WILLAMETTE FARMER

POPULAR LECTURES.

Economy of the Vegetable Kingdom.

Thirisentl. Lecture delivered before the University of Cal , ifornia College of Agriculture, on Friday, February 5th, by Phor. C. E. BESSET. [From Pacific Bural Press.]

Our Timber Trees.

To the student, as well as to the practical man, the timber producing trees of the Pacific slope furnish a topic of great interest. A well grown tree is a grand object, interesting to every one, from the dreamer who only asks of it that it throw its shade over him, to the .lumberman who asks it to yield him the boards, planks, joists and shingles so snugly packed away within its shaggy bark; doubly interesting to the lover of nature, who studies its forms and dwells upon its beauty as if it were an animate thing, who loves it as a fellow creature, and who mourns as for a friend when some ruthless hand fells it. Wonderful machines trees are, pumping up day after day tons of water, which they allow to steam through the millions of breathing pores in their leaves; sending their roots down into the darkness of the earth among the rocks and roots, and bringing up from thence the materials with which they build tall shafts which out-top all other living things. They are nature's master-pieces. Go and stand beside the gigantic Sequoias of the Calaveras or Mariposa groves, the Auracarias of Norfolk island, or the monstrous gum trees of Australia, and you are with the largest living things on earth.

What thing of life can claim even half the antiquity of some of the trees now growing? Our largest redwoods were seedlings one thousand years ago. Run back if you can over all the changes our English speaking race has seen during the time these redwoods were growing.

Thirty one centuries ago the Big Trees of California burst their seed coats and began their long reaching toward the skies, bean adding cell to cell for the construction of spires which should withstand the storms of more than three thousand years. Thirty-one hundred years ago

Twelve Centuries Before Christ,

When the names of which old Homer sung were still fresh in the memories of men. Our

were suit fresh in the memories of men. Our people, our civilization, and our religion have risen since these giant trees began existence. But what shall we say for the great dragon tree which until within a few years was stand-ing upon the island of Teneriffe? Careful esti-mates placed its age at considerably more than five thousand years. When Moses wrote his account of the world, this dragon tree had been for more than a thousand years braving account of the world, this dragon tree had been for more than a thousand years braving the storms which swept down upon it from the ocean; when our Sequoias were tiny sprouting plants, it had already seen more than twenty centuries; when Rome was in her glory, this ancient tree had passed the meridian of its life. This one living thing spanned with its life the known world; its youth was in the pre-historic neat. its old age extended to our present.

Inown world; its youth was in the pre-historic past, its old age extended to our present. Interesting as these inquiries are, I wish, to-night, to call your attention to another view of the matter. Trees, if usable, represent dol-lars and cents, but if unfit for use, their com-mercial value is nothing. Now the uses which give value are many; without attempting to enumerate all they are such as the following: give value are many; without attempting to enumerate all, they are such as the following: they may furnish food, medicines, timber, gums, balsams, perfumes, spices, dyes, orna-ments, etc. But few trees are so poor as not to furnish one or more of these. With us the furnish one or more of these. With us the great demand is that our trees furnish timber. The question of the lecture then, shall be,

What Trees Furnish us with Timber?

A convenient division of timber trees is into "soft wood" and "bard wood" varieties; and under these names timber men and lumber dealers buy and sell the woods found in the market. To the soft wood division belong all the pines, redwoods, firs, spruces, cedare, market. To the soft wood division belong all the pines, redwoods, firs, spruces, cedars, larches and other cone-bearing trees, as well as the poplars, cottonwoods, lindens, white-wood and a few others. In the hard wood divisions are found the oaks, beeches, chestnuts, hickories, walnuts, elms, ashes, laurels, chersugar pine would be used for as many purposes as the white pine, but you are so fortunate as to have three or four others having different qualities, so that the use of sugar pine is somewhat restricted. On account of its lightsomewhat restricted. On account of its light-ness, firmness, strength, ease of working, free-dom from warping, and readiness to take paint, it is largely used for doors, sashes and blinds. The redwood tree, Sequoia sempervirens, is the great lumber producing tree of California. It is not a pine, but is more nearly a cypress, having comes and leaves much more nearly having cones and leaves much more nearly resembling the latter than the former. It is peculiar to this coast, and even here it appears

restricted to certain favorable localities. Dr. Gray considers the redwoods (including the giant trees, which are near relatives), as remnants, so to speak, of

A Former Gigantic Race of Trees.

A Former Gigantic Race of Trees, Which extended throughout the northern hemisphere, climatic and other changes having destroyed them long ago in all countries but California. Beyond the Sierras here and there we find the fossil remains of gigantic trees; and we can trace them away Eastward, even into Northern Asia. Here alone in favored California has the climate ro-mained stable ancuehto nermit their continuance mained stable enough to permit their continuance to the present. But even here there has been some change; for now the redwoods are some some charge; for now the redwoods are some-what restricted to certain districts, while we know from fossil and other remains that they once covered portions of the State where now none are to be found. On the tops of the Coast Range mountains are roots and pieces of stumps of ancient redwood forests. They rep-resent a dwing reas which environments resent a dying race, which specially favoring conditions have given a little longer lease on

conditions have given a little longer lease on life. The Douglas spruce, Abies Douglasii, is a native of the Rocky Mountains, Sierra and California regions. A beautiful tree, it was long ago taken tc Europe as an ornamental tree for the parks and gardens. Here it is chiefly interesting on account of its timber, which is much sought after by railroad men. Its durability when in the ground makes it very valuable for ties and posts, for which it is much used. It is also brought into the market as boards and planks under the name of spruce lumber.

Oregon pine and Oregon fir are names ap-plied to a very valuable timber brought to our market from Oregon and Northern California. market from Oregon and Northern California. The name pine is not properly applicable to this tree, as it belongs to the botanical genus, *Abies*, the spruces and firs. The wood is firm, light, very strong, elastic and durable. It is used for many purposes, the most important of which is ship building. Ships have been made of this timber throughout, and upon trial have been found as strong as if made from the oaks and other hard woods. "Soft Wood Ships,"

As they are called on account of the lightness of their materials, sink less into the water under a given weight of cargo, than do those made of the heavier woods. Masts and spars of this timber after bending

under heavy winds for days or weeks, as soon as released from the strain straighten up again as before.

There are many other soft wood trees of this region which are now somewhat used, and which no doubt could be utilized if we knew more as to their strength, durability and other more as to their strength, durability and other qualities. Among these are several pines, yel-low pine, P. ponderosa; nut pine, P. sabiniana; Monterey pine, P. insignis. Several additional ones belong to the genus Abies—the spruces and firs might be added to the list—as also the giant arbor vitel of Oregon, Thuja; the west-ern larch, Lariz; western red cedar, Juniperus; California white cedar, Libocedrus; and some others. Of other soft wood treas than the concathorna white cedar, *Lioocearus*; and some others. Of other soft wood trees than the con-ifers, California has none worth mentioning, and with the exception of the tulip tree, *Lirio-dendron*, of the Eastern United States, none of them are greatly to be desired. With so many valuable soft woods at her command, California has but little need of more, and yet it cannot be denied that

No Tree on this Ceast

Furnishes a timber which can exactly replace the wood of the tulip tree, the whitewood or yellow poplar of the Atlantic States.

Among the hard wood trees the oaks occupy

Among the hard wood trees the caks occupy the same relative position as do the pines among the soft wooded ones. British oak, Querous sessilifora and Q. pedun-culata, is known wherever British ships have gone. This tongh, heavy, durable wood has always been a favorite with British ship build-ers, and the supariority of the British party. ers, and the superiority of the British navy, no doubt, is largely due to the fact that these oaks have always been easily obtained. So import-ant have they been considered, that long ago great plantations of them were made and care-fully guarded. Hundreds of the British vessels

greatest value being found when employed in sticks or pieces but little more than an inch in diameter. For axles and spokes of wagons and carriages, for handles for tools, and for the caringes, for inholes for tools, and for the smaller parts of agricultural implements it is valuable. California has no native hickory, hence it is found to be quite difficult to grow it here. Possibly in the foot hills it might be grown. It is an experiment worth trying, to make a plantation of hickories in some of the eastern counties, for the State has no wood whatever which can exactly replace it. The elms are found in great abundance

throughout most of the States east of the great plains. Some of the species are quite valuable, though the liability to warp is a serious objec-tion. Europe has a fine elm, the Eastern States have two valuable ones, but California has none. Some of the elms are found to grow quite well in some localities in this State, and no doubt could be grown in sufficient quantitie to meet all the demands for elm lumber.

The Ash.

The Ash. Here again we find, first a species in Europe, which is replaced in the Eastern States by the American white sah, a tall, majestic tree, pro-ducing a white, light, tough and durable tim-ber. On account of these desirable qualities it is largely used in the manufacture of agri-cultural implements. For very many purposes it is preferable to hickory; as it is not so heavy while it is very nearly as strong, and possesses, besides, the additional advantage that it is made free from the work of the powder posting insects. In Western California and in Oregon a small sized ash occurs in sufficient abundance a small sized ash occurs in sufficient abund to be used in manufacturing somewhat.

The Maples, of which there are many species, are divided into two groups—the hard maples, and the soft maples, referring to the character of the wood. The hard maple, or as it is also known as the sugar maple. of the Eastern States, occurs as far west as the Missouri river. In favorable localities it becomes a large tree, one hundred feet in hight, with a diameter of from two to three or more feet. When dry its wood is hard, and capable of receiving a high polish. The soft maples, of which there are several Eastern species, have a much softer The Maples, of which there are many species several Eastern species, have a much softer and less durable wood. It is, when kept dry, valuable for furniture, and is largely used for that purpose. In Northern California and Oregon a maple occurs which may be considered as the western representative of the soft maple of the East. It is used considerably. There are three timber trees peculiar to Cali-

fornia which are well worth mentioning; they are the

California Laurel, the Madrona and the Man zanita.

The California laurel (Oreodaphue Californica) is peculiar to this slope of the continent. Its wood is valuable, and no doubt when we have learned more fully how to use it, it will be of more value still. The Madrona furnishes a bard, heavy, light colored wood, which is, or can be made to be quite valuable. The Man-ranita grows usually as a shrub from which it science grows usually as a sirror from which it is difficult to get large piecess of timber. Occa-sionally, however, it is of sufficient size so that good blocks several feet long and from four to six inches thick may be secured. This wood is very beautiful, much resembling mahogany, but being much heavier and harder. It can be made into many small articles of use and orna-ment and no donk by proper care and culture

ament and no doubt by proper care and culture it might be grown into a much larger tree. Among the important woods of this coast not belonging to California, are those recently brought into use from Mexico. The most important one is what is known as Prima vera or white mahogany, a white wood resembling in many of its characters the hickory of the East. It is used extensively in the manufacture of fine furniture, and also for street cars, as

of fine furniture, and also for street cars, as well as for many other purposes. Summing up the whole matter we find that California is better supplied with coniferous soft woods than perhaps any other country on the globe, having no less than twelve which are more or less valuable. It has, however, but the words avida from the conifers which few soft woods aside from the conifers which are of any value. It is decidedly wanting in valuable hard wood trees.

In order that the native woods of this coast may be of greatest use there is great need of Thorough and Exhaustive Tests,

As to their strength, their durability and their working qualities. There is no doubt in my mind but that when they are known we shall find that many of the trees which we now pass by as valueless are in reality very useful. I am glad to be able to announce that such tests as those of which I have spoken will be made this year at the university. Only a few days ago the arrangements were completed for beginning the work. In this work I trust you will give it a hearty support as a worthy work of a great and growing university. I have thus thrown hastily together a few of

GOOD HEALTH.

Pathological-What we Breathe.

Very suggestive experiments have been made by Mr. Blackly, in connection with his re-searches upon the "bay fever," with a view of determining the extent to which pollen of various plants is diffused throughout the at-mosphere. His first series of inquiries was instituted in a meadow at the aver-ge breath-ing level of four feet nine inches from the ground hadinping in Auril and continuing ing level of four teet nine indes from the ground, beginning in April and continuing until the end of July. A slip of glass was ex-posed horizont-lly, coated with a thin layer of non-drying liquid. The results were tabulated daily, and the highest number of pollen grains obtained on a square centimeter in twenty-four hours was 880, June 28. Sudden diminutions

hours was 880, June 28. Sudden diminutions in the quantity of pollen—when these occurred in the ascending scale, between May 28 and June 28—were invariably due to a fall of rain, or to this and a fall in the temperature. Mr. Blackly also examined the amount of pollen to be found in the highest strata of the atmos-phere. This was done by means of a kite, which, by being attached to other kites, some-times attained an elevation of 1,000 feet. The pollen was found to be much more larcely pollen was found to be much more largely present at the upper levels than at the "breath-ing level." Taking the average of the quanti-tics where pollen was present at both levels, he found that while the average of the ordinary level was 21 only, for each experiment, that for the higher levels was 472.33, or more than nineteen times as much. After making due allowance for the difference in the velocity of the air at various altitudes there still remains a The air at various antiques there sum remains a great pr-pouderance unaccounted for in the amount of pollen in the upper strata. Mr. Blackly remarks that his experiments also afforded abundant proof of the presence

of fungoid spores in the air in large quantities. In one experiment, which lasted four hours, and in which the number of pollen grains col-lected at an altitude of 1,000 feet was 1,200, the spores of a cryptogram (probably Usiliago segetum) were so numerous that he could not count them. At a rough estimate they could not count them. At a rough estimate they could not be less than thirty to forty thousand to the square inch. A fact like this makes the ubiqui:y of fungoid organisms a thing easy to comprehend.

Worth Knowing, if True.

Among the many sanitary virtues which have been ascribed to the eucalyptus or Australian gum tree, we have now the assertion that it is sepecially valuable for rheumatism, a disease which has heretofore baffled medical science. Instances are given in proof of the assertion, and among others the two following by the Datalman down it anoma continuous batter Petaluma Argus. It appears a gentleman named John Quinlan had tried most of the approved remedies to mitigate the pain of this affliction, without avail. He visited the West India iswithout avail. He visited the west finds in-lands and many other regions for relief, but did not obtain it. Coming to Petaluma, one of our hotel keepers, with whom Mr. Quinlan was acquainted, noticed among his guests a man who had his arms and legs bound up with man who had his arms and legs bound up with leaves. Upon questioning the party he learned that he was afflicted with rheumatism, and that he had bound the diseased parts with the leaves of the eucalyptus tree, from which he had experienced great relief and apparently al-most a permanent cure in a few days. This in-telligence was communicated to Mr. Quinlan, who immediately tried the experiment, with the most gratifying results. He procured a quantity of rank green eucalyptus leaves and heating each one slightly, bound them upon the parts in which he felt the most pain. The effect was marvellous; the pain ceased in a the parts in which he felt the most pain. The effect was marvellous; the pain ceased in a short time, and in a little while the long suffer-ing patient felt like a new man. He continued to apply the leaves and to wear them while walking about the streets, and at the end of two weeks felt entirely well. He says no amount of money would purchase from him the power of applying this remedy, should he be attacked again

again. The Call, of this city, a few days after pub lishing the above, gave its readers the following additional confirmation: Since our article of Tuesday, attesting to the virtues of eucalyptus leaves in the cure of rheumatism several per-sons have since called at our office—among the sons have since called at our once—among the number a clergyman—to corroborate the stato-ment. They report that they have seen the leaves applied to the affected parts of several sufferers from this painful disease, in each of which the relief afforded was almost immediate,

with the prospect of being permanent. This remedy has the merit of being inexpen-sive. Persons afflicted with the rheumatism may give it a trial. If it will do for others what Mr. Quinlan says it has done for him. discovery is made for which tens of thousands of suffering people will feel thankful .- Pacific Rural Press.

USEFUL INFORMATION.

The White Streak in Silk-An Interesting Discovery.

For a number of years the silk manufacturers of this country have been troubled by the ap-pearance of what is commonly called a "white streak" in dyed silk. This name describes the appearance about as well as any other term we can apply, and has been adopted for lack of any more positive information respecting it. It makes its appearance principally on black silk after it has been wound on the spools ready for use on the sewing machines. It is not, however, confined to black machine twist, It in but is visible in many of the other dark colors.

but is visible in many of the other dark colors. It has the appearance of a slight roughness or fuzz on the side of the thread as it lies on the spool. It is invariably white and easily re-cognized, especially when it occurs in the black silk. The ormbined talents of the silk manufacturers and dyers in this country have been employed during the last few years to dis-cover some method of overcoming the white streak, either by varying the process of manu-facture or by covering it in the dye. As yet all efforts have failed to be completely success-ful. Various theories have been proposed to all efforts have failed to be completely success-ful. Various theories have been proposed to account for its appearance; much time and money have been spent in the study of the question, without arriving at any certain knowledge concerning it. Some manufacturers believe that it is due to carelesaness during the process of dying; that the silk is not thoroughly washed from the soap suds in which it is boiled, leaving particles of soap adhering to the silk. Other: atoutly

of soap adhering to the silk. Others stoutly affirm that it is due to the dead wood which the silk takes on as it passes over the wooden rollers of a machine known as the stretcher.

Nonotuck silk company's present theory is that the streak is due in some way to the process of adulteration to which the silk is subprocess of adulteration to which the silk is sub-jected as it is wound on to the real from the cocoon. They think it possible that the co-coons when wound may be soaked in warm water to which a quantity of rice starch has been added, thus making a kind of rice water or thin paste, which the silk takes up as it is wound, thus adding a cheap weighting mate-rial to the silk. rial to the silk.

That this theory does not account for the ap-pearance of the streak is evident, since some of pearance of the streak is evident, since some of our brands of silk, we are confident, are per-fectly free from any adulteration, but yet the streak occurs abundantly in them. A careful examination with the microscope and chem-ical reagents, for the purpose of obtaining some definite idea of its nature, soon settled the fact that it is a vegetable substance of some kind; but exactly of what nature, I was unable at once to determine. This slight clue enabled our dyer to apply a dye that would partly cover it. This new process of dying, however, was attended with many objections. It was more expensive, while it took a much longer time to dye the silk. Our greatest ob-jection to this method of dying was that it in-creased the weight of the silk with the dye stuff, thus injuring its quality and affecting its creased the weight of the silk with the dye stuff, thus injuring its quality and affecting its strength. We could ill afford to sacrifice the strength of the silk for the sake of covering the strenk, so we sought to avoid the difficulty by using another brand of silk. I finally be-came convinced by careful examination that it was of the nature of a parasite, or a fungus growth on the raw silk. All of my researches tended to confirm this theory. anded to confirm this theory. I have lately submitted samples of the streak,

I have lately submitted samples of the streak, which were found both in the raw silk and in the dyed silk, to Professors Verrill, Eaton and Johnson, of Yale College, New Haven, who all confirmed the theory of its being a fungus growth on the silk. An eminent naturalist of Boston, whom I consulted on the subject, also confirms the theory and thinks the resume confirms the theory, and thinks that we may find that this growth is connected with the dis-ease with which the silk worms of Europe have been troubled for so long a time.—C. A. Burt, Oneida Circular.

Important Researches on Explosive Substances.

Recent experiments have shown that two dif-ferent kinds of explosion can be produced in all explosive substances. The first is deflagra-tion, the second is detonation. The deflagration of dynamite (giant powder) is quite harmless; while its detonation, as produced by fulminate of mercury, develops an explosive force four or five times that of ordinary gunpowder. Gun-powder is no exception to this rule. When its deflagrating power, (ordinary discharge by a fave) is represented by 1, its detonating power, when properly fred by fulminate of mercury. when properly fired by fulminate of mercury is 4.34

Among the soft wooded trees the pines stand as of the greatest importance. There are many species which are abundantly distributed throughout the northern half of the globe, and in every country one or more species seem es-pecially adapted to meet the wants of civilized

The Scotch pine, Pinus sylvestris, called also the Scotch fir, is a tree found in Europe called and Northern Asia. It is a fine tree, growing best in the mountainous districts, where it at-tains the height of upwards of eighty feet, with a diameter of from four to five feet. Its lumber is known in England under the names of red and yellow deal, and is largely used for many purposes.

many purposes. The white pine, *Pinus strobus*, called also Weymouth pine, is a native of the Northern United States. In Maine, Vermont, New Hampshire. New York, Michigan, Wisconsin and Minnesota, vast acres were formerly cover-ed by this pine. It is a tall, alender tree, often in the dense forests attaining a hight of two hundred feet, with a diameter of but four to five feet. Its wood is for the Northern States what the Scotch pine is for the countries of Europe. It is white, easily worked, reasonably strong and durable, not given to warping or checking, and besides, it takes paint well, all of which qualities at once commend it to the which qualities at once com builder and manufacturer.

Its Uses are Almost Numberless.

In the second manufacturer.
Its uses are Almost Numberless.
Tellow pine, Pinus castralis, is found grow, in the Southern Atlantic States, especiality is the pine of the Southern Atlantic States, especiality is the pine of the Southern Atlantic States, especiality is the pine of the Southern Atlantic States, especiality at the southern at the Southern Atlantic States, especiality at the southern at the Southern Atlantic States, especiality at the southern a

now floating were made from grew from the acorns which

Careful, Thoughtful Hands Planted, Perhaps two centuries ago.

The live oak, Quercus virens, of the Southern Atlantic States, is for American shipping what British oak is for England. Unfortunately for us, as a native it grows somewhat south of the points where the most of our ships are built, and so it has never been used as much as it might have been, had it been a native of the whole country. California cannot as yet boast of an oak equal to either of the foregoing, pos-sibly because we hardly yet know anything

story because we hardly yet know anything about the native species. Our common evergreen oak, *Quercus agrifolia*, so common in and about Oakland, thus far has been considered useless as a timber tree. Possibly by proper preparation it may yet be turned to some use.

ably by proper preparation it may yet be turned to some use. Tan-bark oak, *Quercus densiflora*, growing in Central California, is now coming into use for the manufacture of wagons and agricultural implements. Under proper preparation it be-comes hard, tough and durable. Canon oak, *Quercus chrysolepis*, found in the ravines and canons of the mountain ranges, is tough and durable, and is said to be of value in ahin building. It has, however, been buil lit-

ship building. It has, however, been but lit-tle used.

the used. The wainut of Europe, Juglans regia, is a tree of considerable value in the countries where it grows. In the United States, west-ward to the Missouri river, it is replaced by the black walnut, Juglans nigra, a tree of a thick, heavy growth, producing a valuable dark colored wood, much used for furniture and inside work in horners. Its many relation the hotternet

I have thus thrown hastily together a lew of the facts connected with this subject in order to call your attention to the sources of our timber supply—the kinds of woods we have, those we lack, and the need of a further devel-opment, so to speak, of our own woods. Trusting that the matter presented has not been altogether devoid of interest, that it may access further them the presented has not may

receive further thought from you, that you may help to develop this portion of California's resources, thereby adding to its wealth and its material prosperity, thanking you for your st-tention and patience, I bid you good night.

Sheep Gnawing Their Wool.

It is safe to suppose, when berbivorous animals of any kind are found eating bones, etc., that their systems require something not supplied by their usual food. When sheep gnaw their wool, it indicates that they are suffering from the attacks of parasitic insects, some of whom are so small that they cannot be seen except by the aid of a magnifying glass; or that their systems are not properly supplied with material for forming the natural covering to

In the body. In the West, where the soil is new, the nat-ural supposition would be that the food would contain the elements necessary to the support of all portions of the animal economy; and oontain the elements necessary to the support of all portions of the animal economy; and such is the fact, except in exceptional cases: We believe that in those cases when sheep est their wool, when the grawing is not done to it themselves of the intolerable itching occa-sioned by parasite, it is more often indicative of a morbid appetite due to disease, or an ac-quired habit, than from any disorganization of the system occasioned by the want of bone or hair-forming material, etc.—just, for instance, as ges and shells or feathers. — In any case, the sheep their own or ges and shells or feathers. — In any case, the sheep the shell be carefully examined first for parasites, and if found, the proper wash should be used for their eradica-tion. In addition, a very little sulphur may be given with good effect in their daily food. — If these be not found, it will be asfe to con-forming material more than is already sup-plied. In this case there will be found noth-ing better than bone-raw meal finely ground and mixed with their food. In addition, nitro-genous food, as roots, cats, barley, etc., can be given. If Indian oorn be largely fed, especially in connection with straw, then there will be a strong additional reason for following the course here laid down.— Exchange.

Delicate People.

There is a constant sympathy expressed by robust people for those of slight physical con-stitutions. We think the sympathy ought to turn in the opposite direction. It is the deli-cate people who escape the most fearful disor-ders, and in three cases out of four live the

longest. Those of gigantic structure are almost always reckless of health. They say, "Nothing hurts me," and so they stand in drafts, and go into the night air to cool off, and eat orabs at midnight, and doff their flannels in April, and get their feet wet. But delicate people are shy of peril. They know that disease has been fishing for them for twenty years, and they keep away from the hook. No trout can be caught if he sees the shadow of the sportsman on the brook. These people whom everybody expects to die, live on most tenaciously. We know of a young lady who evidently married a wealthy man of eighty-five years on the ground that he was very del-icate, and with reference to her one-third. But the aged invalid is so careful of his health, and the young wife so careless of hers, that it is now uncertain whether she will inherit his storehouses, or he will inherit her wedding their flannels in April, and get their feet is now uncertain whether the will inherit his storehouses, or he will inherit her wedding rings. Health and longevity depend more upon caution and intelligent management of one's self than upon original physical outfit. Exchange.

Roux and Sarrau have recently been making some careful experiments in this direction, which are reported in Comptes Rendus as follows: The reciprocal of the weight (due cor-rections made) of each substance, which when exploded in one and the other manner sufficed rend similar cast iron shells, gave the relative explosive forces. Some results of the experiments are given in the following table, the explosive force of gunpowder ignited in the or-dinary manner being taken for unity:

NAME OF SUBSTANCE.

EXPLOSIVE FORCE.

28 27 C L	and Order,	Ist Ord
Mercury fulminate		9.28
Gunpowder	1.00	4.34
Nitro-glycerine	4 80	10 13
Gun Cotton	8.00	6.46
Pieric Acid	2.04	5.50
Potassium picrate	1.82	6.01
Barium picrate	1.71	5.50
Strontium picrate	1.35	4.61
Lead picrate	1.65	8.94

A HEAVT DORE OF MERCURY—A few days ago, says the Gilroy Advocate, of April 3, Mrs. Anne Bub's little boy drank a pound of quicksilver, in California is considered rather young to in-dulge in so strong a beverage. He found the mercury bottle in some rubbish in an old trunk, while playing, and drank the whole, leaving the diministered some light remedy. The most of four thoroughly mix one small action of the time, and is now bright as the about all the time, and is now brights ever. A Doo wrm mix MEASLES.—A house dog in fyth, Mass., had the measles simultaneously with the childres of the family, from whom he angust the disease. He was carefully doctored and was getting along finely, when one day he this indiscretion was fatal. He took sold and died. Good Piz Cauwr .- Many persons have diffi-