

## THE IRON MINES OF LORRAINE

THEIR IMPORTANCE IN THE PRESENT WAR

Ore-Bearing Sheet Made Up of Superimposed Layers Separated by Strata of Sands and Clays.

One of the most important strategic objects of General Foch is to gain possession of the great iron field that lies to the west of Metz, or at all events to interfere as far as possible with its utilization by the Germans, whose main dependence it is for supplies of an indispensable war material.

The first aim of the original German invasion was to obtain control of this field of ore, the loss of which was a deadly blow to the French. It is of great area, stretching all the way from Longwy on the north to a point not far from the Moselle River on the south, a distance of nearly forty miles.

The vast ore body forms a continuous sheet that lies at a slant with the surface of the earth. To the east, in German Lorraine, its edge appears at the surface; but, as it is followed westward, it dips steadily down, so that in order to reach it mine shafts must go deeper and deeper.

Water (from rains) enters the iron bed along the exposed edge, in German Lorraine, and is carried by gravity along the pervious stratum as it dips down. This renders mining difficult, and powerful pumps have to be used to keep the underground workings dry. The French before evacuating the territory, destroyed the pumping plants, making it a huge job for the Huns to render the field again productive.

How Iron Bed Was Formed. The ore-bearing sheet consists of a number of superposed layers, separated from one another by strata of sands and clays. The explanation of how the iron came to be deposited in this way is by no means devoid of interest and even picturesqueness.

The iron was originally derived from sea water. The ore sheet long ago was the bottom of the sea. Particles of the metal (combined with silica) were deposited on the bottom as minute grains, forming sands. Afterward the layer thus formed was covered over with quartz sand and clay. Suppose this process to be repeated half a dozen times, and it will be understood how the sheet assumed its layer-cake make-up.

To form such a bed exceptional conditions were required. These must have been a great embayment at along an ancient shore line, shutting in a shallow area of sea. Rains washed the sheet, the workings necessarily followed the latter as it dipped underground. Its slant downward and westward being fairly regular, engineers, in sinking a mine shaft anywhere within the ore-bearing area, know in advance at just about what depth they will strike the iron bed.

### ENGLAND'S COAL CELLAR

Millions of Years Ago Britain Was Connected With the Continent.

It is often said that Britain owes her commercial supremacy to her coal measures. For her size she has more and better coal than any other country in the world, and for steam purposes South Wales practically supplies the world. Where did the coal come from?

The coal seams, lying one below another to an unknown depth, and not infrequently cropping out at the surface, are sure proof that tropical conditions once prevailed in the latitude of the British Isles.


In primeval times, a period whose remoteness is measured by millions of years, the district which is now Britain was connected with the Continent, and the coal of England doubtless runs under the Channel and the southern part of the North Sea, and is continued in the coal fields of Northern France, Belgium and Flanders. All this region was covered thick with great tree-ferns, growing to a gigantic height, of exuberant rapid growth, in the damp, steaming heat of a tropical climate which exceeds the heat of the equatorial regions of Africa to-day. Growth succeeded growth, and in the course of ages probably seas flowed over it and deposited the sand which is now rock.

Then came another period of growth, and the pressure carbonized the fallen vegetation and formed layers of coal, pieces of which still bear imprinted upon their flat surface the beautiful tracery of the original fronds of the tree-ferns.

Dispose of all except the strong, healthy hens, for nowadays it does not pay to keep weaklings.

"It is well that God answers our needs rather than our wishes, else many of us would escape the hardships which have most to do with strengthening and beautifying our characters."

## Montreal Daily Star.



**CHEW STAG TOBACCO**

*"Ever-lastingly Good"*

**WHAT SOLDIERS WANT.**

A suggestion to those who are sending gifts to soldiers overseas comes from Lt.-Col. (Canon) Frederick George Scott, Senior Chaplain of the First Division, in a cable received by friends in Montreal. He says "The men want playing cards and chewing tobacco."

## BRITISH AIRMEN WELL SCHOOLED

MUST STUDY GUNNERY AND WIRELESS TELEGRAPHY

Aspirants for Royal Squadron Are Intensively Trained from the Ground Up.

When the young cadet of the Royal Air Force has learned to march, to swing his arms with the stiffness approved by his instructors, to salute in the only possible way considered "correct" by a flying officer, to stop the other fellow from hitting him when he has the gloves on; when, in fact, he has learned discipline, and his body has been hardened by physical training and games, he leaves the camp by the sea and goes to school. He is eager to fly, but much must be taught him before he can leave the ground.

So it is that the boy, by now very much a soldier, goes to the lecture room, and for a period "avots" as hard as military necessity and his own keenness dictate. He does not study languages or history or mathematics, but engines and aerial navigation, signalling and wireless telegraphy, aeroplane rigging and map reading. His professors and lecturers, like himself, are in khaki. Highly capable N.C.O.'s teach him the why and the wherefore of cranks and rods and cylinders; he pulls engines to pieces and sets them up again.

Studies Mechanism of Planes.

He sits in a seat with a "joy-stick" maneuvering a quarter-sized airplane in front of him, and sees the effect on the machine of different movements of the control. By ingenious devices he learns the art of observation from the air and how to report what his eyes have beheld. He comes to know why, to correct the deflection of the wind, he must steer a machine at an angle which apparently contradicts the direction in which he wishes to fly. He becomes wise about compasses and instruments. All that is shown him he must absorb and remember, so that, at the end of the course, he can pass the test of a strict examination. It is hard work. He cannot "cut" lectures. He must not slack. When he leaves the school a little more of boyhood has gone; the man is emerging. But he has kept fit. Every day after work he goes from the desk to the playing fields. Games count for so much that at each stage of his training, the marks which are to determine his suitability for an air

force commission include an award for the degree of proficiency he shows at play.

Testing the Guns.

From the school of aeronautics the cadet passes to the school of armament, and for a time has the "tock-tock-tock" of machine guns continually in his ears. If he is not familiar with the Vickers and Lewis guns as he is with a knife and fork at the end of his lessons, it is not the fault of his instructors. In the beginning the fact is impressed upon him that an airplane is merely a means of taking guns into the air, and that if a pilot takes up a gun without being able to use it he is asking for trouble.

Trouble in such a case means death. Diagrams, cinema demonstrations, sectional models and guns complete and in part, are brought into use to make instruction easy. For one ingenious lecture the pupil takes a seat in a cinema hall, and his position in relation to the pictures, which pass over the screen is that of the pilot of the photographed airplane. Here is shown how to aim his gun. He sees the approach of an enemy machine and the burst of fire which, according to its accuracy, sends the Hun crashing to the ground, "misses him. The lesson is elementary in its simplicity but wonderfully effective.

While at the school the cadet passes through a gun-testing section. Every machine gun to be used for air fighting is examined minutely and severely tried before it is sent overseas. Hours are devoted to the scrutiny of each weapon. Guns as they come from the makers are quite good enough for ground use, but for use in the air they must be tuned up so that the risk of failure is reduced to the minimum.

It is a great day for the flight cadet, as the boy is now called, when he reports to the training squadron where he is to learn his flying. His mind is packed with the theory, but before him lies adventure.

The pupil is taken up by an instructor and goes "dual" before he is allowed to handle a machine alone. "In the old days," I was told at a southern aerodrome, "you were counted a dub if you could not get along after three hours' dual. If you took four hours you were heaved out." To this recollection the officer with whom I talked added another: "When the instructors had learned their flying," he said, "it was considered an insult if a pilot who had once gone solo was told that he was to be given more dual. This simply meant that men went up and got into bad habits and a sloppy way of flying."

Marvelous Gunnery. Before a pilot goes solo at all now he is taught to loop and spin and half-roll, and to land in any field which the instructor directs him to get into. Even so, his progress is still closely watched after he is given single control, and at intervals the instructor goes up with the pupil to correct any fault he may have developed. The number of machines crashed at one time was enormous; to-day the crashes, by comparison, are insignificant, and an accident on the occasion of a first solo flight is almost unknown.

When the instructors are satisfied that a pupil can fly a service machine properly, the boy—he has still to graduate for his wings, but if he is of the right stuff he is by now only a boy in years, and his fresh, virile manhood is an inspiring thing to see—is transferred from the elementary side of the depot to what is known as the "special flight" side and is taught aerial fighting and the use of his gun in the air. Some of the instructors under whom he is trained are marvelous gunners.

I watched one of them swoop down from the air, firing bursts into a tiny pond as he dropped, and there was an upward leap of glittering water for every cartridge used. One could imagine the havoc such firing might create among marching infantry.

Venezuela means "Little Venice." Early explorers so named the South American country because of its Indian dwellings on small islands and piles driven into the water.

Butchers in Birmingham, England, have undertaken to buy bones back after the housewife has made full use of them, paying the customer half of proceeds of their disposal. They are used for the extraction of glycerine and for the manufacture of phosphates for fertilizer, and a valuable pig and poultry food.

Memory. I know a lone spot on the Arras road Where I shall hardly bear to walk again

For fear of waking those great souls I loved Who struggled to a death of piteous pain.

Ah! I should hear their laughter on the way, And round my heart their boyish sighs would creep; Till I must long to leave the rushing world

And steal away to join them in their sleep. For only they who tread the tortured path

Of those torn roads where awaying poplars sigh Can dream of how God could give no greater bliss Than the hushed peace beneath the sad French sky.

I know a lone spot on the Arras road That murmurs with the moan of Memory's pain. And I should grieve my heart with stifled sobs If I could bear to walk that road again.

—Lieut. A. N. Choyce.

GIRLS! LEMON JUICE IS SKIN WHITENER

How to make a creamy beauty lotion for a few cents.

The juice of two fresh lemons strained into a bottle containing three ounces of orchard white makes a whole quarter pint of the most remarkable lemon skin beautifier at about the cost one must pay for a small jar of the ordinary cold cream. Care should be taken to strain the lemon pulp gets in, then this lotion will keep fresh for months. Every woman knows that lemon juice is used to bleach and remove such blemishes as freckles, sallowness and tan and is the ideal skin softener, whitener and beautifier.

Just try it! Get three ounces of orchard white at any drug store and two lemons from the grocer and make up a quarter pint of this sweetly fragrant lemon lotion and massage it daily into the face, neck, arms and hands.

L'Envoi. The thousand things I could not say Before I crossed the sea, Dear love, the words I could not speak And all you are to me;

The thousand dreams I could not dream When Life for gold did dance, Are Life to me, dear love, since Death Became a dream, in France.

The thousand things I cannot write, The things that I would do, Shall all be yours, dear love, when God Shall send me home, to you.

Minard's Liniment Co., Limited. Gentlemen,—In July, 1905, I was thrown from a road machine, injuring my hip and back badly and was obliged to use a crutch for 14 months. In Sept., 1906, Mr. Wm. Outridge of Lechworth urged me to try MINARD'S LINIMENT, which I did, with the most satisfactory results and to-day I am as well as ever in my life.

Yours sincerely, MATTHEW X BAINES, mark

What He'd Do.

An army examiner had before him a very dull candidate for a commission. The man, proving, apparently, unable to make response to the most simple questions, the examiner finally grew impatient and quite sarcastically put this question:

"Let it be supposed you are a captain in command of infantry. In your rear is an impassable abyss. On both sides of you there rise perpendicular rocks of tremendous height. In front of you lies the enemy, outnumbering you ten to one. What, sir, in such an enormous emergency would you do?"

"I think, sir," said the aspirant for military distinction, "I would resign."

## The Weekly Fashions



The round yoke of this design holds the fullness of the back and front Developed in plaid material it is suitable for school. McCall Pattern No. 8548, Girl's Coat. In 7 sizes, 2 to 14 years. Price, 20 cents.



New winter model of velvet trimmed with fur. Simple in line and smart in effect. McCall Pattern No. 8553, Ladies' Coat. In 3 sizes; small, 34 to 36; medium, 36 to 40; large, 42 to 44 bust. Price, 25 cents.

These patterns may be obtained from your local McCall dealer, or from the McCall Co., 70 Bond St., Toronto, Dept. W.

Minard's Liniment Cures Diphtheria.

Had No Respect. One artillery unit worked hard during the afternoon of the second day of the attack to get its pieces into position. It had moved up for the second time, and had not fired a shot. It was four o'clock when the lieutenant in command gave orders for every one to stand by. The gunners were to fire their first volley into the German lines. Everyone stood waiting for the final word when the telephone rang and word came that the infantry had advanced so far that it would be necessary to move up again before going into action. "Oh, hell!" said a gunner; "those infantry guys ain't got no respect for us at all!"

Land of the Beyond. There is a country into which there is to-day a yearly immigration with which no other country in any age has had anything to compare. Every year 35,000,000 of people enter its ports and crowd its territory as newcomers and colonists.

Every month 5,000,000 are numbered as fresh arrivals. Every twenty-four hours there are 100,000.

And this has been going on for centuries. For the country in question is the Land of the Beyond, that is on the other side of the grave.

British Columbia canned herring is meeting with a growing demand. It is estimated that 250,000 cases will be packed this year, an increase of 150 per cent. over 1917.

**KEEP YOUR SHOES NEAT**

**2 IN 1 SHOE POLISHES**

BLACK, WHITE, TAN, DARK BROWN

ORANGE, RED, PINK, BLUE, GREEN

PRESERVE LEATHER

A Dust-Stained, Fearless King. Albert, King of Belgium, is the hero of the hour; He's the greatest King in Europe, He's a royal arch and tower; He's bigger in the trenches than the Kaiser on his throne, And the whole world loves him for the sorrows he has known.

Defiance was his answer to the Teutons at his gate; Then he buckled on his armor and pledged his soul to fate. He stood between his people and the biggest Essen gun, For he feared not shot nor shrapnel as his little army won.

King of Belgium, Duke of Brabant, Count of Flanders all in one; Little Kingdom of the Belgae star'd with honor in the sun, You have won a place in history, of your deeds the world will sing, But the glory of your nation is your dust-stained, fearless King.

MONEY ORDERS. Remit by Dominion Express Money Order. If lost or stolen you get your money back.

A child is prey to many fears which have little to do with physical cowardice. The sensitive child is positively afraid of many things without realizing he is afraid. What he needs is to be given a greater confidence in life and in himself.

Minard's Liniment Cures Garget in Cows. "Thy yesterday is thy Past; thy to-day is thy Future; thy to-morrow is a Secret."—Talmud.

A bee, unladen, will fly 40 miles an hour, but one coming home laden with honey does not travel faster than 12 miles an hour.

**A Kidney Remedy**

Kidney troubles are frequently caused by badly digested food which overtaxes these organs to eliminate the irritant acids formed. Help your stomach to properly digest the food by taking 15 to 20 drops of Extract of Roots, sold as Mother Selig's Curative Syrup, and your kidney disorder will promptly disappear. Get the genuine.

**ABSORBINE**

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stops the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. \$2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse book 2 R Free.

**ABSORBINE, JR.**, the antiseptic liniment for manning, reduces Strained, Torn Ligaments, Swollen Clavicle, Veins or Muscles. Heals Cuts, Sores, Ulcers. Alleviates pain. Price \$1.25 a bottle at druggists or delivered. Write for full particulars.

W. F. YOUNG, P. O. Box 518, Lyons, N.Y., Montreal, Can. (Manufactured and Absorbine, Jr., are made in Canada.)

**DON'T NEGLECT A RHEUMATIC PAIN**

Go after it with Sloan's Liniment before it gets dangerous

Apply a little, don't rub, let it penetrate, and—good-by twinge! Same for external aches, pains, strains, stiffness of joints or muscles, lameness, bruises. Instant relief without numbing or soiled clothing. Reliable—the biggest selling liniment year after year. Economical by reason of enormous sales. Keep a big bottle ready at all times. Made in Canada. Ask your druggist for Sloan's Liniment.

**Sloan's Liniment**

Kills Pain

30c., 60c., \$1.20.

**HIRST'S PAIN EXTERMINATOR**

Pain? Hirst's will stop it!

Used for 40 years to relieve rheumatism, lumbago, neuralgia, sprains, lame back, toothache, earache, swollen joints, sore throat and other painful complaints. Have a bottle in the house. All dealers or write us.

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Hotel is equipped throughout with Automatic Sprinkler System.

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**EATS DIET**

MADE IN CANADA

**GILLETTS' LYE**

Arctic Curio. In the midst of the Arctic swamps are often found curious formations which travelers in these inhospitable regions call "ice mushrooms." When the summer sun banishes for a brief while the frozen crust of the landscape, squat pillars of ice (sometimes as much as ten feet high) remain here and there, covered with moss that has actually grown on top of them and by which they are kept from melting. It is nature's own idea of an icehouse.

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**BLACK KNIGHT STOVE POLISH**

Will not burn

Easy to use

**SUFFERED TWO YEARS WITH PIMPLES**

Child Could Not Sleep Till Cuticura Healed.

"My little brother suffered for about two years from tiny red pimples. They appeared constantly on his body but he had the greatest trouble under his nose. The skin was red and very sore and at the least touch he would give a howl of pain. After a few seconds he would have to scratch, and he was not able to sleep. A friend advised me to send for Cuticura Soap and Ointment. I noticed a change, and I used three cakes of Cuticura Soap and four boxes of Ointment when he was healed." (Signed) Louis Frank, 746 City Hall Ave., Montreal, Que., February 2, 1918.

Keep your skin clear by using Cuticura Soap and Ointment for every-day toilet purposes. For Free Sample Each by Mail address post-card: "Cuticura, Dept. A, Boston, U. S. A." Sold everywhere.