# Will-O'-the-Wisp Still a Mystery

## Dismissed by Scientists as a Doubtful or Extinct Phenomenon, It has Now Been Revived as Authentic By Fresh Observations

The recent progress that has been made in the study of luminescent phenomena, including the work of Coblentz and his associates at the United States Bureau of Standards, encourages the hope that science will soon tackle in earnest the long neglected task of finding out something tangible about will-o'-the-wisp.

The present attitude of the scientific world toward this mysterious phenomenon is a paradox without a parallel. For ages "ignis fatuus," or will-o'-the-wisp, has aroused the curiosity of mankind. Presumably, it has been seen by hundreds of thousands of human beings. When, in the seventeenth century, the Royal Society of London issued what were the earliest instructions in English for taking metheorological observations this phenomenon was mentioned along with clouds, rain, lightning and other atmospheric manifestations that were to be recorded in the daily register of weather, yet at present no meteorological institution in the world collects observations of will-o'-the-wisp, and there is hardly a textbook of meteorology published within the last fifty years that even mentions it.

The Oxford Dictionary, under "ignis fatuus," says: "It seems to have been formerly a common phenomenon, but is now exceedingly rare." This is a curious statement. Animals and plants become rare and even extinct, but we hardly associate such a process with a physical phenomenon, such as ignis fatuus is generally supposed to be. However, the idea of its increasing rarity is frequently met with in literature. As far back as the year 1845 a writer in The Penny Magazine expressed the same notion, noting that "most persons are aware that the moving lights called will-o'-the-wisp, or jack-o'-lantern, were much more frequently seen and talked of in former years than they are at present."

**"Ignis Fatuus" Always Rare.**

The truth of the matter probably is that observations of 'ignis fatuus' were always rather rare, but that at any given time they were thought previously to have been common; just as the delusion has always prevailed that the "old-fashioned Winter" was once the rule rather than the exception.

The Encyclopaedia Britannica does not include an article on ignis fatuus and mentions the subject only incidentally, to the extent of a single phrase, in connection with folklore. Other general reference works give this phenomenon brief notice, and repeat, for the most part, stereotyped and antiquated statements, including impossible chemical explanations. A comprehensive, scientific and up-to-date discussion of ignis fatuus is not to be found in any book in the world.

One of the most circumstantial accounts of ignis fatuus was that published in the Belgian journal, Ciel et Terre, in the Summer of 1920 by a retired army surgeon, Jules Rossignol. He observed the mysterious lights on many occasions in some marshy woods near Grupont. They assumed the form of little white clouds, which rose from the ground and changed to luminous globes on attaining an altitude of a dozen yards, and they remained visible for several minutes.

**Two Noteworthy Cases**

In the United States two especially trustworthy reports have been published in recent years. One of these cases was observed by Matthew Luckiesh, a well-known electrical engineer, who encountered the lights in great numbers while passing some temporary pools of shallow water in a Nevada desert. His description appears in the Scientific American Supplement for December 9, 1916. The other case is described in the Mentor for May, 1925, by Professor L. A. Hausman of Cornell niversity, who saw a fine display of will-o'-the-wisp near Cayutaville, N.Y., April 7, 1921.

The traditional scientific explanation of this phenomenon is that it is due to the spontaneous combustion of gases formed by decaying organic matter in the ground. Marsh gas and phosphine have generally been mentioned in this connection, but neither will produce the appearaces described. A Belgian chemist, M. Leon Dumas, asserted some years ago that he had produced something similar to ignis fatuus by means of a mixture of phosphine and sulfureted mydrogen, but this has not been confirmed.

Luminescence rather than combustion seems at present to be a plausible explanation of most cases of ignis fatuus. Swarms of insects rendered luminous by disease, birds with luminous fungi attached to their feathers, luminous bacteria escaping with bubbles of gas from marshes and the luminosity of decaying wood known as "fox fire" are some of the numerous explanations that have been suggested.

# Gold Produced Canadian Mines Shows Increase

## Total Nearly Doubled in Ten Years Now Tenth in World Production

## PORCUPINE LEADS

## First Discovery Made in 1908 in That Feld Which Has Seen Developments

The present position of Porcupine among the gold-producing districts of the world ,a position that is likely to be matrially improved in the not far distant future, can be seen at a glance in the following table of annual outputs of a number of the world's chief gold-producing regions:

The maximum, production of gold for any one year was in 1915 when the world production amounted to $468,700,000, of that total the Transvaal accounted for $188,000,000 and the United States for $101,000,00 and Canada for $19,000,000. In 1925 total world production amounted to $394,00,000, of which $198,000,000 was from the Transvaal; $48,000,000 from the United States and $35,900,000 from Canada, of which $30,200,000 was from the Porcupine district.

The three principal mines are: the Hollinger, Consolidated and the McIntyre Porcupine near the town of Timmins, and the Dome, three miles to the southeast The ore-bodies of the camp are of large size, low to medium in grade, and of the lode, or composite, type in structure, containing much mineralized schist. No. 5 vein on the McIntyre has an ore-shoot 1,500 feet long that continues for at least another 100 feet in Hollinger ground. No. 1 vein on the Hollinger averages 40 feet in width for a length of over 1,000 feet. Hollinger's No. 84 ore zone is 900 feet long. There are many ore-shoots in the camp 500 feet in length. The persistence of ore in depth has been pgoved to at least 4,000 feet by diamond-drilling.

**Porcupine Developed in Twenty Years**

Ontario is Canada's greatest gold-producing province and Porcupine Ontario's most productive gold-field; the largest of its gold mines, the Hollinger, ranks with the great gold mines of the world, both in quantity of gold produced and in tonnage of ore treated. Timmins, the business and commercial centre of the Porcupine gold-fields, a well-built town supplied with all modern conveniences and having a population of 15,000 or more, is situated on a branch of the Temiskaming and Northern Ontario Railway, about 485 miles north of Toronto; and can be reached from that cityby a comfortable railway journey of about 20 hours' duration.

The first discovery of gold at Porcupine was made in 1908 and was indirectly a consequence of the silver discoveries made at Cobalt about five years previously. The host of prospectors attracted to Northern Ontario by the wonderful finds mare at Cobalt, gradually and naturally, as the older field became more thoroughly explored, spread northwestward through the country traversed by the newly constructed railway between Cobalt and Cochrane, and in the course of its advance a number of finds were made, of which the most important has proved to be Porcupine.

Porcupine developed rapidly. The astounding results being obtained at Cobalt had made a vivid impression on the minds of speculators, and money made at Cobalt was among the first available for the development of Porcupine. A severe but temporary setback occurred in 1911, when forest fires sweeping the country destroyed many of the newly constructed mine buildings and resulted in a regretable loss of human life.

During the first sixteen years of its existence, that is to say to the end of 1925, Porcupine has produced gold to and paid out in dividends about $44,944,000. At the time of writing, there are at least eight producing gold mines in the camp, to six of which the camp's production of 1,196,199 fine ounces of gold in 1925 must be attributed. Listed in the order of their productive importance, they are as follows: Hollinger, 757,306 fine ounces; Dome, 210,051 fine ounces; McIntyre, 178,556 fine ounces; Vipond Consolidated, 27,244 fine ounces; Consolidated West Dome Lake, 13,582 fine ounces; and Night Hawk Peninsular, 9,460 ounces. The mills on the other two producers, the Ankerite and the Paymaster, were not put into operation until 1926, so that their production records will first appear in the returns for that year. The Hollinger is being quickly put in shape to mine and mill 8,000 tons of ore per day, as compared with less than 6,000 tons at present; the McIntyre will probably greatly increase its present output of about 1,400 tons as soon as the new central shaft can be connected with the older workings and properly equipped for hoisting; and the Vipond has construction under way that will increase its milling capacity from 150 to 300 tons a day. In the case of the Dome only, does any immediate increase in production seem at all unlikely.

**Kirkland Lake Gold-Field**

Kirkland Lake is Ontario's second most productive gold-field. Though smaller than Porcupine, it has attracted much attention during the past few years on account of the richness of its ores and the remarkably favorable results that have attended its development at depth.

It lies about 60 miles southeastward from Porcupine and is 392 miles by rail from Toronto. It is connected with Swastika station, about 4½ miles to the southwest, on the Temiskaming and Northern Ontario railway and by a short branch line of railway and by an excellent macadamized highway over which fast motor buses are operated—part of the main trunk-road system of the district of Timiskaming. The town of Kirkland Lake has about 2,500 inhamitants and is provided with good telephone and telegraph services and with hotels.

The first discoveries made in this vicinity were in 1906, during the boom days of Cobalt, when many claims were staked for gold around Swastika and northeasterly to the lake now known as Kirkland. Most of these claims were abandoned later, but one property, at Swastika, continued working, and by 1911 had produced some gold. This, together with the success being obtained at Porcupine, aroused new interest in the older finds to the east, with the resultant discovery, in 1911, of gold near the shore of Kirkland Lake on what is now a part of the Wright-Hargreaves mine. In January, 1912, gold was also found three-quarters of a mile northeast of Kirkland Lake on the Tough-Oakes claims. No great excitement was caused, however, until 1913, when the shipment of two carloads of ore taken from an 8-inch vein on the Tough-Oakes brought returns of $8,960 in gold in the first car, and $8,073 in the second. Active prospecting by surface trenching now became the rule with the consequent discovery of promoting veins on a number of properties, viz.; the Burnside, later merged with the Tough-Oakes; the Robbins, now Sylvanite Gold Mines; Wright-Hargreaves; Oakes, now Lake Shore; Teck-Hughes; Wettlaufer, or Orr, now merged with Teck-Hughes; Wood-McKane, now Kirkland Lake; and Huron.

The dividends paid by the three chief producing companies to the end of 1925 amount to over $3,000,000; Lake Shore Mines, Ltd., have paid $1,620,000; Wright-Hargreaves, $1,375,5000; and Teck-Hughes has more recently been added to the list of dividend payers.

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"Very many men," she said, "will be miserable when I marry." "That depends on how often you marry," he replied, with easy gallantry.

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In the U. S. there are asylum inmates who hold motor licenses. In this country no asylum inmate holds a motor license, incredible as it may seem to the average pedestrian.

## Cheering The Veterans

His Royal Highness did not forget the disabled veterans when attending Warriors' Day at the C.N.E. He is seen shaking hands with Frank Gifford, of Shelburne, shown on the left, who was brought to Toronto to attend the parade. He also shook hands with all the disabled and blind, who were out in strength to do him honor.

# Dr. Fosdick Writes a Pastoral Letter

## He Asks Park Ave. Congregation Not to Expect Regular Calls When New Church Is Built

## PRAISES HIS ASSOCIATE

## Discusses Plans for Future and Reports on Finances for $4,000,000 Building

When the new $4,000,000 edifice at Riverside Drive and 122nd Street, which the congregation of the Park Avenue Baptist Church, now at Sixty-fourth Street, is completed and services have been transferred there, the members must not expect the old-fashioned "twice-a-year or even once-a-year pastoral call" from the Rev. Dr. Harry Emerson Fosdick.

Dr. Fosdick makes this announcement in a letter on the first anniversary of his pastorate issued to the members of his flock and printed in The Church Monthly. The letter was dated from Mouse Island, Boothbay Harbor, Me., his Summer home.

"As for my personal share in the enterprise, I must in one regard throw myself upon your mercy," writes Dr. Fosdick, after dwelling at some length upon the new church structure. "Carrying not only my own part in the pastorate but a professorship in the Union Theological Seminary as well, I find life in New York exceedingly preoccupied.

"Pastoral visitation in your homes in the old-fashioned sense is practically impossible. This visitation in our church, as in most Metropolitan parishes to-day, must be a co-operative matter engaged in by a staff of ministers and workers and not monopolized by any one.

**Anxious to Aid Individuals.**

"But I eagerly shall welcome every chance to know you personally. In times of special need and trouble I shall wish to help.

"My study door is open to you for personal consultation whenever you will make an appointment to come: I would rather help individuals than preach sermons.

"It would be unfair to close this letter at the end of my first year in your fellowship without acknowledging my special indebtedness to Mr. Carder, my satisfaction in working with him, my incoming and confident dependence upon him. Happy is the man who, coming into a new pastorate, inherits such a colleague."

Dr. Fosdick had reference to the Rev. Eugene C. Carder, the associate pastor.

Dr. Fosdick devotes several paragraphs to stating what he considers will be the additional responsibility when the new edifice is finished.

"It will be architecturally glorious; one of the great edifices of the nation," he writes. "But if it is to house a real church it must be domesticated, flooded with friendliness, made a natural home for all sorts of groups, gathered around common purposes of study for service. This means hard work, patient personal interest in individuals, creative insight into new needs and inventive ways of meeting them. No staff of ministers and paid workers alone can achieve the goal. A great church is built only when all the people become builders.

**All Christians Welcomed.**

"How much worth while our enterprise is. Many are discouraged today about the churches. There is little use in abstractly debating the possibilities. One example is worth a thousand arguments. We are free to welcome Christians to our fellowship without regard to creedal subscription, sectarian affiliation or ritual observance. Each disciple of Christ who comes to us is at liberty in these regards to be 'fully persuaded in his own mind'

"A free platform, an unsurpassed location, a splendid heritage of accumulated strength and personal support in a 'city set on a hill that cannot be hid'—with such an opportunity we surely ought to make a signal contribution to the Christian cause and the Christian Church."

Dr. Fosdick expresses pleasure over the recent accomplishments for financing the church for the next fiscal year.

"Between six and seven hundred contributors responded to the appeal so generously that, taking into account the gifts which will naturally come in during the next year, our church support and benevolence for another twelve months are practically covered," he writes. "You will be interested also to know that, in spite of a greatly increased amount to be raised, this result was achieved altogether by the moderate gifts of the many without any increase whatever in the larger gifts of the few. That our work should be democratically supported is indispensable to its Christian quality—and your response has been most encouraging."

John D. Rockefeller, Jr., a trustee of the church, has given the site for the church, has promised to duplicate the cost of the present property, from which it is hoped to realize $1,500,000, and he will erect a memorial tower to rise 400 feet in memory of his mother, Laura Spelman Rockefeller.

## Our African Rival

VICTORIA FALLS OF AFRICA

The scenic wonder of the continent is to be made a tourist centre. A suspension bridge and hotels are in prospect.

## Garbled History

Toronto Telegram (Ind. Cons.): American text books have garbled history until it only bears a faint resemblance to the truth in order to placate anti-British element in the Republic. But the intelligent American is beginning to be heard and resents this stupid policy of insular ignorance. There is a strong agitation in the United States for the rewriting of American school histories in conformity with the generally recognized facts, irrespective of whether said facts are particularly flattering to national pride.

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Proud Mother (exhibiting baby)—"Don't you see the resemblance? Look at our faces side by side." Her Friend—"Nothing could be plainer."

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"Do you know," remarked young Simpson, "a fellow mistook me for a waiter to-night? Of course he apologized." "Did the waiter accept it?" said his friend.

# Air War

While the British delegates at Geneva were upholding their country's need for light cruisers for the light cruisers for the protection of her commerce in time of war London had the opportunity to witness the vulnerability of England from another source of wartime danger. Five days of spectacular aerial manoeuvres resulted in the "enemy" conducting 105 air raids and, theoretically, laying waste the British capital. One of the lessons taught the public was that even a London fog could afford the city no real protection. It had been thought that the capital's famous "pea-soup" fog at least had the merit of concealing it from invading airplanes, but it was very definitely located, and the raiders were able to reach the heart of London within twelve minutes after the time they crossed the Channel coast line, and drop their bombs almost as soon as defence planes could get on their trail. To meet this danger a new home defence force is being organized, which in 1935 will have in commission fifty-two air squadrons. No sooner does the world begin to consider seriously the reduction of its armaments than some new weapon is developed to take the place of the old. Disarmament is a problem which we shall long have with us.

## Why Thunder Is Not Heard Far

Artillery firing can be heard at much greater distances than thunder. During the World War cannonading in Flanders was often heard in England at places 140 to 150 miles from the battle-fields, while thunder is not generally audible at a greater distance than ten or twelve miles ,and hardly ever as far as forty miles.

This mystery can be explained according to Charles Fitzhugh Talman. In his Science Service feature, "Why the Weather?" (Washington), he says:

"The intensity of a sound depends upin the density of the air in which it is produced and not upon that of the air in which it is heard. The air diminishes in density upward. Balloonists thousands of feet above the earth hear withremarkable clearness sounds from the ground below, but people on the ground can not hear similar sounds from the balloon. As thunder is mainly produced at the level of the clouds, it is subject to this peculiarity. Again, cannonading is heard at great distances only when the air is comparatively calm, and perhaps only when it is arranged in well-defined horizontal layers, of such a character as to keep the sound from spreading far aloft. Very different conditions prevail during a thunderstorm. In fact, the conditions are then just such as would scatter and dissipate the sound-waves. Lastly, the noise of a cannon comes from a single place and the energy of the disturbance is concentrated to produce a single system of sound-waves; while the disturbance due to lightning is spread over the long path of the discharge."

## Holland Drives Back the Sea

"God created the world," runs an old saying, "except the Netherlands which were created by the Dutch." Since time immemorial it has been the custom of nations in need of land to make war upon a weaker neighbor. Pacific little Holland, feeling the pressure of a population far denser than that of Germany in 1914, makes war upon the sea. . . .

To understand the reasons for Holland's new and greatest attack upon the sea it is necessary to remember two things: First, that Holland, despite her population of over 460 to the square mile, is essentially an agricultural country. Second, that, as a result of this, agricultural methods are probably more intensive in Holland than in nay other country in the world, that land of average fertility sells for from $450 to $500 an acre. And, keeping these facts in mind, we shall not be surprised to learn that Holland is at present at work on the largest engineering enterprise ever undertaken by a small nation, the greatest and most costly reclamation work ever attempted by a nation large or small.

Holland, half as big as West Virginia, proposes in the next twenty-five or thirty years to spend two-thirds as much as the United States spent on the Panama Canal, and by so doing to add seven per-cent. to her total area and ten per cent. to her total arable land. She proposes to dike off and drain considerably over half of that great shallow bay known as the Zuider Zee, to spend in this way something over $250,000,000, and thus reclaim 552,000 acres of the most fertile land in Europe.—The Outlook.

Nearing Town.

"Why do you think we are getting near the city?"

"Can't you see we're hitting more people all the time?"