

Rural Economy.

PEAR BLIGHT AND BORERS.

My attention being called to an article in the *Rural*, suggests whether the borer does not attack our most vigorous and flourishing pear trees and make them die suddenly of blight. The borer is as unable to begin upon such a tree as a man to bore with an old-fashioned pod augur without first chipping out with a gouge a place to begin, for in all places where I have noticed the operations of the borer, whether in fruit trees or in forest trees, they have always entered the tree where it had previously sustained an injury, and become rotten or softened, to enable him to begin. If we cut down a pine tree and saw it into mill-logs, and lay them upon skids, strip the bark from some and leave the bark on others, and go near them on a still warm evening, we will hear them bore in the logs with the bark on, as plainly as we can hear a man bore with an inch augur. So that the borer cannot be the pioneer in the mischief to the pear-tree.

I suppose that the various kinds of insects and vermin have the same right to a living that we have, and they will have it. I believe that their mischiefs are very much overrated. Thirty years ago, or more, the people hereabout were very anxious to learn means of destroying bots in horses, when a Virginian laid down the principle that bots rarely injure a horse, and are never the pioneer in mischief to him; that they have no other means of propagating their species than laying their "nits" on him, he biting off the "nits" and swallowing them; they hatch in him; he casts them out, they take wing, and in turn put their "nits" on the horse. He said that thorough examination proved that all horses had more or less of bots in them, that fat and well-conditioned had the most; that so long as he was well fed and well, they never troubled him, but if he was abused or starved—sick or dead—he would try to eat their way out. His theory had so much the appearance of common sense that I remembered it.

The pear blight, I have for a long time been satisfied, is caused by the heat of the sun upon the trunk and branches of the tree, thickening or coagulating the albumen of the sap, thereby obstructing its circulation in its descent in the bark, leaving it to putrefy. To remedy this, keep a close watch of your trees and as soon as such injury can be seen in the bark, take a knife and slit the bark from a little above the injured spot, to a little below it. If the spot be wide, make two or three slits. Sometimes such an injury is remedied by an effort of Nature in the tree by which the sap will resume by little and little, its wonted circulation, in which case the bark will invariably be found cracked. This suggested the use of the knife.—*Cor. Rural New Yorker.*

WHEAT BREAD.

Our whole process of converting wheat into bread has, at almost every step, violated the laws of nature and disregarded her suggestions, and the reform must be a fundamental one. Wheat is, beyond all dispute, the most perfect article of human food, it being the only vegetable production yet discovered that contains all the elements necessary for the nourishment of the muscle, bones, fatty tissue and brains, in just the right proportions. Beans, peas, Indian corn and the other grains afford perfect nourishment for all the organs but the brain, by which term is included the spinal marrow and the nerves, which branch from the brain, and are identical in composition with it, the whole forming one system or set of organs. Now the pabulum of the brain is phosphorus, whose life-giving fire thrills along the nerves, and whose light illumines the chambers of the mind—for could we rightly understand the correspondences between the material and the spiritual, we might see that light in the intellectual sense was something more than a mere figure of speech. The wear of the brain by study or any mental effort throws off the phosphorus, which is found with other waste matter in the urine or other secretions. To keep the brain healthy and in working order the waste must be restored by the use of food containing phosphorus, and that food is wheat. It would seem as if wheat was made for brain food, and man, the only animal that works with his brains, is the only consumer of it. But by a strange caprice the promptings of his intuitions are overruled by his tastes, and in this particular instance to his great detriment. Nearly every particle of this brain-nourishing phosphorus is found in the hull or bran of the wheat, which, when separated from the flour, for the sake of merely gratifying the eye with the sight of white bread, carries with it all the superiority which wheat possesses over a dozen other kinds of cheaper vegetables. In addition to this the mechanical action of the bean on the internal organs keeps them in a healthy state, and supercedes the necessity of pills and other cathartics which many people are obliged to use habitually. This matter of making flour of the whole wheat is well understood and approved by every school of physicians and through their recommendation to their patients, and the teachings of health journals. Its use is becoming somewhat common, and wheat flour, as it is called, is a staple article in the markets.

Strong as the prejudice may be first against the brown, plebeian-looking loaf, it will vanish in most cases at the first taste, if the bread is well made from well ground wheat of a good quality, the sweet, fragrant nutty flavor commending itself to every taste not wholly vitiated. With wheat flour the complaints of heavy, sour and insipid bread would vanish forever, as it is so light, owing to the feathery particles of the hull which pervades it, that no yeast or alkali is necessary to raise it; but it is, when mixed with pure cold water alone, absolutely self-

raising to a greater extent than fine flour can be rendered by yeast. Again no less than thirteen per cent. of the flour is saved by dispensing with yeast, as the fermentation in its growth converts that proportion of the starch and sugar into alcohol. This is saved, of course, by the use of an alkali and acid to generate carbonic acid, but a deleterious neutral salt is in every case left in the bread—tartrate of soda if cream of tartar is used, lactate of soda if sour milk, and mellassate if molasses. The best and most entirely innocuous mode of raising fine flour for those who will use it, is to use muriatic acid, which forms with soda common salt, which is needed in the bread, and is a constituent of the human body.—*Exchange.*

GLOVER.

Clover differs entirely from the cereal crops in this: it sends its main roots perpendicularly downwards, when no obstacle stands in the way, to a depth which the fibrous roots of wheat and barley fail to reach; the principal roots of clover branch off into creeping shoots, which again send forth fresh roots downwards. Thus clover, like the pea plant, derives its principal food from layers below the surface soil, and the difference between the two consists mainly in this—that the clover, from its larger and more extensive root surface, can still find a sufficiency of food in fields where peas will no longer thrive; the natural consequence is, that the subsoil is left proportionately much poorer by clover than by the pea. Clover seed, on account of its small size, can furnish from its own mass but few formative elements for the young plant, and requires a rich arable surface for its development; but the plant takes but comparatively little food from the surface soil. When the roots have pierced through this, the upper parts are soon covered with a corky coating, and only the fine root fibres ramifying through the subsoil convey food to the plant.—*Diebig.*

THE RINDERPEST, or a disease similar to it, has, it is reiterated, appeared in Bucks county, Penn. An exchange says that so far it has only affected the cows of two neighborhoods in Salisbury township, three of each having been seized with the disease, and one of each having died. Of the others, one or more, it is thought, will recover. The disease is supposed to have been communicated from a drove of cattle brought from near Philadelphia, and this would indicate its existence elsewhere in the State. Measures should be taken in order to prevent the spread of this scourge.

Scientific.

DECLINE IN THE ENERGY OF GEOLOGICAL FORCES.

In a recent article against Darwinianism, the *North British Review* discusses a point of great importance in estimating the value of the extravagant calculations now current, of the age of the earth. The writer says:

If there have been a gradual and continual dissipation of energy, there will on the whole have been a gradual decrease in the violence or rapidity of all physical changes. When the gunpowder in a gun is just lighted, the energy applied in a small mass produces rapid and violent changes; as the ball rushes through the air it gradually loses speed; when it strikes rapid changes again occur, but not so rapid as at starting. Part of the energy is slowly being diffused through the air; part is being slowly conducted as heat from the interior to the exterior of the gun, only a residue shatters the rampart, and that residue, soon changing into heat, is finally diffused at a gradually decreasing rate into surrounding matter. Follow any self-contained change, and a similar gradual diminution of the whole will be observed. There are periods of greater and less activity, but the activity on the whole diminishes. Even so it must have been, and so it will be, with our earth. Extremes tend to diminish; high places become lower, low places become higher, by denudation. Conduction is continually endeavoring to reduce extremes of heat and cold; as the sun's heat diminishes so will the violence of storms; as inequalities of surface diminish, so will the variations of climate. As the external crust consolidates, so will the effect of internal fire diminish. As internal stores of fuel are consumed, or other stores of chemical energy used up, the convulsions or gradual changes they can produce must diminish; on every side, and from whatever cause changes are due, we see the tendency of their gradual diminution of intensity or rapidity. To say that things must or can always have gone on at the present rate is a sheer absurdity, exactly equivalent to saying that a boiler fire once lighted will keep a steam-engine going forever at a constant rate; to say all changes that have occurred, or will occur, since creation, have been due to the same causes as those now in action; and further, that those causes have not varied in intensity according to any other laws than they are now varying, is, we believe, a correct scientific statement, but then we contend that those causes must and do hourly diminish in intensity, and have since the beginning diminished in intensity, and will diminish, till further sensible change ceases, and a dead monotony is the final physical result of the mechanical laws which matter obeys.

Once this is granted, the calculations as to the length of geological periods, from the present rates of denudation and deposit, are blown to the winds. They are rough, very rough, at best. The present assumed rates are little better than guesses; but even were these really known, they could by no means be simply made use of in a rule-of-three sum as has generally been done. The rates of

denudation and deposition have been gradually, on the whole, slower and slower, as the time of fusion has become more and more remote. There has been no age of cataclysm, in one sense, no time, when the physical laws were other than they now are, but the results were as different as the rates of a steam-engine driven with a boiler first heated to 1500 degrees Fahrenheit, and gradually cooling to 200.

A counter argument is used, to the effect that our argument cannot be correct, since plants grew quietly, and fine deposits were formed in the earliest geological times. But, in truth, this fact in no way invalidates our argument. Plants grow just as quietly on the slope of Vesuvius, with a few feet between them and molten lava, as they do in a Kentish lane; but they occasionally experience the difference of the situation. The law according to which a melted mass cools would allow vegetation to exist, and animals to walk unharmed over an incredibly thin crust. There would be occasional disturbances; but we see that a few feet of soil are a sufficient barrier between molten lava and the roots of the vine; each tendril grows not the less slowly and delicately because it is liable in a year or two to be swallowed up by the stream of lava. Yet no one will advance the proposition that changes on the surface of a volcano are going on at the same rate as elsewhere. Even so in the primeval world, barely crusted over, with great extremes of climate, violent storms, earthquakes, and a general rapid tendency to change, tender plants may have grown, and deep oceans may have covered depths of perfect stillness, interrupted occasionally by huge disturbances. Violent currents or storms in some regions do not preclude temperate climates in others, and after all, the evidence of tranquillity is very slight. There are coarse deposits as well as fine ones; now a varying current sifts a deposit better than a thousand sieves, the large stones fall first in a rapid torrent, then the gravel in a rapid stream, then the coarse sand, and finally, the fine silt cannot get deposited till it meets with still water. And still water might assuredly exist at the bottom of oceans, the surface of which was traversed by storms and waves of an intensity unknown to us. The soundings in deep seas invariably produce samples of almost intangible ooze. All coarser materials are deposited before they reach regions of such deathlike stillness, and this would always be so. As to the plants, they may have grown within a yard of red-hot gneiss.

CURE FOR DRY ROT IN WOODEN STRUCTURES.

Mr. Junker, the manager of the alkali works at Saar, in Silesia, has discovered that tank-waste, the great nuisance of all alkali works, is an excellent remedy against dry rot in wood. This kind of decay is the work of the spores of a fungus (*Merulius lacrymans*) which generally find their way through the soil and are sometimes carried by currents of air. The tank-waste is said to arrest their action in half-decayed wood. It may be used by mixing it with other material so as to form a solid mass, which will harden like the ordinary tank-waste floor. If the mixture called tank-waste is the soda-waste described in chemical works, it is chiefly composed of calcium compounds; about one-third of soda-waste being oxychloride of calcium. In England, where the business of making soda-ash and pure carbonate of soda is carried on more extensively than in any other part of the world, the tank-waste of alkali works is given to any one who will cart it away.

STEAM ICE-MACHINE.

The Steam Ice-machines of M. Toselli, are at present attracting some attention in Paris. An ice-producing machine capable of forming 22 lbs. of ice per hour, or nearly 2 cwts. per day, is a square parallelepiped 9 feet 2 inches long, 6 feet 2 inches wide, and 6 feet 5 inches high. It consumes nearly a half-pennyworth of charcoal for every kilogramme of ice formed, and only requires the attention of one man to set it at work and to give the necessary movement to the circulation of the water. The machine costs £180. We believe that the principle on which it is based is the rapid vaporization of a highly volatile liquid, the necessary supply of heat being taken from the water to be frozen.

LAGO MAGGIORE.—The Italian journals continue to give accounts of land convulsions on the borders of this lake, as well as the Lago di Garda. Portions of the Tyrolean Alps have been for several months subjected to periodical oscillations, which have kept the peasants in a state of great apprehension. Some time ago, a village near Lago Maggiore was covered by an extensive landslide. Large masses of rock and earth are continually falling from Monte Balbo, exciting great consternation among the inhabitants of the valley.

J. & F. CADMUS, PHILADELPHIA. Manufacturers and Dealers in BOOTS, SHOES, TRUNKS, CARPET BAGS AND VALISES of every variety and style.

JOSHUA COWPLAND, Manufacturer and Dealer in Looking Glasses, PICTURE FRAMES, AND Large Ornamental Gilt and Walnut Mirrors. No. 63 South Fourth Street, Philadelphia. HENRY M. COWPLAND. C. CONNOR COWPLAND. my23-1y

SMITH & DREER, TENTH AND ARCH STREETS, PHILADELPHIA. FERDINAND J. DREER. HAVE ON HAND A FINE ASSORTMENT OF WATCHES, JEWELRY, AND SILVER WARE, apr26-1y Of the most fashionable styles.

TO OUR CUSTOMERS.

We take pleasure in announcing to Dealers in Fertilizers, and the Agricultural public, that we have, within the past year, increased our facilities for the manufacture of our Raw Bone Phosphate, to an extent unequalled by any other House in the United States or Europe. These facilities not only include the enlargement of our old established works in Philadelphia, known as the DELAWARE RIVER AGRICULTURAL CHEMICAL WORKS, but also the purchase of extensive and well stocked works at Chicago, Ill., with all the necessary machinery, cars, &c., to conduct the business. This establishment alone has produced, annually, over 5000 tons of dried Bones and Meat, and is capable of being largely increased. We desire, by the closest supervision, to conduct these two concerns so that our customers will derive a practical benefit from their consolidation, in obtaining a MANURE which shall maintain a standard and uniform quality, and at the lowest possible price. BAUGH & SONS.

Peruvian Guano Substitute! BAUGH'S Raw Bone Super-Phosphate of Lime BAUGH & SONS. Sole Proprietors and Manufacturers, Delaware River Chemical Works, Philadelphia; and Calumet Works, Chicago.

Farmers are recommended to purchase of the dealer located in their neighborhood. In sections where no dealer is yet established, the Phosphate may be procured directly from the undersigned. A Priced Circular will be sent to all dealers who apply. BAUGH & SONS. Office, No. 20 S. Delaware Avenue, Philadelphia; and No. 223 Lake Street, Chicago.

BAUGH BROTHERS & CO., General Wholesale Agents, No. 181 Pearl Street, corner of Cedar, New York. GEORGE DUGDALE, Wholesale Agent for Maryland and Virginia, 97 & 105 Smith's Wharf, Baltimore.

We are prepared to Supply our Patent Sectional Mill to all Manufacturers for grinding Bones, Guano and all other hard substances. aug15-5m

J. H. BURDSALL'S CONFECTIONERY, ICE CREAM & DINING SALOONS, No. 1121 Chestnut St., Girard Row, PHILADELPHIA.

Parties supplied with Ice Creams, Water Ices, Roman Punch, Charlotte Russe, Jellies, Blanc Mange, Fancy and Wedding Cakes, Candy Ornaments, Fruits, &c., &c. 1070-64

JONES, TEMPLE & CO., WHOLESALE AND RETAIL Hat Manufacturers, 29 SOUTH NINTH STREET, my19-1y FIRST STORE ABOVE CHESTNUT

COLTON DENTAL ASSOCIATION, Originators of the Nitrous Oxide Gas for the Painless Extraction of Teeth. Forty thousand persons have inhaled the gas at our various offices, without an accident or failure. The names and residences can be seen at our offices in Philadelphia, Boston, New York, Baltimore, St. Louis, Chicago, Cincinnati, and Louisville. Philadelphia Office, 737 Walnut Street, below Eighth. Come to the Headquarters. We never fail.

SOMETHING NEW! Send fifty cents for a Specimen Copy of the beautiful PHOTOGRAPH MARRIAGE CERTIFICATE. Regular retail price, \$1.00. Address KEPLHART & CRIDER, Publishers, York, Pa. Feb. 21-1y.

CLEMENT SMITH & SONS, FURNITURE WARE-ROOMS, 248 SOUTH SECOND STREET.

Respectfully inform our friends and the public that we have opened an establishment at the above place, where we will manufacture all descriptions of Fine Cabinet Work. Many years' experience in conducting the manufacture of one of the oldest and largest establishments in this city, has given us the advantage of PRACTICAL KNOWLEDGE AND SKILL IN THE ART OF DESIGNING AND MANUFACTURING FINE CABINET WORK, on the most Reasonable Terms. For character and ability, we refer those who may favor us to the undersigned gentlemen:— J. C. FARR, 324 Chestnut Street. S. R. HILL, N. E. corner Fifth and Walnut. W. E. TENBROOK, 1923 Chestnut Street. H. P. M. BIRKENBINE, 35th and Bearing, W. P. THOMAS FOTTER, 239 Arch Street. ANSON JEWELL, 1103 Vine Street.

JAMES T. BLACK. R. J. M. WHITESIDE.

THOMPSON BLACK'S SON & CO., BROAD AND CHESTNUT STREETS, DEALERS IN FINE TEAS, AND EVERY VARIETY OF CHOICE FAMILY GROCERIES. Goods delivered in any part of the City, or packed securely for the Country. Orders by mail will receive prompt attention.

LOG PLAIN AND FANCY JOB PRINTER, SANSON STREET HALL. Fine Work—Original Styles. FASTEST PRESSES, NEWEST TYPE, SKILLED WORKMEN.

GROVER & BAKER'S, HIGHEST PREMIUM ELASTIC STITCH AND LOCK STITCH SEWING MACHINES. WITH LATEST IMPROVEMENTS.

The Grover & Baker S. M. Co. manufacture, in addition to their celebrated GROVER & BAKER STITCH Machines, the most perfect SHUTTLE or "LOCK STITCH" Machines in the market, and afford purchasers the opportunity of selecting, after trial and examination of both, the one best suited to their wants. Other companies manufacture but one kind of machine each, and cannot offer this opportunity of selection to their customers. A pamphlet, containing samples of both the Grover & Baker Stitch and Shuttle Stitch in various fabrics, with full explanations, diagrams, and illustrations, to enable purchasers to examine, test, and compare their relative merits, will be furnished, on request, from our offices throughout the country. Those who desire machines which do the best work, should not fail to send for a pamphlet, and test and compare these stitches for themselves.

OFFICE, 730 CHESTNUT STREET, Philadelphia.

NATIONAL BANK OF THE REPUBLIC, 809 and 811 Chestnut Street, PHILADELPHIA.

Capital, \$1,000,000. Fully Paid. DIRECTORS: JOSEPH T. BAILEY, President of the Second National Bank. EDWARD B. ORNE, Of J. F. & E. B. Orne, Dealers in Carpets. NATHAN HILLES, President of the Second National Bank. WILLIAM ERVING, Of Myers & Erving, Flour Factors. OSGOOD WELSH, Of S. & W. Welsh, Commission Merchants. BENJAMIN ROWLAND, Jr., Of B. Rowland, Jr. & Bro., Coal Merchants. SAMUEL A. BISHAM, Of Samuel Bisham & Sons, Wholesale Grocers. WILLIAM A. RILAND, Late Cashier of the Central National Bank. FREDERICK A. HOYT, Of F. A. Hoyt & Brother, Clothiers. PRESIDENT, WILLIAM H. SHAW. CASHIER, JOSEPH P. MUMFORD.

JAMES MOORE, COAL DEALER. Eagle Vein, Shamokin and other Coals, From the most approved Mines, constantly kept on hand. YARD, 747 SOUTH BROAD STREET. Orders left at 918 PINE STREET, or N. W. CORNER of TENTH and WHARTON STREETS, promptly attended to.

SMYTH & ADAIR, Practical Manufacturers of SUPERIOR SILVER-PLATED WARE, FACTORY AND SALES ROOMS, No. 35 South Third Street, Up Stairs, AND 1126 Chestnut Street, Second Floor. 1064-1y G. BYRON MORSE, French Confectioner.

LADIES' AND GENTLEMEN'S REFECTORY, 902 and 904 Arch Street, Phila. Breakfast, Dinner, and Tea served in the very best manner. Polite and prompt attention given to all who may favor us with their patronage. G. BYRON MORSE.

FRANCIS NEWLAND & SON, DEALERS IN ALL KINDS OF Paper Hangings, No. 52 North Ninth Street, ONE DOOR BELOW ARCH ST., PHILADELPHIA. mar26-6m

ELWELL'S REFECTORY AND ICE CREAM SALOONS, 727 and 729 Arch Street. Parties and Weddings furnished. Ornamental Confectionary, Pyramids, &c., made to order.