

Camera Records X-Ray's Actions For Scientists

By Howard W. Blakeslee (Associated Press Science Editor) ITHACA, N. Y. (P)—An odd, drum-shaped camera at Cornell university records hits made by "bullets" only a millionth of an inch long.

The bullets are made of X-rays. The targets are electrons, the negative bits of electricity that form the bodies of atoms of all substances.

The camera was set up by Dr. Paul Kirkpatrick, professor of physics at the University of Hawaii, as Cornell temporarily for special research into some little known marvels of X-ray action.

The rays are the same as physicians use. They are produced in a lead-lined booth, having a small slit in one side. From this slit a beam passes through a crystal outside. The crystal serves as a sort of sieve or filter, passing through certain desired waves and discarding others.

Next the filtered X-rays shoot at their targets by passing into a gas chamber, where occasionally they make direct hits upon an electron of the gas atoms. A camera views this gas chamber at close range, recording what happens. The gas is argon.

The struck electron flies out of its atom, leaving a little hole, like a smoke-writing. The material of these trails however is not smoke but water vapor.

The hits are not thought to be made by a single wave length, which in an X-ray is about one-billionth of an inch long, but by a train of them, which Dr. Kirkpatrick says "is probably something like a thousand wave lengths long."

These X-ray hits do a peculiar thing to the electrons—something amazing to the layman. Instead of knocking them haphazardly in every direction, they drive the electrons in definite directions.

Dr. Kirkpatrick says it is like studying "an apparent ability of the rays to remember the reactions involved in the atomic collision which gave them birth."

The story told by the photos is that the rays, as they come from the X-ray tube, have a certain asymmetry or biased properties, and are not the same on all sides. This is "polarization."

Dr. Kirkpatrick's work is collection of fundamental data on the connection between polarization and X-ray wave lengths.

Milk Way Area Displayed Best In September

By Robert H. Baker (Professor of Astronomy, University of Illinois) URBANA, Ill. (P)—One of the most remarkable regions of the entire heavens is displayed in the south in the early September evenings.

It is the region of the constellation Sagittarius, where the Milky Way is brightest. Here the aggregations of stars are the most magnificent—they pile up in great cumulus masses like summer clouds.

The circulus course of the Milky Way is so much inclined to the equator that it has quite different positions in the sky at different seasons. At nightfall, the southern part passes directly overhead from northeast to southwest.

In the vicinity of the Northern Cross, now near the zenith, the Milky Way divides into two parallel streams. The western branch fades out in the constellation Ophiuchus, while the eastern branch continues on southward, growing brighter and gathering into great clouds.

Farther south, in Scorpio, the western branch appears again. The two branches unite near the Southern Cross below the southern horizon.

The finest star clouds of the Milky Way are the great Sagittarius cloud and the Scutum cloud not far above it. These are almost directly in the south early in the evening on the first of September.

Moonless skies are required for the best views of these objects. On September 1, the moon, near the first quarter, is in the southern horizon.

Sagittarius contains the familiar Milk Dipper formed by six stars. The bowl of this dipper lies to the left of the great star cloud. The handle extends above the clouds.

This constellation marks the direction of the center of our stellar system. The brighter star clouds of the region belong to the nucleus of the system containing probably as many as 50,000,000 stars.

Health Talks

TONSILS AND ADENOIDS Food and air are two essentials without which life is not possible for long.

And of the two, air is the more immediately important, and one may survive for weeks without food but only a minute or two without air.

Air is normally taken into the body through the nose and food through the mouth, and nature has safeguarded these two portals of entry to the body with many ingenious defenses.

But things will go wrong when the body labors under disadvantages. How prevalent are defects of the nose and throat has been brought to light by the research division of the Milbank Memorial Fund.

In 100,000 adult, white, native-born males, it was found that in the 20-year-old-age group more than 35 per cent of those examined suffered defects.

With advancing age, the prevalence of both types of defects tended to decline, those of the nose less rapidly than those of the throat.

The nose septum (partition) is formed of bone, tissue, cartilage and does not alter much with age. The tonsils, however, are formed out of so-called lymphoid tissue, a tissue which is most prevalent in the body at infancy and youth and which tends to shrink as the person grows older.

Marked obstruction of the upper breathing tract, the nose and throat, leads to mouth breathing, which in turn results in a series of other physical defects and structural changes.

Diseased tonsils, recent studies have shown, may cause disease of the heart, kidneys, joints and other systems of the body.

Both of these defects are of importance at all ages, but particularly so in the growing ages. It is the age of 20 more than 35 per cent of which is afflicted with these defects. It can safely be stated that the prevalence in the ages below 20 is greater still.

This study points to the need for greater attention and care of the defects in the nose and throat of the young.

FIND IT HERE

Copy for this Column must be in by 9 a. m.

PICTURE WORK Expert enlarging and tinting and framing done by Richardson "The Art Man" at Richardson's Art and Gift Shop. -29-1 t.

Mrs. Hodgen announces the opening of her kindergarten Sept. 8. Established 1923, class limited. For information call 423-W. 8-27-30 t.

TOMORROW'S SPECIAL Get your big cookie jar for \$1.29, when down town tomorrow now on special sale at Richardson's Art and Gift Shop. See them in the window or in the shop. Pick the color to match your kitchen. They are the most practical thing ever shown in this practical.

Miss Gladys Miller is located temporarily at the Eastern Oregon music store. Piano classes begin September 3. For information call 356-A between 4 and 7 p. m. 8-25-30 t.

If you have in mind buying a lamp it will pay you to wait for the new fall lamps which will soon be here and featured by Richardson's Art and Gift Shop. They have purchased the most exclusive line of lamps shown this year for the fall. The reasonable prices will astonish you. Watch for the announcement of their arrival at Richardson's Art and Gift Shop. -29-1 t.

Miss Helen Williams, instructor in piano for advanced students or beginners, will open her studio on September 2nd. For arrangements call 240 M. 8-27-30 t.

COOKED FOOD SALE At Community Cash store Sat. 10 a. m. Presbyterian Ladies Aid. 8-29-1 t.

Headsitching, peeling, button holes, etc. Norton's Kiddle Shop. -Adv.

DON'T FORGET The horse race dance at Imbler tonight. 8-29-1 t.

NOTICE Thelma Chontse Webb is now with the Colonial beauty shop, Sacajawea hotel. Ph. Main 539 or Main 830 for appointment. 8-29-1 t.

DANCE AT LEGION Pavilion every Sat. night, Dick Lindzey's 9-piece orchestra. 8-29-3 t.

ORDINANCE NO. 1221, SERIES 1930 AN ORDINANCE granting to the Natural Gas Corporation of Oregon, a corporation, the right, privilege and franchise to lay and construct, and to thereafter operate and maintain, repair and replace, a system of conduits and pipe lines, together with such fixtures or appurtenances as the grantee, its successors or assigns, may deem necessary or convenient in connection therewith, in, under, along or across the public streets, highways and alleys or other public places in the city of La Grande, County of Union, State of Oregon, for the purpose of transmitting and distributing to the public for light, heat, fuel, power or any other lawful purposes, for a term of twenty years, and defining the terms and conditions of such franchise.

THE CITY OF LA GRANDE DOES ORDAIN AS FOLLOWS: Section 1. There is hereby granted to the Natural Gas Corporation of Oregon, a corporation, its successors and assigns, the right, privilege and franchise to lay and construct, and to thereafter operate and maintain, repair and/or replace a system of conduits and pipe lines, together with such fixtures and appurtenances as the grantee, or its successors or assigns, may deem necessary or convenient in connection therewith, in, under, along or across all public streets, highways and/or alleys or other public places in the city of La Grande, County of Union, State of Oregon, for the purpose of transmitting and distributing to the public for light, heat, fuel, power or any other lawful purposes for a term of twenty (20) years from and after the effective date of this ordinance; all such installation, if practicable, to be

laid in the alleys of the city that are open.

Section 2. The system of conduits, pipe lines and other fixtures or appurtenances installed by grantee shall be laid or installed so that the top of said pipes shall be at a depth of not less than twenty (20) inches below the established or official grade of the street, alley, parking or other public thoroughfare in said city, and otherwise in accordance with the laws of the State of Oregon and the requirements and regulations of the Public Service Commission of Oregon; provided, however, that in cases where grades have not been established, such pipes shall be laid at a depth of not less than thirty (30) inches below the existing surface of such street, alley, parking or other public thoroughfare in said city; and provided further that the Commission of the said city hereby reserves to itself, the city manager or other agent, including the Public Service Commission of the State of Oregon, its agent or successors, the right to change or establish the grade of any of the streets, alleys, or other public thoroughfares in said city, and to require the grantee of this franchise, or its assigns, to lay or re-lay any of the said pipes or other equipment laid therein, to the proper depth, so that the same, when so laid, shall conform to such grade or grades as changed or established. All pipes laid shall also be in conformity to the rules and regulations of the Public Service Commission of Oregon in that behalf.

Section 3. It is specially understood and agreed that the city of La Grande has already laid and will continue to lay, in the streets, alleys and thoroughfares of said city, water mains and sewer mains, and may, during the life of this franchise, desire to lay and maintain pipes and other apparatus for other municipal projects. Upon notification by the city, the grantee will change the location of its pipe lines to conform with the necessary location or relocation of the main pipe lines of the city's municipal water or sewer system or other public works, and the city of La Grande agrees, on its behalf, that in making any new location or re-location of such works, it will, so far as the public interest justifies, take into consideration the location of the grantee's system as established or plotted and filed with the city.

Section 4. It shall be lawful for, and the right is hereby granted to the said Natural Gas Corporation of Oregon, a corporation, its successors or assigns, to make all needful excavations in any of the streets or alleys of said city for the purpose of laying down, maintaining, repairing, replacing and/or operating its conduits, pipe lines or other fixtures or appurtenances installed for the purposes aforesaid.

Section 5. Whenever the said Natural Gas Corporation of Oregon, a corporation, its successors or assigns, shall disturb any of the streets, alleys, avenues, roads, highways, sidewalks, parking, thoroughfares, bridges and sidewalks or other, wherein such excavation shall have been made, shall be fully and in every respect restored to their former condition.

Section 6. For the mutual convenience of the parties, and to assist the city in keeping and maintaining its record of pipes and other apparatus underground within the city limits, and in making its plans for the location, extension or re-location of any mains used by it, the grantee herein shall, prior to the commencement of the construction of its distributing system, file with the city manager a map showing the location and sizes of the pipes and mains in the said city, which location shall be at once examined and approved by the City Manager, and the map filed with the City Recorder. Such map may be for the whole city or for any district or portion thereof in which it is immediately proposed to carry on construction work.

Section 7. Nothing in this ordinance shall be construed in any way to prevent the proper authorities of the city of La Grande, Oregon, from grading, paving, planking, replacing or repairing or otherwise improving or altering any of the streets, alleys, highways or sidewalks of said city, but all such work shall be done, if practicable, so as not to obstruct, impair or prevent the free use of said pipes or other apparatus of the grantee, its successors or assigns, and the installation of the works of the grantee shall in no way obstruct, impair or prevent the free use of any underground works previously installed by any other franchise-holder.

Section 8. In consideration of the privileges and franchise granted by this ordinance, the said Natural Gas Corporation of Oregon, a corporation, its successors or assigns, shall continue and be in full force and effect for the full period of twenty (20) years from and after the taking effect, including acceptance hereof, and are hereby granted subject to all the terms, conditions and restrictions of the charter of the city of La Grande, Union County, Oregon, now in effect, except so far as such terms may be modified or superseded by the Constitution or laws of the State of Oregon or of the United States.

Section 9. The ordinances shall be inoperative unless accepted in writing by the grantee and filed with the City Recorder of La Grande within forty days after the passage of this Ordinance.

Passed and adopted this 27th day of August, 1930, by three Commissioners voting therefor. Attest: (Sd.) J. E. Stearns, City Recorder.

The foregoing Ordinance is hereby APPROVED this 27th day of August, 1930. (Sd.) A. T. Hill, President of the City of La Grande, Oregon. Filed August 27th, 1930.

(Sd.) J. E. Stearns, City Recorder. (Endorsed: Filed in my office for presentation to the City Commission this 25th day of June, 1930. (Signed) J. E. Stearns, City Recorder.) 6-28-1 t.

be and the same shall be forfeited, if the construction work is not commenced and completed within the times herein specified.

Section 10. The grantee herein, for itself, its successors and assigns, covenants and agrees with the city of La Grande, a municipal corporation, that in consideration of the granting to it of the rights and privileges embraced in this Ordinance, it will pay to the city of La Grande, Oregon, two per cent (2%) of the gross annual revenues derived after the first day of January, 1934, from service to its patrons now or hereafter located within the city of La Grande, Oregon, same to be paid in annual installments not later than sixty (60) days after the end of the period covered by the payment, and that it will furnish the city, at the end of each such period, a verified statement of its said gross earnings, and that it will allow the inspection of its books at all reasonable hours upon demand of the Commission.

In further consideration of this franchise, the grantee will, with its acceptance, file with the city a surety bond in the amount of \$1,000.00, conditioned upon the faithful performance of the terms and conditions of this Ordinance during the period of its existence.

Section 11. Every charge, rate, fee or compensation made or demanded by the grantee of this franchise for any service rendered or to be rendered shall be just, fair and reasonable. The Public Service Commission of Oregon shall have the power to determine what rates, charges, fees and compensations made, charged or demanded by said corporation, are unjust, unreasonable, insufficient or unjustly discriminatory or preferential, and to fix those which are just, reasonable and sufficient.

Section 12. The rights, privileges and franchises hereby granted to said Natural Gas Corporation, a corporation, its successors and assigns, shall continue and be in full force and effect for the full period of twenty (20) years from and after the taking effect, including acceptance hereof, and are hereby granted subject to all the terms, conditions and restrictions of the charter of the city of La Grande, Union County, Oregon, now in effect, except so far as such terms may be modified or superseded by the Constitution or laws of the State of Oregon or of the United States.

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Van Petten Lbr. Co., lumber... 8.85

G. F. Hagey, do 5.98

James Newman, do 20.97

Chester Oliver, do 2.99

John Davis, do 106.08

John Skillings, do 106.09

Burr Cantrell, do 134.91

Walls Creamsan, do 19.96

S. N. Smith, do 11.96

Bert Taylor, do 57.85

Frank Hyatt, do 156.04

Frank Rominger, do 262.70

Asel Cole, do 27.96

Dillard Choate, do 55.08

Merlin Hyatt, do 44.92

Jesse Knight, do 59.80

G. W. Chandler, do 15.95

Paul Dainy, do 42.60

Murray Durham, do 5.98

Riley Chandler, do 47.84

Bill Russell, do 13.45

Raymond Waely, do 12.70

Arnold Waely, do 9.71

John Waely, do 17.94

Eldon Hartley, do 8.97

Jim Hallgart, do 165.04

H. E. Bantou, do 124.75

W. L. Richards, do 124.75

Fred Tacey, do 114.29

Harold Hug, do 158.38

A. L. Colip, do 126.87

H. L. Banton, do 45.43

John Richards, do 41.94

James Riggs, do 17.94

Roy Mercer, do 46.45

Avis Ferris, do 164.22

H. S. John, do 120.67

Gene Savage, do 96.47

J. R. Robbs, do 34.15

Ed Jensen, do 52.86

William Hill, do 81.12

G. D. Dietrich, do 89.24

M. G. Murray, do 76.13

Claude Jones, do 81.12

John Bowers, do 81.12

Earl Miller, do 44.91

S. B. Morgan, do 166.71

G. E. Howell, do 153.09

spreading gravel, do 288.30

Hargrett & Sudbrook, do 34.80

W. L. Richards, do 1.35

State Ind. Acc. Comm., do 196.75

ins. on men, do 22.20

West Coast Tel. Co., do 42.15

telephones, do 46.51

E. O. L. & P. Co., do 40.51

lights and power, do 28.64

Co. Treasurer, freight, do 41.41

W. H. Bohnenkamp Co., do 47.43

supplies, do 75.90

Jack Allen Supply Co., do 30

Lighting Welding Works, do 150.39

Concrete Pipe Co., do 7.15

The Texas Co., do 5.20

Shell Oil Co., do 17.57

Playle Oil Co., do 90

Acorns Bros. Lbr. Co., do 150.39

Market Roads, do 7.15

A. N. Stoneahl, right-of-way, do 5.20

Pete Grace, labor, do 17.57

W. L. Devine, do 2.95

Russel McKennon, do 82.81

Harold Browning, do 88.75

W. H. Davis, do 12.59

Art Weagel, do 148.74

Tom Davis, do 87.38

John Skillings, do 277.79

George Kennedy, do 6.05

W. J. Standley, do 45.60

John Bowers, do 46.51

Leo D. Miller, do 28.64

John B. Scott, do 41.41

Joe Scott, do 47.43

Quintus Witty, do 75.90

Ora Bechtel, do 30

Ralph Witty, do 150.39

Light Bowers, do 7.15

Vaughn Boswell, do 5.20

Overton Scott, do 17.57

Harry McNab, do 2.95

Light Bowers, do 82.81

Halstead Wheeler, do 88.75

Joe Wheeler, do 12.59

Donald Yarrington, do 148.74

John Kennedy, do 87.38

George Kennedy, do 277.79

James Scott, do 6.05

Mat Boswell, do 49.33

Erwin Scott, do 49.33

George White, do 82.81

G. E. Howell, do 33.27

H. D. Miller, do 35.88

W. L. Simpson, do 11.96

John Morris, do 11.96

John Case, do 8.97

Frank Pisk, do 8.97

L. F. Pisk, do 103.23

Fred L. Hagey, do 17.00

Jack Starvo, do 34.10

West Coast Tel. Co., \$ 64.25

W. E. Harris, Election Booths, 5.00

Western Union Tel. Co., telegrams, 13.10

City of La Grande, water supplies, 26.30

Sawyer Holmes Merc. Co., supplies, 31.75

Carr Furniture Co., do Oregon Motor Reg. Co., license fee, 1.25

West Coast Print Co., supplies, 10.00

Kilham Stationery Co., do Burroughs Add. Machine Co., Maintenance, etc., 3.70

Printing House, do 32.00

Printing House, do 5.70

Printing House, do 617.50

Printing House, do 41.61

Printing House, do 10.00

Printing House, do 10.00

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