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The reason why Ayer's Hair Vigor stops falling hair is because it first destroys the germs which cause this trouble. After this is done, nature soon brings about a full recovery, restoring the hair and scalp to a perfectly healthy condition.

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Little Miss Boston

By IDA WARNER MACLEAN

Barry Walden lay comfortably outstretched in his steamer chair, day dreaming, when a small voice suddenly chirped up beside him.

"Are you for Harvard?"

Turning in amused surprise, he found a five-year-old girl gravely regarding him out of a pair of red-brown eyes.

"I beg your pardon; did you speak?"

"I asked if you are for Harvard."

"No," said Barry soberly.

"Oh! Then you are for Yale," she commented with a touch of condecension.

"Wrong again," rejoined the young collegian, suppressing a smile.

She looked at him searchingly from under a thatch of wavy russet hair, then with dignity announced in a final tone:

"If you are not for Harvard, you must be for Yale."

"Not necessarily." This long word was obviously not in her vocabulary, but after the slightest waver of embarrassment she entrenched herself behind her former ultimatum.

"You must be for Yale, if you are not for Harvard."

"On the contrary, I'm for good old Princeton, every time."

But now the big eyes met his in blank inquiry, echoing in the childish voice, "Princeton! What's that?"

"Shade of my Alma Mater!" Barry's appreciation of this innocent egotism brought tears of laughter to his eyes, also an expression of growing disfavor to his companion's face.

"What are you laughing at?" she finally demanded. "It is silly to laugh when there's nothing to laugh at."

With some difficulty, he straightened his face.

"Pardon me, so it is. Princeton, my dear Miss Boston, is not altogether an unknown seat of learning, where some unfortunate seekers after knowledge whom fate or inclination deny an entrance into Harvard or Yale console

"You Must Be for Yale.

themselves as best they may, and drown the voice of their regrets by shouting: "'Rah for Princeton!'"

The descendant of Puritans replied to the one point in this peroration which she had grasped.

"My name is not Miss Boston, I live there. My name is Marjory Brewster."

Barry removed his cap. "I'm pleased to meet you, Miss Brewster. How do you like being on the sea?"

In spite of their inauspicious beginning, the two became excellent friends during the voyage, and when it was over, little Miss Boston parted from her "big boy" with tears; but to the last, she failed to grasp the possibility of any intermediate state between Harvard and Yale.

It was twelve years before they met again. Barry, on his way to visit a favorite cousin, was attracted by a girl in brown, occupying the chair opposite his own in the train.

There was something reminiscent about the waves of russet hair showing beneath the smart traveling hat, and his eyes sought a tag swinging from the handle of a bag over the girl's head, to fall the next moment with pleased curiosity on the partly averted face. Then he leaned forward.

"Good afternoon, Miss Boston. I'm still from Princeton every time."

A pair of startled eyes met his rather haughtily for a moment, then the straight brows were raised in placid inquiry.

"Princeton! What's that."

Barry crossed to a vacant chair beside her, remarking contentedly, as he held a small gloved hand, "I thought I wasn't mistaken in the wrinkles in your hair; you are not changed a particle."

"No," she assented demurely, "not in any of my articles of faith. If you are not for Harvard, you must be for Yale. I am going to visit a friend in New York in order to support New England in the coming Yale-Princeton game."

"And I," said Barry with dignity, "am going to encourage the dear old Tiger to lash his tail, and chase Yale off the footstool."

"The chaser in football certainly needs all the encouragement he can get," she remarked. "When Yale is chased off he may possibly bear the ball with him."

Presently, by comparing notes, they found that Marjory's friend was Barry's cousin; a fact which later gave him a decided advantage over other men who discovered the little lady's charm. Hourly he grew in the belief that fate had deliberately taken a hand in bringing them together. But as he grew in love, so did he wax strong in jealousy.

Marjory, finding that her old friend looked unhappy when other men dangled at her neck, encouraged the other men to dangle. Barry had no serious misgivings, however, until another Richmond cantered gaily into the field, clad in the three-fold armor of being an old friend—absurdly good looking—and, most fatal, a Harvard man. To cap all Miss Boston announced her intention of attending the Yale-Princeton wearing only Harvard colors. "For of course I'm all for Harvard, every time," she said, gaily.

All for Harvard! Barry, reading a double meaning into the words, lost all heart. Even the splendid victory which fell to his old college could not raise his spirits, loyal though he was.

As he strolled home from the game beside his sympathetic cousin his eyes fixed moodily on Marjory just ahead with the infatuated Harvard man, he decided to throw up the race and leave town by the earliest train.

They were approaching a corner, when the wild honking of an automobile sounded, nearing rapidly. Glancing up, with a little cry, Marjory started forward impulsively; but the next second she was gripped and swung aside, while Barry's big figure hurtled through the air to where a little old woman, helpless with fright, stood in the way of a huge, onrushing car. He caught the frail old body in his arm as he swooped across the track, and the great machine raced by with a white-faced driver clinging to a balky wheel.

It was subdued Miss Boston who came down to dinner that evening and a snubbed Harvard man who declined her hostess' invitation to remain and partake of the meal. But Barry knew nothing of it, for he came in late after seeing his poor old woman home. And he mentioned casually that he should take the midnight train.

At this his cousin glared accusingly at Miss Boston, who looked so penitently back again that her friend relented into a "one more chance" glance, then first coaxing Barry to remain until morning, adroitly drew the others off to play bridge, while Marjory smiled on her injured swain and asked sweetly:

"Will you play my accompaniment, Mr. Walden? I want to try this new song I found today."

Barry, rendered wise by past singed fingers, was not unduly elated by this tardy recognition. Nevertheless, he seated himself at the piano.

Standing just behind him, the young lady was fussing with a small pin, and as he struck the opening chord she uttered an exclamation of pain.

Barry turned in alarm, to find her regarding a minute scratch with woeful air.

"Can you fasten this clasp for me?" she asked plaintively. "I've hurt my finger."

Forgotten were her evil deeds. "Poor little girl!" he said; "let me try." Then amazement grew within his eyes as they fell on the trouble maker—a small enamel pin in yellow and black, with a pendant black-lettered yellow ribbon.

He looked hard at the downcast face before him, touched the ribbon with a tentative finger, and said in unsteady tones:

"I thought you were all for Harvard."

Two serious red-brown eyes cast a fleeting glance into his, as a puzzled voice asked mildly:

"Harvard? What's that?"

When Mr. Murphy Hustled.

The other evening at the Lyceum theater, where Mr. Tim Murphy has been playing the tombstone agent in "Mrs. Bumstead-Leigh," the small callboy, who was new to his calling, came to the comedian's dressing room door and knocked.

"Come in, come in," said Mr. Murphy.

"I don't know as I ought," faltered the boy, half opening the door.

"Oh, that's all right," pressed the comedian. "Come in and tell me all about yourself. So you expect to be an actor, too, some day? Sit down. Sit down, my boy."

"I—I'm afraid I can't. I—you see Mrs. Fiske, she sent me to say that—that they gave the cue for your entrance some time ago and they've got to fake the scene till you get on, sir."

What Mr. Murphy said is not recorded. Probably he did not remain to say it.—Cleveland Leader.

Inspiration in London.

There is a business end to music. Yesterday afternoon the German band was playing just before dinner selections from the Fatherland. It was just too late. The kaiser had gone. And the square responded not at all to the appeal. There was not a copper flung from a boarding house window. And then—you could see the inspiration in the bandmaster's eye. They had the card up their sleeve. The German band started "The Star-Spangled Banner" and went on to "Yankee Doodle." Heads peeped out from blinded windows. Then it was "Dixie," and the doors opened. After that it was "John Brown's Body" and "Hail, Columbia. By that time the doorsteps were crowded with the strangers within our rather dismal Bloomsbury gates, and the German band found Bloomsbury blosoming in American dollars.—London Chronicle.

His Position.

"I am in trouble over that electric button business."

"Ah, I see—you are in a button hole."

FARM AND ORCHARD

Notes and Instructions from Agricultural Colleges and Experiment Stations of Oregon and Washington, Specially Suitable to Pacific Coast Conditions

SOIL CHEMISTRY.

By Professor H. V. Tartar, Oregon Agricultural College.

Chemical investigations have shown that all substances are made up of certain simple forms of matter, such as iron, aluminum and carbon, which are called elements. In most substances these elements are combined in a more or less complex form. Although some eighty of these elementary forms of matter have been discovered, only about a dozen of these are found in any quantity in plants. Carbon, hydrogen, oxygen and nitrogen make up about ninety-five per cent of the total weight of all plants, i. e., their organic portion, and are derived either directly or indirectly from air and water, the nitrogen being assimilated by the plant after fixation in the soil. The remaining five per cent of the plant consists of mineral matter or ash, the portion left when the plant is burned, and is composed mainly of the elements of iron, aluminum, calcium, magnesium, phosphorus, potassium, sodium, silicon, chlorine and sulfur. These are all taken up by the plant directly from the soil. Much investigation and experience has proven that only four of these elements are likely to be deficient in a soil, namely, nitrogen, potassium (generally expressed as "potash") phosphorus, (usually expressed as "phosphoric acid") and calcium, (or "lime," as it is generally expressed.) These are often termed the "critical" soil elements, and are the actual basis of all direct fertilizers.

It is singular to note that only very small quantities of these plant foods which are so essential to plant growth are soluble even in strong acids. Rich soils contain approximately 0.20 per cent of total nitrogen. Analysis of the acid soluble mineral substance will show about 0.10 to 0.15 per cent of phosphorus (phosphoric acid), 0.30 per cent of potassium, (potash), and 0.50 per cent of calcium (lime). The figures show plainly that proper and scientific methods of farming must be practiced for the maintenance of the fertility of even our richest soils.

The most important of these critical soil elements is nitrogen. It is combined with other elements in the soil humus (decaying animal and vegetable matter). In the free state nitrogen is a gas and in this form constitutes three-fourths of the air. The total nitrogen supply in the air over each acre of the earth's surface, if available to plants, would meet the needs of a hundred-bushel crop of corn every year for half a million years. Nevertheless nitrogen in available form is worth 18 to 20 cents a pound in the fertilizer markets. The organic matter in the soil is the nitrogen storehouse from which plants derive their supply. Constant removal by crops, oxidation of organic matter in clean cultivation as well as waste through leaching, all assist in depriving the soil of this essential element. Experience has shown that under exhaustive systems of farming the soil nitrogen supply is easiest impaired. To add available nitrogen to the soil in the form of commercial fertilizers costs from 18 to 20 cents a pound, which make it too expensive for use on a general farming scale. Experiments have shown, however, that leguminous crops, such as clover, vetch, and alfalfa, have power to obtain free nitrogen from the air through the intervention of certain microscopic organisms which live in tubercles upon the roots of these plants. Such crops add nitrogen to the soil, and hence rotation with a leguminous crop is an inexpensive and efficient means of supplying this element to the soil and one that is applicable to general farming.

The mineral plant foods, potassium, phosphorus and lime, exist in the soil in variuos forms: potassium often in combination with quartz in the mineral feldspar; phosphorus in combination with iron, aluminum and lime as phosphates; and lime often in the form of silicate and carbonate (limestone). These compounds are by chemical processes, which are encouraged by tillage, converted into soluble or available forms which can be assimilated by plants. The plant can only obtain these mineral elements from the soil and when the supply becomes deficient they must be furnished through the addition of appropriate fertilizers.

The fact that ordinary wood ashes are so rich in potash as to be valuable as fertilizer indicates that certain plants withdraw large amounts of this element from the soil. Six tons of well cured alfalfa hay contain 150 pounds of potash, which would cost about $7.50 if bought in the form of a fertilizer in the open market. Potash is usually stored in the seeds of plants in relative abundance. During plant growth this element seems to aid materially in the building up of the starches and sugars of the plant. Potassium may be supplied to the soil by applications of muriate of potash, sulfate of potash, or kainite.

Phosphorus is a chief component of the seed and fruit of the plant. A ton of wheat bran contains about 24 pounds of phosphorus. The nucleus of every living cell of plants is rich in phosphorus. This element is taken up from the soil in the form of salts called phosphates, but within the plant it enters into the composition of complex organic compounds. It may be supplied to the soil in the form of bone meal or phosphate rock. Dissolved bone and acid phosphate are readily soluble forms of phosphorus obtained by treating bones or rock phosphate with sulfuric acid and are used when quick acting phosphate is desired.

Lime is absolutely essential to the normal growth and development of all agricultural plants, but for grain crops the amounts positively necessary are not large. Legume plants are heavy lime feeders. In the form of carbonate, lime plays an important part in keeping the soil neutral by combining with the acids which develop in the decay of vegetable matter. It is also a prerequisite for the proper bacterial activity of the soil. Heavy clay soils are made more friable by lime applications, and on the other hand, through its cementing action, sandy soils are rendered more compact and less leachy. Lime in the form of carbonate seems to aid materially in making other plant foods in the soil more available. Land plaster (sulfate of lime) has the property of rendering the potash in the soil more available, hence the benefit generally noted on applying this substance to leguminous crops.

Concerning Oregon soils it may be said that analyses of several hundred samples from various parts of the state prove them to be rich generally from the chemical standpoint. A table showing the average total nitrogen and acid soluble plant food content of our soils is herewith submitted classifying the results of analyses made at this station up to 1910 under three divisions.

	Total Nitrogen	Acid Soluble. Potash	Phosphoric Acid	Lime
	Pr ct.	Pr. ct.	Pr. ct.	Pr. ct.
Western Oregon	0.15	0.25	0.20	0.60
Eastern Oregon	0.08	0.17	0.36	1.20
Southern Oregon	0.12	0.31	0.15	1.65

The soils of Western and Southern Oregon are generally rich in nitrogen because of their high content of organic matter which, is due to climatic conditions favorable to humus formation. These soils are almost universally rich in phosphorus. The lime content of Southern Oregon soils is usually high while some of the Willamette valley soils are apparently deficient in this element. These soils are in the main quite well supplied with potash. The semi-arid soils of Eastern Oregon, on the other hand, do not have the good supply of humus and nitrogen of the soils of the Western part of the state. This fact is due undoubtedly to the difference in climatic conditions. The Eastern soils are rich in their content of mineral plant foods.

FASHION HINTS

This attractive child's dress is made of blue gingham, with a collar of white embroidered linen. The skirt is very plain; no pleats to worry the laundress.

Germany's Flower City.

Erfurt, known as the Flower City, is the seat of the horticultural industry in Germany, thousands of visitors coming here each year to see the magnificent displays of plants and flowers cultivated in the local nurseries and hothouses.

Value of the Phrase-Maker.

A talent for phrase-making can instill more life into a lost cause than logical argument.—London Truth.

The Five Great Races.

In answer to the question, "What are the five great races of mankind?" a Chinese student replied, said Bishop Montgomery at the anniversary of the Society for the Propagation of the Gospel, reports the London Mail, "the hundred yards, the hurdles, the quarter mile, the mile and the three miles." In another paper a Chinese student said that "Out of sight, out of mind," could be explained in two words, "Invisible, Insane."