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Druggists

**NEW METHOD FOR THE ANALYZING OF CHEMICALS**

Achieve Wonderful Results With X-Rays

Pittsburg, Research Expert Explains Discovery

Possibility of Influencing Sex of Animals

A brand new method of analyzing chemicals was made public to Ontario druggists who dined in the Connaught Hotel recently as the guests of Harold F. Ritchie, Toronto distributor, when Dr. Wheeler P. Davey, research physicist at the General Electric Company, outlined some of the uses to which the X-rays have been put and which are not familiar to the general public.

X-rays of a wave length such that 140 million ripples are contained in the compass of one centimeter is the medium which Dr. Davey hopes will shortly supplement the analysis which all chemists and druggists have to make at the present time, and which will afford a satisfactory method of determining the state of combination of many chemicals, which are at present the bazaar of analytical chemistry.

**X-RAY METHOD**

The method is already beyond the experimental stage, and has been successfully utilized in differentiating chemicals which could not be distinguished in any other way.

The one requirement of the operation of this scheme of analysis is that the substance which is to be investigated must be crystallized. The powdered crystal of the substance under examination is placed in the path of a "beam" of X-rays which have been filtered so as to contain a high percentage of a single wave length.

The beam which the face of the crystal reflects is permitted to fall upon a photographic film, and it has been found that when this negative is developed in the usual way, it gives not a uniform exposure, such as would be obtained if a beam of ordinary light fell upon the sensitized emulsion, but a series of almost definite, and characteristic of the material used.

**CAN BE CLASSIFIED**

It is by classification of the pictures which are obtained in this manner, that Dr. Davey is able to distinguish with ease between many chemical compounds which are troublesome to analysts who use only the conventional chemical methods. X-rays are used in this work because the wave length is roughly equal to the distance between the centers of the atoms in the crystal, and it is about a thousandth of the wave length of visible light.

"The new method of analysis is founded on the pioneer work of Prof. Bragg in England, which was later modified by Dr. A. W. Hull, of the staff of the research laboratories of the General Electric Company." Dr. Davey told his audience. "It has taken hold to such an extent that many men in the United States and Canada are using it. The data which all of these workers are accumulating, together with the results at the

G. E. Laboratories, may eventually make it possible to use the method as a system of chemical analysis, as well as a means of detecting impurities.

**DETECTS IMPURITIES**

"I do not suggest that the X-ray method will eventually become the only one which analysts will use, but I am confident that within ten years, the purity of any substance which can be secured in crystals will not be considered certain until a film has been made of it as I have described."

In pointing out that X-ray analysis furnishes a new weapon to druggists for detecting the impurities in certain of the products Dr. Davey cited a case in the Schenectady laboratories whereby one of the ordinary salts had been shown impure by the new method, although its makers, having only the old tests to apply were quite confident that they were dispensing their products 100% pure.

**AIDS STUDY OF DRUGS**

The method throws new light upon the internal structure of complicated molecules, and in this way will be of enormous importance in the study of the effect on the human body of narcotics and drugs as it is recognized that the physiological effect of all these substances is due not to the elements which they contain, but to the way in which these elements are put together.

"X-ray analysis is of enormous importance in the understanding and duplication of alloys," Dr. Davey stated in an exclusive interview with the Spectator. "It has been shown by our method that the reason nickel steel is stronger than ordinary steel is because addition of nickel to the iron causes the atoms to come closer together, and the nickel steel is therefore stronger than pure iron."

**INFLUENCE SEX**

In discussing with the reporter the recent claim from Union College, Schenectady, that the use of X-rays the sex of animals can be influenced he said: "There is every evidence in support of this theory. That so-called sex-linked characteristics (such as the color of the eyes in flies) can be altered by exposure to a tube which is generating X-rays, it is proven undoubtedly by experiments which Prof. Mavor has made at Union College." Dr. Davey stated producing tables in support of his contention, which summarized experiments upon many thousands of fruit flies.

"Influencing the transmission of sex linked hereditary characteristics is equivalent to effecting the sex of the specimen. The results obtained with certain species of flies show that the operations of the Mendelian laws of heredity can be interfered with to the extent of ten per cent. That the X-rays may eventually be used to influence sex in higher animals, is a possibility which is entertained."

**UPSET HEREDITARY LAWS**

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**Anniversary of Ypres is Held**

PARIS August 2.—The anniversary of the opening of the third battle of Ypres was marked on Saturday by a pilgrimage to Ypres under the auspices of the Ypres League in which Belgian, French and British delegations participated, says a Reuter despatch from Ypres.

The British delegation included the Earl of Ypres (Field Marshal French), Lieutenant General Sir William Paulet, Major General John Headlam and several British soldiers who fought at Ypres.

Addressing the gathering the Earl of Ypres recalled that the British army occupied Ypres ever 10 years and that 200,000 British soldiers were killed there while holding the gate to Calais and the channel ports.

**DAMAGE IS REPAIRED**

BOSTON August 2.—The Boston and Albany Railroad announced tonight that its main line had been reopened at the point between East Chatham and Chatham, N. Y., where the tracks were carried away by a cloudburst last Friday afternoon. A trestle bridge 100 feet long was required to restore service at that point.

**THE WESTERN GUARDIAN**

—"PARIS GREEN" Sterling Hunter, Kensington. 736 2 41

—WANTED, capable and experienced lady clerk for ladies' clothing department.—R. T. Holman, Ltd., Summerside. 749 321

—THE EMERALD Co-operative Farmers will be loading live hogs and lambs on Wednesday August 9th, Emerald Co-operative Farmers. 729-2-41

—VISITING PASTOR.—The Rev. Dr. Reid of Montreal will preach in Lot 14, Presbyterian Church Sunday, Aug. 6th, at 3 p.m.

—BEDEQUE METHODIST CIRCUIT.—Aug. 6th, Rev. R. A. Fitzpatrick, minister, Bedeque 11 a.m. Scartleton, 3 p.m. Cape Traverse, 7 p.m. Morning and evening, subject "God or Luck, afternoon "Has Religion Any Joy?"

—SERIOUS ACCIDENT.—A farmer who lives at the eastern section of out town, while on his way home on Tuesday night, his horse was struck by an automobile, and breaking the front leg, and had to be shot afterwards. The owners of the automobile, not known as the owner of the team was unable to get the number, or who was driving the car.

—BASEBALL.—Summerside baseball team, won the game from Charlottetown, in a score of 6 to 2, at the school diamond, Wednesday night, before a large crowd. The game was fast from the first start, Charlottetown, making one score in the first, and last inning. Summerside scoring one in the first, four in the second and one more in the last inning. Owing to the Charlottetown boys arriving late, the game did not start until 7:10, therefore only giving them time to play five innings. This gives Summerside the trophy, and the championship of P. E. Island.

**PERSONALS**

—Miss Ina Rogers, Halburton, left on Friday, on return to Boston, Mass., after spending her holidays with relatives. Her

—Mr. Peter Donette, of the Car ferry Staff, is spending his holidays with his parents in Summerside.

—Miss Margaret Corcoran and Miss Florence Gillis of Brockton, Mass., who have been spending their vacation at Sherbrooke and New Annan, returned to Brockton on Friday morning. This was Miss Corcoran's first visit, she is delighted with the beautiful pastoral scenery and social life on Prince Edward Island.

**An Atom and Energy**

Sir Ernest Rutherford's researches with the structure of the atom are known all over the world, and intense interest has been aroused by his recent statement that he does not think we can look in the future for a source of power in the disintegration of the atom by the forces at present at our command. This statement is of the highest importance in view of the expectations that have been aroused by the advances made in the study of the atom. Sir Ernest considers, however, that there are other directions in which chemists may look in their researches into this problem. "I am quite sure," he says, "that the forces which hold together the nucleus of the atom are so strong that only by the firing of Alpha particles at it have we been able to effect a liberation of its constituents. You might produce a furnace with a million degrees of heat, but you will not affect the disintegration."

**Criminals Safe**

Until 1697, certain districts in London were recognized sanctuaries for offenders against the law, and within their precincts criminals were immune from arrest.

**Iron Ore**

It is estimated that there are 40,225,000 tons of the best iron ore in British Columbia, these resources having scarcely been touched yet.

**Summer Comfort in Clothing for Men**

**MEN'S Palm Beach Suits, two-piece, unlined.** They come in tan, grey, and lovat. Sizes 36 to 39. . . . . \$22.50

**Grey Summer Tweeds**

Men's grey Tweed Summer Suits, in single and double breasted styles, also a few Norfolks, unlined coats, patch pockets, trousers are finished with belt loops and cuffs. \$25.00, \$30.00 and \$35.00

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Men's Tweed and worsted Suits, in browns, greys and plain blues, single and double breasted coat. Sizes 36 to 42. Regular \$20.00, \$22.00 and \$25.00. Your choice at . . . . . \$18.00

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Boys' Wash Suits in Oliver Twist, Middy and Sailor styles for boys from 2 to 7 years. \$1.25 Suits, now . . . . . \$1.00  
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\$3.00 Suits, now . . . . . \$2.40  
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\$2.50 Suits now . . . . . \$2.00  
\$4.00 Suits now . . . . . \$3.20

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Men's Palm Beach Trousers, in plain cream and cream with black pin stripes, regular \$5.00 value, to clear . . . . . \$3.50

**Sale of Men's Straw**

Men's Sailor Straw Hats, plain and rough straw. \$2.00 Hats, now . . . . . \$1.60  
\$2.50 Hats, now . . . . . \$2.00  
\$3.00 Hats, now . . . . . \$2.40  
\$4.00 Hats, now . . . . . \$3.20

Child's Straw Hats, all sizes and shapes, worth to \$2.00, to clear . . . . . \$1.00

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**RUSS HOTEL**

Anna B. McIntosh, Sydney, N. S.; J. M. McKimdon, Sydney, N. S.; W. J. McDonald, Mrs. W. J. McDonald, Ottawa; Dr. and Mrs. Annand, Hantsport, N. S.; A. Carvell, Mrs. A. Carvell, Montreal; C. E. Yount, Allantown, Pa.; Leon Pearson, Swarthmore, Pa.; A. W. Robertson, wife and child, Kensington; D. K. Ross, Willie C. Ross, Etta M. Ross, North Bedeque C. R. Curry, Philadelphia; J. C. Turner, Halifax; J. G. Selron, Swarthmore, Pa.; G. Steeves and Bruce Steeves, Moncton; Rev. G. E. Ross, Mrs. G. E. Ross, Montreal; William R. and Mrs. Rankin, Fitchburg, Mass.; Ross and Mrs. H. S. Thomson, Toronto; Mrs. Geo. W. Maddison, Moncton; Dr. Mabel M. Manderson, Peking.

**Investigation**

(Continued on Page 5)

an electric stove and a coal stove. Heated the coffee for customers that night with electric stove. I had the coal stove going too.

Geoffrey Beales (Sworn): I was out of town at the time of the fire. Left city Friday, July 28th in company with J. E. O'Donnell and wife, and Mr. Stewart. Remained there until I received telephone message telling of the fire, 2:50 p.m., July 30th. I left about 3.15 for Charlottetown; arrived here about 6:15. I was just in the Spa Thursday evening, July 27th. I have no knowledge what caused the fire, and Mr. Large are partners.

To Mr. Bentley: There are two electric lights in the kitchen. The switch is in the hall. This light has been left on numerous times. Mr. McQuaid told him he found the light on.

Augustus McQuaid (sworn): I have been employed at the Spa since the opening. There was also another cook here during a portion of the time. The kitchen gets pretty hot. There are two ranges. Temperature ranges from 105 to 107. I always knew of the inflammable nature of the interior of the kitchen. I always took particular care. I left there Saturday July 29th about 6.10. There was very little if any fire in the bake oven. I know nothing about the fire in the stove. There was no kerosene or gasoline around, or nothing of that nature. No electric lights out of order in the kitchen. I cleaned and tidied up the kitchen. The carpenter was working there that day, putting up shelving in the kitchen for canned goods, etc. He had doors ready to put on.

He stopped work about 4 o'clock. When he left there was nothing around to cause a fire. I have no idea what could have caused the fire at 12 o'clock noon on Sunday. I lost overalls, aprons, recipe books and a special rolling pin.

To Mr. Bentley: I have known of the electric lights being on all night, several nights. Found them on in the morning. Canned goods of all descriptions were kept on the shelves. There was extracts there, lemon and vanilla. They are liable to explode even by the sun shining on them; they often blow out the cork. I don't mean they would set a fire. There was two thermometers in the kitchen.

Mr. C. S. Ross (sworn): I was awakened by the Chinaman at 1:45. I left my bedroom and crossed the large room, turned on two electric lights and opened kitchen door. The smoke and flames came up in my face. I left door open and ran to stairs and roused those on third floor. My kitchen is located over a part of the Spa kitchen. I could not form any opinion as to where the fire started. I heard no explosion. There are eight bedrooms and a wash room and one hall on the third floor. On the second floor, toilet, bath room and six other rooms. Besides these rooms there is a dining room and a sitting room.

There is a kitchen and store

**INDUSTRIAL WELFARE IN SCOTLAND**

When the construction of large factories was first begun, very little attention as a rule was paid to the health and comfort of the employees. The example given by Robert Owen about 100 years ago in Scotland was looked upon as the eccentricity of an enthusiast, but now it is generally recognized that on business as well as humane grounds the right policy is to give systematic care to the well being of every class of worker.

This phase of industrial enterprise has led to a very highly developed industry in England and Scotland, and the extent of its growth may be gauged from the fact that the Scottish

**Society of Welfare Supervisors**

has produced a national welfare magazine, consisting of forty pages, for distribution generally among those engaged in welfare work in Scotland. The aim of this magazine will be to co-ordinate as far as possible the various welfare activities carried out in Scotland.

Electric blasting machines are used that an electric current is generated by pushing down a rack bar, England and Scotland, and the extent of its growth may be gauged from the fact that the Scottish

**Best Machine for Blasting**

Electric blasting machines are used that an electric current is generated by pushing down a rack bar, England and Scotland, and the extent of its growth may be gauged from the fact that the Scottish

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blasting caps, other sizes firing up to 10, 30, 60, and even more. For the farmer with but a few stumps to blast, the Department of Agriculture has found the size that fires to caps will be large enough to meet all needs, but the size that fires 30 caps is more generally used than any other in agricultural work. Blasting machines, as well as all other necessary blasting equipment can generally be obtained from local dealers in explosives, usually hardware stores, or they may be had by writing directly to any manufacturer of explosives. These machines seldom get out of order, but they should not be thrown about or handled roughly.

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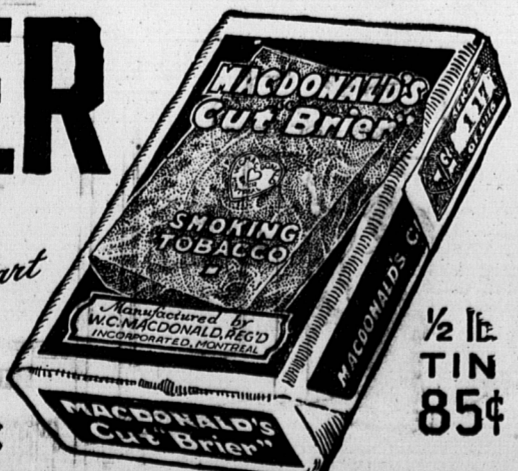
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