# WILLAMETTE FARMER.

### GOOD HEALTH.

Prevention and Cure.

It is astonishing, to say the least, that every It is astonishing, to say the least, that every-where "cure" is recognized before prevention. The old adage "an ounce of prevention is worth a pound of cure," seems to have been forgotten, or at least disregarded by the mass of humanity. Men will search throughout the range of the whole pharmacopes, and cast about them all their lifetimes for some chemical or vegetable compound which shall be an effectual cure for some of the "ills which flesh is heir to," while if they should spend halt the time in looking for the cause and prevention of this disease. It they should spend half the time in looking for the cause and prevention of this disease, the sufferings of humanity would be mitigated to an incomparably greater degree. And when such a medicine is found, it very seldom affects a cure. Even when the cause and prevention are known, men seem to overlook the fact that the suffering consequent upon the exertion and self-denial necessary for prevention of disease the suffering consequent upon the exertion and self-denial necessary for prevention of disease is less than that which follows the neglect to apply the preventive. This substitution of cure for prevention seems to hold precedence where civilization is highest to a greater degree than among less enlightened nations. And why is this? Among barbarous nations more attention is paid to prevention, and the few remedial agents used are simple, and seldom effectual in themselves; wherear, in civilized countries the greater knowledge of science in-duces men to search more extensively for new and better curatives, and as more and more scientific discoveries are made, the medical field becomes wider and wider. And thus, in this rush after new medical discoveries, the laws of prevention of disease have been over-looked, and left far behind. Now, viewirg this matter as one of the greatest importance to the human family, the next

Now, viewirg this matter as one of the greatest importance to the human family, the next step is to consider how it may be brought to the attention of the mass of the people. The medical men, as a class, do not do it, although it is their legitimate business, because it would not be for their peomiary interest. But there is one other resource, and one which is ade-quate to the task. Let the press take hold of the work, and after clearing its pages of all medical advertisements, in their place let it elucidate the common rules and principles of health, and point out the causes of sickness and disease and the methods of prevention, and by so doing it would lose nothing, peculiarily or otherwise. Let this be done, and the day is not very distant when the swindling practice of its maring will be at an end, and the people, stronger, both physically and mentally, will adopt for their motto, "moderation in all things."—Cor. Phrenological Journal.

BORAX IN COLDS .- A writer in the Medical Record cites a number of cases in which borax has proved a most effective remedy in certain forms of coldy. He states for a sudden hoarseers, from colds, relief for an hour or so, as by magic, may be often obtained by slowly dissolving and partially swallowing a lump of borar, the size of a garden pea, or about three or four grains held in the mouth for ten minutes or four grains held in the mouth for ten minutes before speaking or singing. This produces a profuse scoretion of saliva, or "watering" of the mouth and threat—probably restoring the volce or tone to the dried vocal cords, just the same as "wetting" brings back the missing notes to the flute, when it is too dry.

To ODSCURE SCARS.—To obsoure, boil in three quarts of water one pint horseradish, four ounces pulverized alum, and four ounces rook salt. When cold, wet pieces of thick lint therewith, and apply frequently. This will harden and thicken the skin. Persevere for some time, and the effect is certain. On going among fiends, dull the shiny appearance by bathing it with a little spirits of hartshorn in water. The first names preparation is best when made newly; it gradually loses pungency and effectiveness, and so when weak must be renewed. With time and care, as above, the redness and peculiar appearance of scars will largely diminish. The person should carefully avoid all irritation of the parts. BULLING GROUPD.—We want more of a dry To OBSCURE SCARS .- To obscure, boil in

BUILDING GROUND .--- We want more of a dry BUILDING GROUND.—We want more of a dry earth system. Perfect under-drainage is the first great need of most cities and large towns. Regulations of cellars, and of all other holes below the surface, is the next great study. The proper airing of all sub-structure, because of its proximity to the ground, comes in next for consideration. What can we do to sweeten or purify surface-soll already formed, is another point. The great question of what to do with all refuses so as to keep it out of city soil is the large and momentous subject which must ever present itself to our attention.—Public Health Association.

cooks will not take the trouble to melt it when the mistress allows as much lard and butter as is

asked for. It is an error to believe that by using much At to fry, the articles fried will taste greasy; if there is not fat enough in the pan to completely immerre the objects fried, they will certainly taste greasy. It will be the same if the fat is not heated enough. It is heated enough when jets of smoke coze out of it, or when, on the ow-ing drops of water on it, it makes a crackling

noise. When the fat is hot enough, the article that is to be fried is dropped into it, and stirred gently now and then with a skimmer. When done, it is taken off the pan with a skimmer and turned into a colander, which should rest on a dish or bowl to receive the fat that may done for it.

drop from it. If the article to be fried is not completely in the article to be fried is not immersed will interved in the fat, the part not immersed will absorb fat, and, as stated above, will be greasy: but if there is fat enough to cover it entirely, the intensity of the heat closes the pores, car-bonizing the exterior of the article, as it were,

and preventing it from absorbing any fat. If the articles to be fried be tender and some-what brittle, they are put in a wire basket or perforated double bottom made for that pur-pose, and the basket is plunged into the fat The basket is raised when the articles are fried, and held come the new to let the fat draw: they The basket is raised when the articles are fried, and held over the pan to let the fat drop; they are then taken carefully out of it, placed on a disb, sprinkled with salt, and served hot. When the frying is done, the pan is put away for a few minutes, to allow the particles of solid matter that may be in to fall to the bot-ter of the foring and the introduction into

tom of the frying-pan; then it is turned into the jur, gently and slowly, so as to retain those particles in the bottom and it is put away for another time.—*Prof. Blot.* 

TO PRESERVE BREAD FOR LONG PERIODS .-To PRESERVE BREAD FOR LONG PERIODS.--Cut the bread into thin slices and bake it in an oven, so as to render it perfectly dry. In this condition it will keep good for any length of time required, and without turning moldy or sour, like ordinary bread. The bread thus pre-pared must, however, be carefully preserved from pressure, otherwise, owing to its brittle-ness, it will soon fall to pieces. When required for an instant into warm water, and then hold for use it will only be neck stary to dip the bread for an instant into warm water, and then hold it before the fire till dry, after which butter it, when it will taste like toast. This is a useful way of preserving bread for sea voyages, and also any bread that may be made too stale to be eaten in the usual way.

FRENCH PANCAKES .- Half a pint of milk, two ounces of butter, two ounces of loaf sugar, two ounces of flour, two eggs. Put milk, butter and sugar into a saucepan to dissolve (not boil), beat eggs and flour trgether till quite smooth, sugar into a saucepan to dissolve (not boil), beat eggs and flour together till quite smooth, then add the other ingredients and mix well. Divide this quantity and put it in four saucers to bake for twenty minutes; lay two pancakes on a dish, spread preserves over, and cover with the other two pancakes. Serve hot.

OXFORD DUMPLINGS,-Mix well together the OXFORD DUMPLINGS.—Mix well together the following ingredients: Two ounces of grated bread, four ounces of currants, four ounces of shred suet, a tablespoonful of sifted sugar, a little allspice, and plenty of grated lemon peel. Beat up well two eggs; add a little milk and divide the mixture into five dumplings. Fry them in butter a light brown color and serve them with sance. them with sauce.

CRISP MUFFINA.—One pint of sifted Indian meal, one pint of milk or cream, two eggs, a teaspoonful of salt, a spoonful of butter or lard. Drop the batter in a hot, gressed pan or oven, by spoonfuls, taking care that your muffins do not touch. Let them bake till crisp and brown.

## Prizes in Industry and Agriculture.

The Societe d'Encouragement of Paris has recently published its list of prizes offered from 1876 to 1881, both inclusive. It may be mentioned that this society bestows annually a gold medal bearing the likeness of some man who has achieved a high reputation in art or science, or is the originator, whether French or foreign, of works which have exercised the greatest influence on French industry during the six preceding years; in 1873 this grand medal was awarded to our own countryman, Sir Charles Wheatstone. Although all the subjects are open to fer-Sir Charles

eigners as well as natives of France, many would of necessity be confined to the latter.

Agriculture in the Public Schools.

We can best perform that which we best understand. Knowledge and skill should be united in the same person. It is as important that the mind be familiar with mental processes as that the hand be skilled in manual performances. In every system of mental culture, the pupil should not only be taught the truth; he should be able to repeat also the logical processes by which the truth has been established. So in the work of practical life; it is not enough that we know the fact, we should know also the reason. It is not encugh that we be familiar with daily phenomena, we should know also their causes and consequences. It is as im-portant to the spriculturist that he understand the philosophy of the various operations on the farm, and the causes of the natural phe-nomena there exhibited, as it is to the mathe-matician that he be familiar with the principles from which have been deduced his theorems and formularies. In either case, ignorance pro-duces only routine, not likely to be followed with eminent results. I agree that much has already been done for the education is, indeed, the distinguishing achieve-ment of modern civilization. It is the patriot's trust for the permanency of free institutions. It is the philanthropist's hope for the future well-being of the race. Of all the inventiors s of the ages that of universal education is the grandest in its conception and promises the most varied and beneficent results. It marks at once the era of free gov ruments, the moral we know the fact, we should know also the

at once the era of free gov. ruments, the moral development and the physical well-being of

the race. With nations, as with individuals, there is With nations, as with individuals, there is always a better beyond—a higher and still higher for the achievements of the future. In sceking this higher—this better beyond—for the nation, many (four ideas of government, and laws and popular institutions are doubtless to undergo changes; and I am persuaded that on no other subject are these changes to be more radical than on that of education.

#### Industrial Advancement.

The next great educational step is to be, in my opinion, an industrial one. The public schools, in addition to the general training which they are to furnish, will be required to give also special instruction on such subjects as working the appendix instruction of a such studyeds are working related to and illustrate the prospective vocation of the pupil. The time, in my opinion, has already come, when the initiatory steps in this direction should be taken, when the opportunity for this practical education should be given. All capital is the product of labor; and so

ciety itself rests on the broad shoulders of laboring man and laboring woman. Any effort, therefore, to incr a c the educational or other therefore, to incr a-e the educational or other opportunities of the industrial classes, I shall feel to be a movement in the right direction; and that, in the advocacy of agriculture as a study in the public schools, I am standing on firm ground, sustained by sound reason, and, as I believe also, so far as honestly tried by practical experience. But the policy of the movement is not generally accepted; and it must succeed, if at all, against the active oppo-sition of some, and the silent protests of many others.

others. The first thing with which a novel movement has to contend, is always objection. Perhaps, therefore, it will be proper, in the argument, first to consider these: After having removed the obstacles a forward movement may be less indept. It is wread that as the design of educathe obstacles a forward movement may be less difficult. It is urged that as the design of educa-tion is mental and moral development; and that, as the mind is superior to the body and knowledge better than riches, that system of oulture should be adopted, and that course of study pursued which will produce the greatest mental and moral growth. This objection comes from the educators of youth themselves. mental and moral growth. This objection comes from the educators of youth themselves, and is indeed the only one of sufficient conse-quence to merit answer. But although it is aressed in the gnise of an objection, and is in-tended as a strong one, I accept every word of it as truth, regarding it, when properly in-terpreted, as the strongest possible admission of the study of the industrial sciences, if I may so style them, in the public schools; I do not propose, therefore, to spike this cannon, but to take possession of it, only reversing the direc-tion of its discharge. Doubless, if we could penetrate the designs of the Infinite, we should find that life's labors and duties are intended as disciplinarians to prepare us for the labors and would of necessity be connned to the latter, ind that if ite is abors and duties are intended as The following items from the long list are likely to have an interest in this country: A prize of 200 frances is offered in 1880 to the author of the most important improvements in the material and processes employed in civil the material and processes employed in civil of the requisite knowledge and skill should engineering, architecture and public works. A prize of 2,000 france is offered in 1879 to the inventor of a machine for combing short staple cotton which has been brought into prac-tical use.

mechanic does his tools, and this frequent ap-plication the spricultural student must necesarily have.

That education is best which, in addition to That education is best which, in addition to the knowledge it imparts, lays the best founda-tion for future growth, enabling the student at the end of life's plyrimage to graduate highest in the scale of human development. What studies, I ask, more enlarge one's conceptions of nature, or more extend the circuit of thought, or lay a broader and deeper founda-tion for reflection, than there which illustrate the c perations on the farm—chemistry, geology, zoology and botany—sciences whose terms are zoology and botany-sciet ers whose terms are to become as the vernacular of the future agr cultural student. They lay a broad and solid foundation on which the student is to build his future intellectual edifice. The farm is to be-come to him a field for scientific experiment, a laboratory whole results will constantly sug-gest further investigation. The student of these sciences scon learns, by his love for them,

three sciences soon learns, by his love for them, to investigate on his own account, and the mind, growing by what it feeds upon, becomes better ard greater by its achievements. Agricultural studies, therefore, as a means of development, are valuable in the fact that they appeal to and teach the reasoning faculties not alone during the school days, but during the whole life. The farmer employs practically nearly all the physical sciences, and very wide therefore, is his the field of research. Accord-ingly we find that agricultural science has com-manded the attention of the most scientific minds. The cultivators of the soil will long hold in grateful remembance the names of minds. The cultivators of the soil will long hold in grateful remembrance the names of Davy, Liebig, Johnston, Mapes, Draper, Buell and other colaborers in the field of research. The results of the labors of these scientists show that they wrought in fertile fields, their discoveries having added great and valu-able accessions to human knowledge. He who de nounces such studies as superficial is in danger of proclaiming bis shallswness.

#### Objections Answered.

It is true that the elementary works which must be employed for a time, at least, may not contain a great amount of theoretical science. They will nevertheless contain much of practical and useful knowledge. But it is true also that their manifest usefulness will be a great incentive to study; and many a student who would otherwise have been satisfied with only moderate attainments will be tempted into wider fields of recearch. Teachers of youth will universally bear wit-

ness that one of the obstacles in the way of in-troducing the more advanced sciences in their schools, is the bolief too prevalent with both parents and pupils, that there is no practical use in them. But the utility of agriculture, as a study, is so apparent that this objection will not be urged; or, if made at all, will be easily

The objection that there are no suitable text books is without reasonable support, and can be urged only by those who are not familiar with agricultural literature or the progress of agricultural science. Several very valuable agricultural science. Several very valuable works have been written, some of which are designed as text books in schools and colleges. In this connection, the works of Johnston are especially to be commended. Besides, in this, especially to be commended. Besides, in this, as in other things, the demand will bring the supply. Only let the want of such text books become a fact and a hundred pens will contest the honor of meeting the demand, and every considerable publishing house will have a new book on agriculture designed for the use of schools. Their agents will visit the school teachers' conventions, the agricultural and hor-ticultural meetings, and your association will be waited upon with distinguished consideration. Competition will elevate the standard of these works, and the agricultural text book will soon equal in learning, thoroughness, adaptation for the school room and in every other excel-lence, the best works in other departments of science.

science. Another objection sometimes urged, is the want of qualified teachers. But this, not many years ago, would have been equally applicable to the study of grammar, geography and in-deed all branches now taught in the schools other than reading, writing and the rudiments of arithmetic. Teachers, as a rule, are an intel-ligent and enterprising class of oitizens. Let it be a fact that agriculture is to be taught and they will not be slow in adding this to their certified qualifications to teach.

#### Education with a Purpose.

Again, it is objected that the pupil does not know what his future vocation is to be, and that he should educate himself therefore with-out special reference to any. This objection is not true in fact. Practically, the future calling of the child is very early determined and whatever educational theories there may be, whatever educators or others may advocate to the contrary, the prospective professional man is always educated with reference to his future calling. In regard to the professions, future calling. In regard to the professions, the sturdiest opponents to practical educa-tion are false to their own theories. If the boy is to be a civil engineer, whatever else he may be taught, be is certainly trained in mathemat-ical science, as well in theory as in its practical ical science, as well in theory as in its practical application. If he is to be a doctor of divinity he is certainly to be tanght Latin, Greek and Hebrew, and carefully instructed in the opin-ions of authonitative theological writers. The States themselve, recognizing this general principle long ago, added departments of law and medicine to the State universities; and we have normal schools for the education of we have normal schools for the education of teachers. This then being the rule, with not an admitted exception, that the child should be educated with special reference to his pros-pective life occupation, provided that occupapective life occupation, provided that occupa-tion be one of the learne' professions, is it just that it should stop here? Is it right and proper that the rule should be exclusive in its application, and that laboring people alone should be deprived of its benefits? They who bear the brunt and burden of the day, and without whom society could not have advanced a single step from the barbarous state.

order to teach chemistry, or a Lyell or a Dana in order to teach chemistry, or a Lysei or a Dana in order to teach geology; neither is it abso-lutely necessary that one should be a Liebig in order to give instruction in agricultural science, though in this, as in other subjects, the more knowledge one possesses, other things being equal, the better teacher he will be.

#### The Way and the Result.

In the several sciences as taught in the schools, certain suitable text books have been prepared. Precisely so will it be with agricul-ture, and the teacher will be required to pass a reasonably good examination on the matters therein treated. As on other subjects, so in the subjects and Interent treated. As on other subjects, so in this, whatever experience, observation or read-ing may add will only increase the qualification to teach. Observation, investigation and dis-cussion would, from year to year, aid to the teacher's knowledge, and correspondingly ele-vate the standard of qualification. The knowl-edge which would have procured a certificate to teach English crammar tan years aco, might to teach English grammar ten years ago, might not enable an applicant to pass muster to day. Here, too, would be progression. The stand-ard of qualification would be fixed to such an adjustable scale as always to meet the public demands.

demands. One other objection, and I shall have done with this side of the argument, which I fear I have already pursued to tediousness. This is the vague, ill defined, scening wise, and often foolish objection that always opposes itself to innovation. It is said to be impracticable. But why impracticable? If the introduction of accounting a single in the public schools of agriculture as a study in the public schools will result in untold good to the State, far surhis progressive, utilitarian, go-akad age will demand other evidences of impracticability than that of merely looking wise and ominously

than that of merely looking wise and ominously shaking the head. Before the single word utility, these filmsy objections will be swept away; and we shall live to see, not only sgriculture, but the sciences illustrative of the industries generally, taught in the public schools. In that "good time coming" labor will be honored, and labor-ing men and laboring women will take their places in public opinion, as they are now in fact, as the real aristocracy of the State.—Prof Isaac Kinley in Rural Press.

### Carp Culture.

A little more than three years ago J. A. Poppe arrived in this State from Rhinefeldt, Holstein. A part of his baggage was a lot of small carp, five in number and six inches long. He began at once a system of carp culture, following the experience of the German carp farmers. He put his five small carp in the water at Sonome, in August, 1872; one dying and four surviving in the new halitat. In the following May the fish had grown to sixteen inches in length and had given life to three thousand young fish. Since that time these fish have grown rapidly, and Mr. Poppe assures us that he finds sale for all his marketab'e fish at one dollar a pound. Mr. Poppe is at present desirous of extending the business of carp culture among those who have facilities for it, and is prepared to furnish the stock for beginning. He sends us the following items concerning the practice:

items concerning the practice: In Germany thousands of pounds of this favorite fish are raised and sold every year. The farmers there who are engaged in piscicul-ture have from five to seven ponds. The smallest is the breeding pond, from which the others are stocked. The contents of one pend are sold every year. Numbers of fish are floated down the rivers and canals in large boxes piezed with holes. through which the are sold every year. Numbers of fish are floated down the rivers and canals in large boxes pierced with holes, through which the water passes in and out, thus delivering the carp to the consumer alive and fresh. They are a fish that need but little attention, are hardy, prolific, and do excellently on this con-tinen". Their food may consist of wheat, bar-ley, corn, peas, bran, blood, sour milk, or in fact almost anything. When well fed they will grow one inch per week for the first two or three months, after which they will grow slower in length but increase rapidly in weight. It will not do to breed them in ponds where any game fish are kept, as they will eat the young carp.

Farmers who have natural facilities on their places for making ponds, and who have access to canals or rivers communicating with large to canals or rivers communicating with large cities, can greatly increase their income with but small trouble and expense. There ought to be one person in every county who would raise choice carp as stock fish to sell to others to fatten for their own tables. It would be a offeap but sumptions food, and at the same time very convenient, as they are ready to be eaten at all times of the year.—Rural Press.

A FATAL KIBS.—The Albany Argus says that fiss Kate Noyes, of Lansingburg, is in a critical use. A prize of the same amount is offered for 1880, for a machine for cutting files of all kinds automatically, and which shall have worked for at least three months. A FATAL KIES.—The Albany Argus says that Miss Kate Noyes, of Lansingburg, is in a criti-cal condition from poison, arising from kissing her deceased niece, who died of diphtheria. The young lady had a slight sore on her lip at the time. A swelling commenced in her lip, which soon extended to the nose, and it is feared the difficulty will reach the brain.

MB. GEOBOE R. LABAU, 111 years old, as distinctly shown by the records of his christen-ing, attended the State fair at Easton, Pa., last week. The old man is talkative and intelligen has a fine chest, shows little emsciation. an can do considerable work without fatigue. The old man is talkative and intelligent

## DOMESTIC ECONOMY.

### The Art of Frying Fish.

Several kinds of fish are fried when small, such as small trout or troutlets, carps, tench, sun fish, pike, pickerel, flounders, white-fish, black and blue fish, perch, porgy, weak-fish, herring, bass, and the like, and smelts, which never grow above the frying size. When fish or anything else is cooked in a frying-pan with just fat enough to prevent it from burning, it is not fried but sauted, there be-ing two very distinct ways of frying. To fry

from burning, it is not fried butsauted, there be-ing two very distinct ways of frying. To fry means to cook fish or something else immersed in boiling fat. To scude means to cook fish or something else with just fat enough to merely cover the bottom of the pan; for instance, small fishes are fried, but omelets are scuted; potatoes are fried, but persuips are scuted. Many inexperienced cooks make mistakes on that account; they read in some cook-book

that account; they read in some cook-book that such an article of food is good fried, and set to frying it when it should be sauled, and vice

to frying it when it should be sould, and vice wersd. The fat skimmed from the surface of broth, which is beef-suet, the trimmings of steaks or reasting picces of heef melted as directed be-low, are better for frying purposes than lard, not flying all over as lard does. The fat skimmed from trimmings or from around the kidneys of beef is cut in small pisces, put in an iron pot, and set on a rather slow fire. As soon as it begins to melt, ladle off the melted part and turn it into a stone or crockery in a cool, dry, and dark place. A careful cook never needs lad for frying purposes, but has aways more fat than is necessary out of boil-ing or reasting pieces, and that skimmed on the top of broth, sauce, and gravies. Some

A prize of the same amount is proposed to be awarded in 1877 for the invention of any

efficient means of stopping the vibrations caused by steam hammers, and other tools acting by percussion, from being propagated beyond the works in which they are employed.

Prizes of the same amount are offered in 1878 and 1879 for the industrial application of oxygenated water, and for the economic prep-aration and application of ozone; and in 1876 for fixing the nitrogen of the atmosphere in the form of mitric acid, ammonia, or cyanogen, the object being to obtain practically some the object being to obtain practically some compound of nitrogen cheap enough to use in making manure from the nitrogen of the at-mosphere, to the exclusion of animal matter. A prize of 6,000 frances is proposed for 1878, for a theory respecting steel, founded on actual experiments, and resulting in improved means of directing the manufacture of steel.

A prize of 3,000 francs, set down for 1880, for the disinfection of the residue from gas works.

One thousand francs are offered in 1880, for an apparatus capable of producing high tem perature in home workshops rapidly and eco

persure in nome workshops rapidly and eco-nomically. A prize of 2,000 frances is announced for a method of preventing soot adhering to chim-neys so that they may be completely and easily cleaned.

cleancd. All memoirs, models, etc., must be lodged with the secretary of the society before the let of January of the year in which the prize is to be awarded. Full particulars will be found in the August number of the Bulletin of the soci-ety, which is in the reading room of the society of arts.—Journal Society of Arts.

THE long sought for Planchas de la Plata mine, worked a century or two ago by the early Spanish explorers, is said to have been found about ninety miles southeast of Tucson, near the Sonora line. This is the mine which Spanish history says yielded pure silver in such large pieces that the government confis-cated it for the use of the crown.

A MARKED improvement has been made in the ventilation of the Obio coal mines during the year. The number of serious and fatal accidents have been reduced thirty-three per cent. since last year.

#### Culture Combined With Utility.

If it can be shown that the study of the sciences with reference to, and illustrative of, the industries, is equally as well adapted for mental culture and discipline as the study of them in the abstract, or with no such reference, then the value of such a course as a disciplinthen the value of such a course as a disciplin-arian is equal to that of the course now adopted in the schools. If it can be shown that such a course is better adapted for mental training, then the argument in its favor preponderates; and in either case, the fact that the student is thereby better fitted for life's duties, power-fully reinforces the argument fully reinforces the argument.

"Use strengthens powers," says the good Spurzheim. The faculties of the mind, like those of the body, become active, vigorous and strong, each by its sppropriate exercise. Now, which is the most favorable to mental

These of the body, become active, vigorous and strong, each by its appropriate exercise. Now, which is the most favorable to mental activity, the study of science with, or without an object, with or without reference to its practical application. In both cases the same theorems and formularies must be demon-strated, the same scientific principles exem-plified by experiment, and by facts in nature. The difference will be that in the study of science with reference to its uses, a greater number of experiments will be made, and a greater number of familiar phenomens ex-plained. Another difference will be in the ocurse of study pursued. The industrial student, for example, who may not have time or means to complete the usual course of study, will elect from it such branches as will best assist him in his vocation. He will leave out perhaps from the curriculum all languages but his own, and if his prospected vocation be agriculture, will give the more time to chomistry, geology, botany, zoology, etc. It is hardly necessary to say that these sciences, in the amount of mental discipling which their sc-quisition will produce, in the habit and tasts for study which they inspirs, and in the sub-icuts of future thought and investigation which they supply, are greatly superior to any course of merely linguistic study. The most not be supposed that the study of science with reference to its practical applica-tion is not a thorough study of it, or that the amical trans in fact by reference to its mate, implies a knowledge of the cause itself, and the illustration of a principle by its legiti-mate phenomena impresses it the more deeply on the mind. It is by the frequent applications of science, that the mind learns to use prin-ciples, formularies and theorems as the aktilitu

#### The Extent of the Field.

The Extent of the Field. The Extent of the Field. This segain urged that agriculture is so extensive stress subject that it is difficult to know what we as ubject that it is difficult to know what we as ubject that it is difficult to know what we as ubject that it is difficult to know what we as ubject that it is better to make a may of the pupil who masters it will have the primeiously urged that it is better to make a may of the pupil than a farmer, or mechanic, a wayer, doctor or preacher, finds itself com-pletely refuted in this objection itself. And it might not be astonishing if even those who use on doctor or preacher, finds itself com-pletely refuted in this objection itself. And it might not be astonishing if even those who use on doctors a man, or maybes a woman. The is the extent of a sciences an objection to have foolishly on other subjects. Who has the bight is before the science of obministry, stronomy or mathematics ends? The sciences in general, like their author, are infinite; the protoundest philosopher has not the wisdon, protoundest philosopher has not the wisdon, the scoount excluded from the schools? The protoundest philosopher has not the wisdon? The protoundest philosopher has not the wisdon, protoundest philosopher has not the wisdon? The protoundest philosopher has not the wisdon? T

NEW MINING BILL. - Page's mining land bill introduced in Congress provides that no placer mineral land shall be excluded from homestead and pre-emption unless bona fide mining claims exist thereon, or it be shown to be necessary exist thereon, or it be shown to be necessary for oulet or other mining easement, and that the price of both agricultural and placer lands out of railway grants shall be \$1.25 per acre. The bill also provides for joint entries, the right to obtain a patent for the smallest legal subdivision containing mining claims, and authority to take proofs before officers author-ized to administer oaths, other than land of-ficers. loers.

The assay office and bullion department of the Consolidated Virginia mine will have a capacity for assay and melting bullion to the amount of \$5,000,000 per month. Like every other part of the works, they are to be greatly improved. A condensing flue of brickwork 2½ to ft will be un the entire length of the building, 100 feet and return, which will give a flue 200 ft in length before commencing to as-cend the chimney, which will be 85 ft in hight. The bottom of this flue will be sheathed with iron to assist in saving the gold and silver drawn off in the fumes from the furnace.

SAVE HEAT .- Our economical readers should BAVE HEAT.—Our economical readers should remember that the surplus heat wasted from a common stove will, if conducted through a drum into another room, warm the room as much as a small stove would, and will compel the fuel to do double the duty and give double results.

THE Secretary of War officially announces that 571-1000 of the weather predictions of the Signal Service Bureau of last year have been fully and accurately verified. The accu-racy of the predictions is increasing from year to year to year.

Tuz Russians are beginning to turn their at-tention to the advantage of connecting St. Petersburg with China by means of a telegraph across Siberia.

A TERRITORIAL wagon road is about to be built from Cheyenns to the Black hills. The Logislature of Wyoming recently passed an act for its location.

A vant of galena twenty-seven feet thick has recently been struck in the Yosemite mine, Bingham canon, Utab.