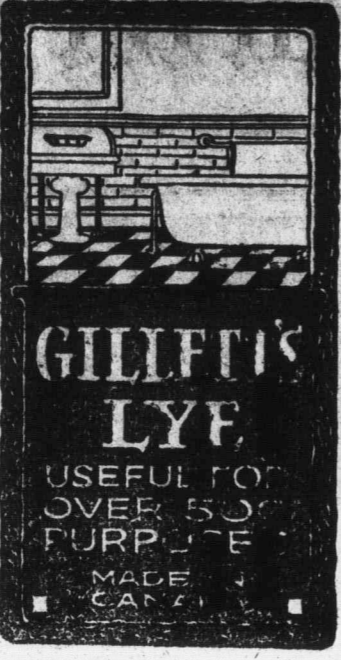




PEDIGREE IN ANIMALS. (William Toogood, Southampton, in Sheffield, Eng., Independent.)

The dictionary meaning of pedigree is lineage, the record of the animals which have in succession entered into the breeding of the individual, so that any animal—good, bad or indifferent—may have a pedigree; but to the practical breeder the word is associated with the fixation of certain characters in a family. It represents to him not merely a string of meaningless names written on a paper, but a powerful hereditary force showing itself in the animal and in its offspring; and he values a pedigree in proportion as it shows that the majority of the animals mentioned in it possessed the qualities sought. He recognizes that pedigree is open to abuse, that the best of pedigree is worth little without reasonable degree of individual merit in the pedigreed animal, recorded pedigree is no guarantee of purity of breeding or of value—that the wisest mongrel may number in its lineage the names of such and such famous prizewinners, of animals sold for such-and-such fabulous sums, and other bred by such-and-such noble or celebrity; but he does not in consequence undervalue pedigree. On the contrary, he studies it carefully, and he is his road to uniformity—his means of ascertaining whether the family of the pedigreed animal has systematically bred to one type. Granted that it has, the pedigree the better, for the family has been judiciously to one standard or ideal, the more it will have approached it, and the more will the resemblance be found in the individual members of the family have become, for we may say that the greater the number of like ancestors, the greater is the probability of any member of the family impressing the family characters on its offspring, or in other words that qualities long and constantly present in a strain or race are much more potent and likely to be reproduced in the



regarding propensity, the influence of an indifferent parent or grand-parent will more than outweigh that of respectively an excellent grandparent of great-grandparent, and also that an ancestor of five or six generations backwards contributes relatively very little to the total heritage of the offspring. It must not, however, be assumed that an ancestor, so far removed has no influence, and so can be absolutely disregarded. Though its influence is comparatively small by that of a near progenitor, it none the less really exists and merits detailed information about the ancestors for six generations backwards is highly desirable, though often unobtainable from ordinary pedigrees.

BACKWARDS AND FORWARDS Pedigree is valuable only to the extent that it guarantees what the pedigreed animal can do. It is the breeder's guide to selection. From it he gauges the reasonable likelihood of the chosen individual transmitting to its progeny the qualities for the perpetuation of which he selects it. If he trusted to his eye alone, he might choose an animal owing its excellence only to one good descent, and therefore likely to betray in its progeny the inferiority of its remoter ancestors. Without pedigree the best animals cannot be depended on to reproduce themselves, excepting in occasional instances. An animal need not necessarily be highly bred to win prizes; but it is more likely to do so if it comes of a family bred for prize-winning, for the standard of quality maintained by its more immediate ancestry is the best indication of what an animal may be reasonably expected to do.

To justly estimate a pedigree, the breeder should familiarize himself with the records of the different families of his breed of stock as far as possible, and should learn to thoroughly know the type or distinct family form of each family, for the valuable results of years of patient labor have sometimes been lost through the

use of an animal apparently desirable as regards itself and its immediate parents, but having a serious defect in its ancestry. It is the weakest link that determines the strength of the chain. The novice lacking the practical experience and knowledge necessary to justly estimate the value of a given lineage will do well to remember that the safest and best pedigree for him is often the name of the breeder.

METHOD AND ANCESTORS So much variability is found within the limits of any popular modern breed that the mere assurance that an animal comes of pure-bred ancestry, without admixture of foreign blood, conveys very little and is of relatively no use as a guide to selecting breeding-stock. More definite information as to the degree in which each ancestor possessed the prominent or really essential breed-characters is required; and the ideal pedigree should embody such data for the future guidance of breeders. This information is best recorded in a breeding performance register, containing a detailed description of each breeding animal, preferably accompanied by a photograph, together with full particulars of the number and quality of its offspring. All records should be entered up systematically on the spot, nothing being trusted to memory. It is computed that at least six generations of the same type of ancestors are necessary to ensure reasonable uniformity in the offspring; and this biological fact emphasizes the need for fuller individual record. It is just as important to trace peculiarities of conformation

HOG'S LEGS PERFORM A FUNCTION. The legs of a hog perform a function not known to any other animal, and that is an escape pipe or pipes for the discharge of waste matter or sweat not used in the economy of the body. These pipes are situated upon the inside of the legs, above and below the knees in the forelegs and above the gambrel joints in the hind legs, but in the latter they are very small and the functions are light.

Upon the inside of the forelegs they are, in a healthy hog, always active, so that moisture is always there about the healthy hog. The holes in the legs and breathing in the hog are his principal and only means of ejecting an excess of heat above normal, and when very warm the hog will open the mouth and

breathes through that channel as well as the nostrils. The horse can perspire through all the pores of its body, such as a man, and cattle do the same to a limited extent, but the hog never. His escape valves are confined to the orifices upon the inside of his legs. People often wonder why it is that the hog dies so suddenly when he runs rapidly of takes quick and violent exercises by heating. But when it is considered the few escape pipes, their small capacity and remoteness from the cavity where the heat is generated, the wonder is not that he dies quickly when overheated, but that he lives as long as he does when heated up.

FARM NEWS AND VIEWS. Colts cannot develop good bone and muscle on grass alone. Some grain must be fed daily when they are turned on pasture. Feed as much oats twice a day as the colts will clean up in about one-half hour. If oats are not available, equal parts of corn and bran will give good results. The exact amount of grain that a colt should receive cannot be definitely mentioned. The feeder must use care and good judgment in providing enough feed to keep the colts in thrifty growing condition. When pastures are short as they frequently are in the latter part of the summer, more grain and perhaps some bright hay must be fed.

An Ohio gardener practices a novel way of moistening the soil for transplanting in dry weather. The ground is marked and along the trace a continuous row or manure is laid, about a foot wide and three inches thick. This checks evaporation, and the soil soon becomes so moist that plants are set with the dibble without greatly disturbing the mulch. They make a rapid growth, and, after a rain, fairly jump.

According to tests made by the Missouri College of Agriculture, it will require 3.4 hours or man labor and 9.3 hours of horse labor to plow an acre.

The farmer is often compelled to drive his automobile in the rain, and the moisture that condenses on his windshield obstructs his view. The following treatment is recommended: To one ounce of water and two ounces of glycerine add one dram of salt. Ap-



ply this solution to the windshield by means of a saturated piece of gauze wiped over the glass, all streaks downward. The moisture, unless so cold that it freezes upon the glass, will drop off. Sawdust on account of its high absorbent power for liquids is much more valuable for bedding than straw. It is not rich in plant food constituents, but its subsequent decomposition in the soil gives rise to much humus-forming material. It should be used in sufficient quantity to absorb completely all the urine.

Horse manure from stables using sawdust heats very rapidly, especially if left in the pile, and excessive fermentation that may take place will seriously injure the manure. Such manure should be mixed with that from the cow barn. If the manure cannot be spread at once, the heap should be kept moist and compact, as in the case of manure made with straw.

The sawdust of hardwoods decomposes more readily and is richer in potash and phosphoric acid than that of pines and conifers generally.

Minard's Liniment Relieves Neuralgia. (Cleveland News.)

Bobbie—My father must have been up to all sorts of mischief when he was a boy. Johnny—Why? Bobbie—"Cos he knows 'xactly what questions to ask me when he wants to know what I've been doing.

Wieg—Dollie complains that he has never had a show. Wagg—Maybe he has spent all his life waiting for a free pass.

ONE WOMAN'S EXPERIENCE. Of Interest to Childless Women.

Toronto, Ontario.—"I suffered for a long time from a female weakness, inflammation, and a terrible backache caused by that condition. One day one of your booklets was left at my door, and I read how other women with troubles like mine had been made well, so I got a bottle of Lydia E. Pinkham's Vegetable Compound and a package of Sanative Wash, and it helped me wonderfully, and I now have the finest little baby boy that any mother could want. I want to recommend Lydia E. Pinkham's Vegetable Compound to any woman who has female troubles."—Mrs. JOSEPH LA BELLA, 773 Shaw Street, Toronto, Ontario, Canada.



Clear Your Scalp and Skin With Cuticura. After shaving and before bathing touch dandruff and itching, pimples and blackheads with Cuticura Ointment. Wash all off with Cuticura Soap and hot water, using plenty of Soap best applied with the hands. One Soap for all uses, shaving, shampooing, bathing.

Chats with the Doctor

Over and over again I receive letters from readers stating that they have been out of sorts for many months, often for many years, and that innumerable remedies have been tried to no purpose. The trouble remains. Hence that recurring little prescription I have already mentioned, whose details you must know by heart and are probably a little weary of. It is a condensed form of much that I have expressed at greater length in the column itself.

"He advises walking!" you may say a little impatiently in reply. "Fresh air, regular exercise, washing, attention to bowels, and so on!" And you may go on to say that you have tried these things, too, and are little the better for them; or that advice of that kind isn't what you want. In the majority of cases that kind of objection is frankly untrue. If I were to tell you to do something more difficult or unusual, to swallow nauseous mixtures, abstain from food, repeat some mechanical and nonsensical charm, have your heads shaved or be flayed, such advice would stand a better chance of being taken seriously. But because the advice is so simple, so lacking in mystery, it defeats its own ends. What most people who are out of condition need is not a magical remedy but ordinary, commonsense conditions of life.

CULTIVATE HEALTH. My profession does not let me forget for very long together that there is a great deal of real sickness in the world; and my experience as a doctor has taught me that a good deal of it is due to a simple cause, namely, wrong habits of life. People simply will not give themselves a chance to be well and to keep well in the world; and my experience as a doctor has taught me that a good deal of it is due to a simple cause, namely, wrong habits of life. People simply will not give themselves a chance to be well and to keep well in the world; and my experience as a doctor has taught me that a good deal of it is due to a simple cause, namely, wrong habits of life.

Liked Her Mother. Six-year-old Margaret often played with Nellie, a neighbor's little girl. One rainy day, the two were just starting across the clean kitchen floor at Margaret's home when the latter's mother, seeing their muddy shoes, headed them off and sent them out to play on the porch. After a moment Nellie remarked: "My mother don't care how much I run over the kitchen floor."

There was quite a long interval of silence. Then Margaret said: "I wish I had a nice, dirty mother like you've got, Nellie."

Minard's Liniment For Dandruff. BRIGHT LAD. (Boston Transcript.)

A tire company in Indianapolis was giving away toy balloons to children, and one little fellow asked if he might have two. "Sorry," said the man in charge, "but we only give one balloon to each boy. Have you a brother at home?" "No," replied the truthful youngster, "but my sister has, and I want it for him."

Minard's Liniment For Sale Everywhere. Wealth. There is no wealth but life. Life, including all its powers of love, of joy, and of admiration. That country is the richest which nourishes the greatest number of noble and happy human beings.—Ruskin.

ROOFING SAVE 50c to 1.00 per roll. Prompt Shipment. YOURSELF THE JUDGE. We ship on approval to any station where there is an agent. We save you 50c to \$1.00 a roll on Ready Roofings of guaranteed quality.

ASK FOR FREE SAMPLES. The Halliday Company, Limited, Factory Distributors, HAMILTON, CANADA.

HORNETS MAKE PAPER.

Interesting Discovery Made by French Scientist. That a hornet is both a maker of paper and an able builder was known even before insect science was systematized. But the processes by which the paper is made and the elaborately planned nest itself built were shrouded in mystery until they were studied by Charles Janet, a French man, whose investigation of insect life has attracted much attention.

Prof. Janet found that a hornet's paper-making methods will bear comparison with those of ordinary paper mills. The hornet seeks some rotting tree, removes a piece of wood and chews it till he produces a ball of pulp about a quarter of an inch in diameter. Laden with this he flies to the nest. The search for a suitable piece of decayed wood and the chewing of it have consumed not more than six minutes, and perhaps only two. Clinging to the comb with his middle and hind feet, the worker juggles the ball of pulp with his forefeet, chewing it continuously to make it more plastic and adhesive. After sufficient chewing he disposes of the ball in repairing or in building additions. Selecting a suitable part of the nest, he attaches the ball and then drags it, leaving behind a narrow strip of paper.

As the ball of pulp is unrolled it is shaped by the insect's jaws, and by incessant tamping along the joint it is glued to the sheet to which it is to form a part. When the ribbon has reached a length that varies from half an inch to an inch and a half the hornet returns nearby, but not quite, to the point of beginning and deposits a second strip, soon after that a third and so on to completion. After a certain stage in this singular work of construction has been reached the queen of the hive emerges from her royal seclusion and performs a most astonishing operation. Carrying a ball of pulp of her own, she spins around one leg as a radius and deposits a circular ribbon of paper. Less agile than the workers, who complete their labors in two or three minutes, the queen requires at least five minutes for her spin.

Instead of building annexes to the hive, the hornet may use half the ball of pulp in cell building, although whole balls of very fine pulp are gathered for this special purpose. In principle, cell building is exactly like the process described, but the paper used is finer and the work is carried on with greater care. Like a good artisan, the worker retouches the moist cell after completion, smoothing down inequalities and finishing the walls with exquisite attention to detail.

WOOD'S PHOSPHODINE. The Great English Preparation. Tones and invigorates the whole nervous system, makes new Blood in old veins. Used for Nervous Debility, Mental and Brain Worries, Headaches, Loss of Energy, Palpitation of the Heart, Failing Memory. Price \$2 per box, 3 for \$5. Sold by all druggists, or mailed in plain package on receipt of price. New pamphlet mailed free. THE WOOD MEDICINE CO., TORONTO, ONT.

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WANTED

Send for list of inventions wanted by Manufacturers. Fortunes have been made from simple ideas. "Patent Protection" booklet and "Proof of Conception" on request. HAROLD C. SHIPMAN & CO. Patent Attorneys, 29 Shipman Chambers, Ottawa, Can.

INVENTIONS

ISSUE NO. 42, 1920.

HELP WANTED

WOOLLEN MILL HELP WANTED. We have several good openings for experienced and in-experienced men and female help. We require iris for weaving and winding. Every assistance given to learners, and good wages being paid. Workers in this line earn very high wages, and are always in demand. Only a couple of weeks' time necessary to learn. Several good openings for steady men. Special consideration shown to family of workers. Rent and cost of living reasonable in Bradford. Moving expenses advanced to returning families and home-ward transportation arranged. Full particulars furnished upon request. Write us. The Sibley Manufacturing Co., Ltd., Bradford, Ont.

HELP WANTED—FEMALE

GOOD GENERAL FOR SMALL FAMILY. No washing, wages \$35.00 a month. Mrs. Geo. Caracian, 56 Arden Ave., Hamilton, Ont.

LADIES WANTED TO DO PLAIN OR light sewing at home, whole or spare time; good pay; work sent any distance; charges paid; Sewing Machine arranged. Full particulars furnished upon request. Write us. The Sibley Manufacturing Co., Ltd., Bradford, Ont.

BUSINESS CHANCES

FOR SALE—LARGE GENERAL stock and equipment, situated on town line between Kent and Elgin, on main auto road from Windsor to London; six miles to closest town; in one of best farming districts in Ontario; value about \$2,000; good reason for selling. J. H. Treastin, Clachan, E. & Bothwell.

FARMS FOR SALE

4 ACRES—5 ROOMED HOUSE. 4 stable-houses; against town limits; gardening soil. Apply Mrs. Bert Gates, Halesbury, Ont.

NEW ONTARIO—160 ACRES—PATED—5 miles out; \$2,800. Write Mrs. Bert Gates, Halesbury, Ont.

FOR SALE

TIMBER—6 1/2 ACRES MIXED PINE, cedar, hemlock, spruce; also 2 x 4 scantling and 2-in. plank by carlots. Box 18, Mount Forest.

LIVE STOCK

CALLOWAYS—ARE HARDY HORNS—best beef cattle, crossed with short-horns or grades; they produce excellent feeding huffers and steers; young bulls for sale. E. McCree, Guelph, Ont.

MISCELLANEOUS

POTATOES—ANY QUANTITY, SEND me your best price. D. Gordon, Cor. Mary and MacAuley Sts., Hamilton, Ont.

BE A REGISTERED NURSE—THE Cooper Hospital of Camden, N.J., offers a three (3) year training (Theoretical and Practical) to young women who wish to enter the nursing profession. A high school education is required. This course admits young women to one of the many positions demanding the trained nurse of to-day. For further particulars write: The Superintendent of Nurses, Cooper Hospital, Camden, N.J.

WHEN ORDERING GOODS BY MAIL, send a Dominion Money Order.

KNITTING YARNS—LOVELY COLORS, pure wool, but very moderate price. Sample shades free. Georgetown Woollen Mills, Georgetown, Ontario.

Advertisement for The Walker House, featuring a woman and child, and text about a home for travelers.

Why the Sky is Blue.

What makes the blue sky and the glorious hues of sunset? Prof. Bragg has given the answer in a lecture on "Sounds of the Country" at the Royal Institution, London. The blue sky, he explained, was due to the interception by particles in the atmosphere of the blue rays which form a part of white light of the sun. The parts of white light conveyed by longer red and yellow light waves managed to jump the many substances in the atmosphere and were seen at sunset.

He showed a disc of light on the screen which, passing through a bowl of water heated gradually, redder as the water got cloudier. Till at last, after an imitation of the sun in a November fog, it faded away. Another clever experiment showed how the wind made sounds in the trees. A stick put into a revolving bowl of water set up little whirlpools behind it. In the same way, the wind rushing past trees formed whirlwinds on a small scale, and these caused those sounds so admirably described by the imitative word "sounding." Similar sounds are set up by telegraph wires.

Minard's Liniment for Burns, Etc.

DR. MARTEL'S PILLS FOR WOMENS AILMENTS

Thousands of women have testified in the last 15 years regarding the efficacy of Dr. Martel's Female Pills. A Scientifically prepared remedy for delayed and painful menstruation. Each box contains 25 Pills. Price 50c. Sold by all druggists, or direct by Mail, price \$2.00. Walker-Boyer, Remedy Co., 11 Front St. East, Toronto, Canada.

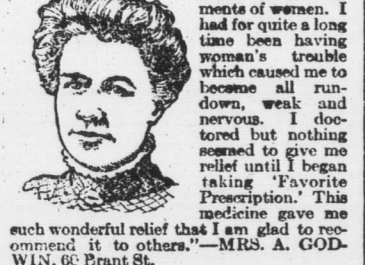
progeny that are those more recently acquired and less constantly present. FROM GENERATION TO GENERATION.

The value of a pedigreed animal lies in its probable possession of the power of impressing its family characters on its offspring; and the worth of a pedigree varies as it shows (1) this power to have been more or less fixed in the family by continuous selection, and, possibly, by re-breeding, and (2) that the near forefathers were excellent rather than the more remote, for the blood of its immediate ancestors predominates in every animal, so that general uniformity of type and individual excellence in the near progenitors are of vastly greater importance than mere lengths of pedigree.

According to Galton's law ancestral heredity, "the total heritage of the offspring is derived as follows: the two parents between them contribute on the average one-half of each inherited faculty, each of them contributing one-quarter of it. The four grandparents contribute between them one-quarter, or each of them one-sixteenth; and so on." Continuing, the ancestors of the sixth generation backwards will between them contribute on the average one sixty-fourth of the heritage; and as there are sixty-four ancestors in that generation, each of them will contribute on sixty-fourth part of a sixty-fourth of the heritage; that is one four-thousand-and-ninth-sixth part, a relatively trifling proportion as compared with the contribution of the immediate parents, which each, as we have seen above, contributes one-quarter of the whole heritage. From this it is evident that, on the average and dis-

A Woman's Trouble

Stratford, Ont.—"I do think Dr. Pierce's Favorite Prescription one of the best medicines I have ever known for the ailments which afflicted me. I had for quite a long time been having woman's trouble which caused me to become all run-down, weak and nervous. I doctored but nothing seemed to give me relief until I began taking 'Favorite Prescription.' This medicine gave me such wonderful relief that I am glad to recommend it to others."—MRS. A. GODWIN, 66 Brant St.



NERVOUS AND RUN-DOWN. Brantford, Ont.—"A few years ago I was in a nervous and run-down condition and felt greatly in need of a tonic. A friend who was being helped by Dr. Pierce's Golden Medical Discovery advised me to try it, too. It helped me more than I could ever have expected. I doctored but nothing seemed to give me relief until I began taking 'Favorite Prescription.' This medicine gave me such wonderful relief that I am glad to recommend it to others."—MRS. ESTLER PEATSON.

Dr. Pierce's medicines are made of vegetable growths that nature surely intended for backache, headache, pains, irritability, and for the many disorders common to women in all ages of life. Dr. Pierce's Favorite Prescription is made of lady's slipper root, black cohosh root, unicorn root, blue cohosh root, Oregon grape root and Viburnum. Women who take this standard remedy know that in Dr. Pierce's Favorite Prescription they are getting a safe woman's tonic so good that druggists everywhere sell it in liquid or tablet form. It is without alcohol.