

McGill Savants Talk About Radio

Explain Static As One to
Action of the Aurora

Montreal—Problems in radio broadcasting that have so far not received satisfactory explanation were discussed by Dr. A. S. Eve, director of the department of physics at McGill University and president of the Royal Society of Canada, in a paper read at one of the sectional meetings of the society at McGill College.

It is commonly believed that long-distance radio transmission is influenced by three layers in the upper atmosphere at heights of seventy miles, 150 miles and from 250 to 400 miles above the surface of the earth. These layers are supposed to be capable of conducting electricity and their existence was first discovered by Heaviside. It is well known that electric waves do not pass through an electrical conductor, but are reflected from it as light from a mirror, and it is thought that the radio waves proceed upwards and are reflected in a standing direction down toward the earth's surface. In this way waves are capable of traveling around the curved surface of the earth without being absorbed by the latter.

Suggests Series Reflection Theory

It has been generally held that the short waves of thirty-meter length are reflected from the uppermost layer, while the longer waves over 500 meters are reflected by the lower layer and, for this reason, the short waves are more suitable for long-distance transmission. Dr. Eve pointed out that this requires the short waves to go through a conducting layer which is contrary to most electrical experience. He suggested that possibly the reflection really takes place from the lowest layer and waves are again reflected through the surface of the earth, thus undergoing a series of reflections before arriving at their destination. It is hoped that further investigation may clear up this point.

A few remarks on the effect of sun spots and other disturbances in interfering with radio transmission were made by the speaker. Sun spots are parts of the sun's surface which are believed to give out small particles of electricity traveling with very high velocities. As these particles approach the earth they become subject to the magnetic attraction located near the north and south poles and this causes the electrons or charged particles to describe spirals down toward the earth's surface. To this fact may be ascribed the beautiful effects of the aurora which may be seen throughout the year in northern Canada.

Visibility of Aurora

The explanation why these aurora are seen by night is very simple. Some of the electrons reach the dark side of the earth which is hidden from the sun before being deflected so that the disturbance is clearly visible in a dark sky, whereas daylight conceals it. The effect of these fact-moving electric charges striking the heavy side layers is to break up their surface so they no longer reflect, and thus it is impossible for radio signals to be transmitted clearly through such a disturbance, because the results of the disturbed reflection produce what is commonly known as static, whose elimination has so far defied radio engineers.

The action of sun spots is still not clearly understood. It is said that a sun spot produces a disturbance as long as it can be seen anywhere from the earth's surface, but this means that sun spots would send out their charged particles in all directions. It is probable that local thunderstorms and electrical disturbances, due to hot weather, are often mistaken for the effects of sun spots, and further investigation would be very valuable to radio broadcasting.

Cabman Retires

Authorities Demur

When should a man retire from active life, and how should he do it? A Budapest cabman thought that about eighty was a good age at which to stop work, but determined to do it "with a flourish." He drove his cab all over the Continent, and attracted good deal of attention by calling it "not altogether correctly—the last horse-cab in Europe. Then, on his return, he presented the cab to the Budapest Museum.

But he wasn't allowed to retire. The municipal authorities were so impressed by his adventurous spirit that they presented him with a taxicab. And now, though he is over eighty, he is starting to tour Europe once more—this time in the taxi.

Our old men are certainly more enterprising than "greybeards" used to be. And Eastern Europe seems to specialize in these adventurous oldsters. It isn't very long since a Turkish gentleman of 142 died at Constantinople just as he was setting out to "begin life afresh" at Hollywood.

Carrots Bring Beauty

The girl who is too pale should test raw carrots for producing rosy cheeks. Choose very young carrots, scrape them, then cut in very thin slices of brown bread-and-butter.

For toning up the skin a slice of raw carrot gently rubbed over the face, neck, and arms is excellent, and it will gradually dispose of freckles and sunburn.

AGONY OF NEURITIS

A Story of Intense Suffering and Relief.

"Do I recommend Dr. Williams' Pink Pills? You may believe I do," says Mr. John H. Jameson, of Wallaceburg, Ont.

"For five years I suffered day and night from neuritis. The agony was terrible. I lost control of my arm and shoulder, and my hand became shriveled. Nothing helped me till I began taking Dr. Williams' Pink Pills. Even then I could not improve until I took ten boxes before I was on the way to recovery. After that, though, relief was rapid. My hand gradually filled out; the pain left me and I could sleep in peace. That was two years ago and I have not had a twinge of the trouble since."

Sufferers from neuritis, neuralgia or rheumatism should try the commonsense method of banishing these troubles by enriching the blood and strengthening the nerves with Dr. Williams' Pink Pills. These Pills are sold by all medicine dealers or by mail at 50 cents a box from The Dr. Williams' Medicine Co., Brockville, Ont.

Says Pluto's Size Is That of Mars

Dr. Sipher, Flagstaff Director, Declares Observations Show No Cometary Features

Flagstaff, Ariz.—Dr. V. M. Sipher, director of Lowell Observatory, said recently that the new planet, Pluto, discovered by the observatory last January is about the size of Mars and that further study had revealed no cometary features.

"The preliminary orbit of Planet X," Dr. Sipher reported, "has been computed by the Lowell Observatory staff, with the collaboration of Dr. John A. Miller, director of Sprout Observatory, using positions of Jan. 23, Feb. 23 and March 23, determined from the Lowell plates of Dr. C. O. Lampland, and yielded the following elements referred to mean equinox 1930.0:

"Node, 109 degrees 21 minutes; inclination, 17 degrees 21 minutes; longitude of ascending node, 233 degrees 59 minutes; semi-major axis, 2.3359; eccentricity, 0.099; longitude perihelion, 12 degrees 52 minutes; mean daily motion, 1.112; mean anomaly, 1930.0; 3 degrees 20 minutes 47 seconds. Distance from sun, 41.3 astronomical units.

"Our knowledge of the orbit's shape and size, its eccentricity and semi-major axis, must be regarded as probably subject to considerable modification when more extended positions are available, but the plane of the orbit—its inclination and the line of nodes—and the present distance of the object are fairly reliably known in the present orbital data.

Planet Has Yellowish Hue

"Color tests of Planet X indicated this body is yellowish and very different from the blue planets Uranus and Neptune. This suggests an albedo and density more like those of the inner planets."

A Portable Smithy

Roy Perry, a Harrison, Me., blacksmith, still has a profitable trade despite the decline in the village smithy. He has a portable anvil and forge which he loads into a light truck. All through that section of southwestern Maine most of the farmers have telephones. When a horse needs shoeing they just call up Perry, who brings his smithy to the horse.

Some of the finest native colleges in Africa are to be found in the Gold Coast territory, while Accra, one of the Crown Colony's most important towns, has the best-equipped native hospital in the world.

6.25% INVESTMENTS

Cautious and prudent investors prefer shares of long established Trust and Loan Companies. Because this class of stock is non-speculative and dividends are sure and steady. In the recent stock market collapse Trust and Loan Company shares remained firm and profitable. An investment of \$100 or multiples thereof up to \$10,000 in securities will yield 6 1/2 per cent. Write for prospectus, A. A. Campbell, 794 Wellington Street, London, Ontario.

Deaf Hear Again Through New Aid

Earpiece No Bigger Than Dime Wins Enthusiastic Following—Ten-Day Free Trial Offer

After twenty-five years devoted exclusively to the manufacture of scientific hearing-aids, the Canadian Acousticon Limited, Dept. 2500, 45 Richmond St. West, Toronto, Ont., has just perfected a new model Acousticon that represents the greatest advance yet made in the recreation of hearing for the deaf. This latest Acousticon is furnished by a tiny device, sounds are clearly and distinctly transmitted to subnormal ears with wonderful benefit to hearing and health alike. The makers offer an absolutely free trial for 10 days to any one who may be interested, and a letter will bring one of these remarkable convincing tests. Send them your name and address today!

PIMPLES

Actually See Them Vanish

Pimples ended so quick by "Booth's Salve" you can actually see them dry up. Many go overnight. Booth's Salve from drug store today. How skin beauty tomorrow morning.

Retirement of Veterans Brings Changes in Canadian National Financial Staff



Upon the retirement, June 1, of J. M. Rosevear, General Comptroller of the Canadian National system, and of C. E. Friend, Assistant General Comptroller, each of whom has given 34 years' service, the appointment is announced of J. B. McLaren, hitherto Comptroller of the Central Region, Toronto, to the position of Comptroller of the system. In the photographs, from left to right, are: top row, C. E. Friend, J. M. Rosevear and J. B. McLaren; bottom row: T. H. Cooper, who has been appointed Assistant Comptroller, General Accounts; A. C. Egan, appointed Assistant Comptroller, Disbursements; W. S. Harrison, appointed Assistant Comptroller, Revenues; and Fred Horton, appointed Assistant Comptroller, Subsidiary

Companies, all at Montreal. Other appointments are: J. F. Aitchison, Regional Auditor, Toronto; T. J. Gracey, Regional Auditor, Winnipeg; G. H. Palmer, Regional Auditor, Moncton, and G. B. Bird, Auditor, Detroit. Both Mr. Rosevear and Mr. Friend are very highly respected by railway accounting officers on the continent. The Rosevear family has played an important part in railroad service in Canada, the story having begun in 1854, when Matthew Rosevear came to Canada from England to work for the Grand Trunk, and the family has given the National System four generations of men and more than two hundred years' of service in the aggregate.

King Edward's Life IS BABY TEETHING?

Once Slapped His Aunt Instead of Kissing Her, Book by Late Sir Lionel Cust Declares

London—That Sir Lionel Cust was a friend of King Edward VII. in his book just published entitled "King Edward VII. and His Court," makes some notable comments and tells many interesting anecdotes.

Sir Lionel writes: "I am disposed to think since my acquaintance with King Edward, that the great misfortune of his life—a misfortune which was shared by the country—was that his mother lived too long, not in the general sense of the word, but from the point of view of the welfare of her son and successor.

"In the last 20 years of Queen Victoria's reign, the Prince of Wales had not enough to do. Ministers neglected and even despised him as a possible factor in politics and the higher aristocracy gave him the cold shoulder.

No Advantage "He should have reigned earlier but not a day later. Ten years longer would have been no advantage and might have been a disaster, but had he reigned ten years earlier, the face of European history might have been changed. Had Queen Victoria taken her son into partnership she would have found him a zealous worker and loyal deferential to her authority and a shrewd and useful successor to her husband as a private adviser on politics in general."

Intimate Stories

Sir Lionel Cust tells intimate anecdotes of King Edward's life such as when Queen Alexandra asked who the marble bust of the "babe" was and Edward's reply, "Don't you know? It had lived we should not be here." The bust was of Princess Elizabeth, daughter of King William IV.

Another story tells how the King experimented dyeing marble busts with tea in order to prevent their clashing with the wall panelling and his surprise at finding the bust of the Prince Consort wearing a chestnut colored wig.

He tells how the then-Prince Henry being asked to kiss his aunt, the Grand Duchess Augusta Mecklenburg Strelitz, promptly slapped her. How the Queen of Portugal flustered the King by planting resounding kisses on both cheeks at Windsor.

The best story is of the small child who was a guest at one of the royal parties at the Palace on being asked by His Majesty what he would like, replied, "More jam King."

Trees

Each poplar is a steed; Birches are fiery people; The Pines are by vo and str. ng. They join the wild storms' song.

The Oaks are wise and staid; The Beeches in the glade Are golden in the spring. Each tree's a living thing.

And where the water dreams By pools and tumbling streams The stooping Willows spread Their arms, and overhead

The birds sing all day long. And sometimes in their song They toll the wondrous breeze "Twas God who thought of trees." —Marjorie Wilson.

Owl Laughs

Before the Wedding "Your presence is requested." The invitation read; "Your presents are requested," is what it really said.

The cost of living is high but the cost of life still remains cheap. The Fiddlin' Fool's Philosophy

It's bad enough when men don't practice what they preach, but I suspect it might be a dura sight worse if some of them preached what they practised.

That reminds us of the professor who scratched his wife and kissed a match.

Life—One thing after another. Love—Two things after each other.

Probably there's nothing so false as false teeth. Ask the man who wears them.

Remarkable Advance Teacher—"When water becomes ice, what is the great change that takes place?" Bright Pupil—"The change in price."

We might lighten our own load by helping a brother tote his.

It's the suckers who are born every minute who keep the gambling slot machines running.

Olga (all excitement over Nora's account of her elopement)—"How romantic! But weren't you afraid of the ladder slipping?" Nora—"Oh, no! Mother was holding it."

Personally, we don't care much for this small size money. In fact, we can't see the \$10,000 bills at all.

A girl will tolerate a man with a past if he has good presents.

Si went to the circus one day Resolved to get in without pay; He crawled under the tent, No one knew where he went, For the elephant thought he was hay.

Don't expect to make a good fisherman and a good anything else. It can't be done.

Statistics show that out of every hundred marriages, fifty per cent. are women!

Then there was the woman who collected antiques. She explained that they paid well and were perfectly harmless.

She was only a dentist's daughter, but she came of good extraction.

George (fiercely)—"I'm certainly going to kiss you before I go." Dorothy (passionately)—"Leave the house at once!"

The height of disappointment is for a woman to go shopping and find what she wants in the first store.

Johnny—"Father, how do you spell high?" Father—"H-I-G-H, why do you wish to know?" Johnny—"Cause I'm writing a composition on the highness."

We can understand our own success but we can neither understand nor stand another's.

Usually Mother never admits that any of the children are just like Father until they act ugly.

The Pulitzer prize for tact ought to be awarded to the landlady who, during

On Your Holidays

Feel safer with a bottle of Minard's in your grip. It will come in handy on numerous occasions.



What a wretched and apostate state is this! To be offended with excellence, and to hate a man because we approve him! The condition of the envious man is the most emphatically miserable; he is not only incapable of rejoicing in another's merit or success, but lives in a world wherein all mankind are in a plot against his quiet, studying their own happiness and advantage.—Addison.

"Laurel" wreaths, so much used for memorials, have hitherto been made mostly of Italian magnolia leaves; now a London lady has discovered how to preserve British laurel and other leaves for long periods. She has presented the secret to the British Legion Poppy Factory.

Every second of the day 490 letters are mailed in the United States, according to Post Office Department statistics. Did you mail that one that was given you this morning?

Minard's Drives Away the Headache.

Newcomers to Canada—WELCOME!

We hope you'll like it here and do well. And we invite you to try Red Rose Tea among other good things.

FED ROSE RED LABEL TEA
RED ROSE ORANGE PEACH TEA

RED ROSE TEA

"is good tea" 102

Classified Advertising

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AI BABY CHICKS—W/B HATCHED 315,000 last year in four varieties. Write for free catalogue. A. H. Switzer, Granton, Ont.

"The way folks ask for baseballs, you would think they grew like grapefruit."—Babe Ruth.

KIDNEY TROUBLE BACKACHE VANISHED

"Like magic," says Mr. A. Chubbey. Thousands write kidney and bladder ailments, constipation, indigestion, gas, heart troubles and overall with "Fruit-a-lives". Nerves quiet. Sound sleep at once. Get "Fruit-a-lives" from druggist today.

Cuticura Soap

restores the normal action of the pores by its wonderfully effective cleansing and purifying qualities. Fifty Years of Service Soap 25c. Ointment 25c. and 50c.

WHY SUFFER FROM YOUR LIVER?

Why be handicapped with unsightly blotches on the face, eyes with yellow tinge and that tired and languid feeling? This indicates a torpid liver. Headache, Dizziness and Biliousness surely follow. You must stimulate your liver, start the bile flowing with Carter's Little Liver Pills. They also act as a mild laxative, purely vegetable, free from calomel and poisonous drugs, small, easy to swallow, and not habit forming. They are not a purgative, that cramps or pains, unpleasant after effect following, on the contrary a good tonic. All Druggists 25c and 75c red pkgs.

Bathing Beauty's Complexion Secret

"I have never used Kruschen Salts for a long time, and think it wonderful. Everyone tells me how well I look and what a beautiful skin I have. I tell them that it is thanks to your wonderful Kruschen Salts. I have just won a second prize in a bathing beauty competition of a leading newspaper. I shall use it always, and tell all my friends to do the same." (Miss A. H. Original letter on file for inspection.)

"This is beauty's first secret—a good complexion comes from within. No need for creams or lotions—just the colour on from inside. Keep your blood pure and healthy with the daily dose of Kruschen, and beauty's reward will be yours—a clear skin, bright, sparkling eyes—the bounding joy of good health. Kruschen Salts is obtainable at drug and department stores in Canada at 75c a bottle. A bottle contains enough to last for 4 or 5 months—good health for half-a-cent a day.

Before Her Baby Came

"I have used several bottles of Lydia E. Pinkham's Vegetable Compound and find it helps me wonderfully, especially before childbirth. I have five lovely children. After my last baby came I had a miserable pain in my right side so I bought another bottle of the Compound and I feel fine now. I work outside during the fruit season in addition to my housework." —Mrs. Charles Slingerland, R.R. #4, St. Catharines, Ontario.

Lydia E. Pinkham's Vegetable Compound

1200 E. Franklin Med. Co., Lynn, Mass., U.S.A. and Canada, Ontario, Quebec.