession indorse AYER'S SARSAPARILLA, and many attestations of the cures effected by it come from all parts of the world. It is, in the language of the Hon. Francis Jewett, ex-State Senator of Massachusetts and ex-Mayor of Lowell, "the only preparation that does real, lasting good."

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POISON

In the blood is apt to show itself in the Spring, and nature should by all means be assisted in throwing it off. Swift's Specific does this effectively. It is a purely vegetable, non-poisonous remedy, which helps nature to force all the poison or taint out through the pores of the skin.

Mr. Robert A. Easley, of Dickson, Tenn., writes, under date March 10, 1884: "I had chills and fever, followed by rheumatism, for three years, so that I was not able to attend to my business; had tried almost every kind of medicine, and found no relief. A friend recommended Swift's Specific. I tried one bottle, and my health began to improve. I continued until I had taken six bottles, and it has set me on my feet, as strong and well as ever. I recommend it to all similarly afflicted."

Letters from twenty-three (23) of the leading retail druggists of Atlanta say, under date March 24, 1884: "We sell more of Swift's Specific than any other one remedy, and three to ten times as much as any other blood medicine. We sell it to all classes, and many of the best families use it as a general health tonic."

Our Treatise on Blood and Skin Diseases mailed free to all applicants.

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Effectually cleanses the head of catarrhal virus, causing healthy secretions. It allays inflammation, protects the nasal passages from additional colds, completely heals the sores and restores sense of taste and smell.

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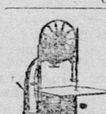

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NOTICE IS HEREBY GIVEN THAT THE Board of Supervisors of Sacramento county, State of California, are prepared to redeem the following outstanding indebtedness of said county, viz: Bonds of 1870, known as "Court house and Jail Bonds," authorized to be issued by Act of the Legislature, approved March 18, 1870, from No. 1 to 100 inclusive, for $500 each, and bonds of 1870, known as "County Hospital Bonds," authorized by Act of Legislature, approved January 27, 1870, No. 1 to 150 inclusive, and Nos. 159 and 160, for $500 each. Also, that interest on said bonds shall cease six months after the first publication of this notice. By order of the Board.

CHAS. M. COGLAN, Clerk.
Sacramento, May 24, 1884. m29-4p6m

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