



## SCIENCE SERVICE

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### QUANTUM THEORY OF ATOMIC NATURE OF LIGHT OUTRIVALS EINSTEIN'S RELATIVITY

(By Science Service)

Release Friday, Dec. 30.

Toronto, Dec. 29.—The quantum theory of radiation, declared to be one of the two really great theories developed in this century, was discussed at a joint meeting of mathematicians, physicists, and chemists of the American Association for the Advancement of Science here today.

Science Service has obtained from Dr. W. D. Harkins, of the University of Chicago, the leader of the discussion, what is believed to be the first popular explanation of this new theory:

"The quantum theory is of much more practical importance at present than the Einstein theory of relativity. It is concerned with the emission (giving off) and absorption (taking up) of light by atoms, and the fundamental ideas involved are easily understood, though no short popular exposition of the theory seems to have been hitherto undertaken."

"All material substances whether solids, liquids or gases, are now known to be made up of atoms, which are so small that in a solid, 100 million of them would lie on a straight line only an inch long. In spite of their smallness, each atom is believed to constitute a miniature solar system, in which the place of the sun is taken by a minute nucleus charged with positive electricity. Around the nucleus is a system of planets which are also much more minute than the atom, and these are called negative electrons, since each of them consists of a charge of negative electricity. We may say that the atom is an atomic system, just as the sun and the planets taken together are designated as the solar system."

"The quantum theory is of great importance because it changes the ideas of the older mechanics. According to the older theory an atomic system could move in a large number of different ways, or more scientifically stated, the system was supposed to be capable of a large number of states of motion. The quantum theory considers that the older theory is correct in many of its features, but modifies it by stating that 'of all the states of motion (or ways of moving) prescribed by the older theory, only a certain number actually do occur', and what these states are is specified by the theory."

"Thus the change brought about by the new theory is the introduction of the idea that events which were previously supposed to occur as continuous processes, actually do occur in steps. The change is somewhat analogous to that brought about when the smooth gentle slope of a water course down a mountain is interrupted by dams. The stream then cannot flow down continuously but must descend by jumps."

"Atomic systems also send out a wave motion known as ordinary light, invisible or ultra-violet light, and as X-rays. These are all described by the one

word "radiation". The quantum theory says that just as the height of a fall may be judged by the noise it makes, when the amount of water flowing over the dam is known, so the energy charge or the height of a fall in an atomic system, may be judged by the color of the light which is emitted."

"The quantum theory, sometimes known as the atomic theory of radiation, was first suggested by the great physicist Planck in the year 1900, or just 97 years after the development of the atomic theory of matter by Dalton. Since it concerns itself with the relations between matter and radiation it is of fundamental significance in connection with almost all processes which we know. It is obvious that it is of direct importance in connection with our own vision; it should interest the artist and all who are fond of light and color. It is one of the most basal principles concerned with chemical action, with ionization, and with electricity, and is supposed by some of the adherents of the theory to relate to the amount of heat involved in all changes of state, such as in the evaporation of liquids, etc., and to the specific heat which is the amount of heat used in heating a unit mass of a substance until its temperature rises by one degree."

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RUST SPORES SAIL  
10,000 FEET IN AIR

(By Science Service)

Release Friday, Dec. 30.

Toronto, Dec. 29.— The spores of rust, the plant disease that in 1916 destroyed nearly a quarter of the wheat crop of the country, travel as high in the air as 10,000 feet, E. C. Stakman, A. W. Henry, W. N. Christopher, and G. C. Curran of the Office of Cereal Investigations of the United States Department of Agriculture announced in a paper before the American Phytopathological Society here this afternoon.

This fact is of extreme importance in discovering how far spores of this disease can be carried, and how it may be combated.

This past spring and summer the scientists exposed slides smeared with vaseline from airplanes at various heights at widely different points, and they found that in the upper regions of the atmosphere, even higher than 10,000 feet, pollen grains and spores were abundant.

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MOLASSES ATTRACTS MRS. MOTH;  
SHE'S NOT FOND OF BRIGHT LIGHTS

(By Science Service)

For use, Wednesday, Dec. 28, or later.

Toronto, Dec. 30.— A bottle of poisoned molasses hung upside down on a fence post so as to trickle out when in the hot afternoon sun is an effective trap for the moths that produce the pale western cutworm, the most destructive grain crop pest of the western prairies, E. H. Strickland of the Department of Agriculture, Ottawa, told the Entomological Society at its meeting here today.

The cutworm must be combated through its parent moths as no effective method of killing the worm itself has been found.

Quassia stuns the moths, then the arsenic in the molasses finishes the job a few hours after they feed. The simple trap is automatic and runs 14 days without refilling.

A trap baited with a light had great attraction for the male of the species, but Mrs. Moth, who lays the dangerous eggs, was not enticed by mere illumination. Female moths formed only one-tenth of the catch. When the moon was full, the light trap was of no value at all.

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SCIENTISTS GATHER AT  
TORONTO FOR ANNUAL MEETING

(By Science Service)

For use Monday afternoon Dec. 26, or Tuesday morning, Dec. 27.

Toronto, Dec. 26-- Scientists of all kinds, both from the United States and Canada, are arriving here today to attend the 74th meeting of the American Association for the Advancement of Science and the meetings of many of its affiliated societies at the University of Toronto.

The programs of the Association and the twenty-five or more societies that will meet here morning, afternoon and night, beginning tomorrow and lasting until the end of the week, show that nearly every phase of science known will be discussed. Hundreds of biologists will tell of their work during the year; physicists, mathematicians and chemists will join in discussing new fundamental theories, engineers will tell how they harness nature's water power, and geologists will discuss the history and composition of the earth.

Through the University of Toronto and the Royal Canadian Institute, Canadian scientists have been preparing for a year to welcome their fellow scientists from across the border.

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PERSONALITIES AT TORONTO A. A. A. S. MEETING

(Science Service)

Dr. L. O. Howard, retiring president of the American Association for the Advancement of Science --- Since 1894 Dr. Howard has been chief of the Bureau of Entomology of the U. S. Department of Agriculture, and for 16 years before he was second in command of the government's insect fighting forces. When the Gipsy and Brown-tailed moths threatened destruction of New England forests he introduced and acclimated parasites and other natural enemies of the pests from Europe and Japan and thus prevented the menace. He has made special studies of the house-fly and mosquito. Before his election as president, he was permanent secretary of the A.A.A.S. for 21 years.

Professor William Bateson, F.R.S., who delivers the leading principal address on "Evolutionary Faith and Modern Doubt" --- Prof. Bateson is one of the leading authorities in the field of heredity and a pioneer investigator in plant and animal breeding. In 1900 he brought to light the forgotten work of Gregory Mendel, who 30 years before had discovered the basic law in heredity, which deals with the regularity in the transmission of simple characters, such as the color of the eyes, from generation to generation. This law has revolutionized the study of heredity. Prof. Bateson is director of the John Innes Horticultural Institute of Merton, in Surrey, England. His interest in heredity however was awakened by his work in the laboratory of Prof. W. K. Brooks of Johns Hopkins University, Baltimore, 1883 to 1889.

Sir Adam Beck, who describes the large Canadian engineering projects. --- As chairman of the Hydro-Electric Power Commission of Ontario, he has been in close connection with the development of electrical power in Canada.

Prof. E. H. Moore, president of the American Association for the Advancement of Science. --- One of the leading mathematicians of America, Prof. Moore has been head of the department of mathematics at the University of Chicago since 1896.

Sir Robert Alexander Falconer, president of the University of Toronto. --- As head of the University of Toronto, Sir Robert is official host of the visiting scientists. He has been a leader in university affairs in Canada and England.

## MAN AND SUPERMAN

(By Science Service)

Release Wednesday afternoon, Dec. 28.

Toronto, Dec. 28. "Some millions of years from now, an entirely new and more highly organized animal may spring from some ancestral stock now relatively obscure, and rise, at first slowly and then more rapidly, to even greater heights of achievement than anything which lies within the capacity of the human species."

After tracing the geologic evolution of the earth so far as man knows it, Dr. Eliot Blackwelder of Harvard University, at the meeting of <sup>the</sup> geological section of the American Association for the Advancement of Science here this morning, in these words suggested the possibility of a future usurper of man's pre-eminent place on earth.

"As our modern civilization becomes more and more specialized and diversified, our relations to our environment become more and more complex and our adjustments more delicate," Dr. Blackwelder said. "One thousand years ago, who cared whether economic depression prevailed in countries across the sea? Yet in our present highly specialized condition such matters have risen to paramount importance. In the complexity of modern life widespread hardship and loss are caused by the temporary shutting down of a great electric system or by the closing of the coal mines. A general railroad strike quickly brings on a paralysis of activity that cannot be endured for more than a brief time without actual disaster."

"The impetus of development seems always to carry the process of specialization onward without hesitation until a stage is finally reached where it is impossible to go farther. Eventually it would seem that our western civilization should reach a point when its continued dominance would depend upon the effective working of all parts of a machine, grown far more extraordinarily complex even than we know it today. Slight changes of environment may then bring about the stoppage of the entire mechanism."

"There seems to be a general tendency for development to go too far and to exceed the capacity of the race at that particular stage of its development."

Dr. Blackwelder declared that there is some reason to think that our industrial, political, and commercial undertakings are even now reaching a point where they are growing so vast, so difficult to handle, and requiring so high an order of ability at various points that they are becoming ineffective largely because a sufficient number of men of first-rate ability cannot always be supplied.

"It is entirely conceivable that as this process becomes even more pronounced the whole structure will in time collapse of its own weight on account of this factor," he said.

"Eventually, after all the latent possibilities for advancement possessed by the human species have been exhausted, the race may conceivably sink back to the general level of the lower savages, which are but little above the other mammals."

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## ALASKAN METEORITE FOUND

Washington, December 29 (Science Service).-- A fragment of a heretofore unknown meteorite from Cold Bay, Western Alaska, has been received by the U. S. National Museum. The entire mass as found was in the form of a badly oxidized mass of but a few pounds weight, which was at once, broken up and a large part lost. This find is the second from Alaska proper; an iron meteorite was found at Chilkat. Two finds, Skookum Gulch and Gay Gulch, have been reported from the Yukon District, Canada.

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INSECTS BOTH USE AND  
HELP THE SOIL

(By Science Service)

Release Wednesday, Dec. 28.

Toronto, Dec. 27.- Insects help the soil and the soil helps the insects, Profs. J. W. McCollach and W. P. Hayes of the Kansas State Agricultural College told the entomologists at their meeting here this afternoon.

"Insects use the soil for shelter, protection, materials of abode, food, moisture, air, heat, and as an avenue of travel", they said.

The number of individual insects in the soil is enormous. Several million, they declared, often occur in a single acre.

Physically and chemically, the insects benefit the soil as they use it. They transport the soil from point to point, separate, aerate and drain it, and add the organic matter from the vegetation above to the soil. Many insects in feeding in the soil ingest considerable soil matter and this is acted upon by various body secretions which decompose the inorganic matter and make it available for plant use. In controlling insect pests, the soil and its effect on the problem must be considered, they said.

LEADING SCIENTISTS  
AVERAGE 62 YEARS IN AGE

(By Science Service)

Release, Wednesday, December 28.

Toronto, December 27-- The question of age and its effect on the usefulness of the scientist was raised by Dr. L. O. Howard of Washington, chief of the Bureau of Entomology of the Department of Agriculture, in his retiring presidential address before the American Association for the Advancement of Science here tonight.

After stating that the average age of presidents of the American Association for the Advancement of Science from 1895 to 1920 was 61 years and 5 months, and that the similar figure for the age of presidents of the British Association for the same period was 61 years, 11 months, Dr. Howard declared:

"The usefulness of man past middle age is granted, and while he may not have the illuminative bursts of inventive or speculative genius which come to younger men he is better able to make the broad generalizations based on accumulated experience."

He declared that Sir William Osler's famous remark on the lack of usefulness of man after 40 years of age was semi-humorous and totally misunderstood. The youngest scientist to become president of either the British or the American Association was 50 years of age; the oldest was 79 years of age. Dr. Eliot of Harvard, now 87, hesitated to accept the presidency of the American Association when 79, for fear he would not live to deliver his retiring presidential address.

Dr. Howard, retiring president, is 64, Prof. E. H. Moore, of the University of Chicago, the incoming president of the American Association, is 57 years of age.

TURTLE SPEED RECORD

Release, Friday, Dec. 30.

Toronto, Dec. 29 (Science Service).- Turtles that Prof. A. S. Pearse of the University of Wisconsin tagged and let loose have achieved what is believed to be a world's record for turtle speed. Prof. Pearse announced this afternoon at the Ecological Society meeting here that one had travelled a little over

a mile in 3 years, 11 months and 19 days. The average distance covered by 156 turtles in 5 months was 115 yards. Prof. Pearse has determined that the density of turtle population in a swampy region on the shore of Lake Mendota, Wis., is five to 25 per acre.

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FIRST AERIAL BATTLE IN  
MAN'S WAR ON INSECTS

(By Science Service)

For use Wednesday, Dec. 28, or later.

Toronto, Dec. 20.—Details of the first aerial battle in the war between insects and man were learned here today when J. S. Houser and C. R. Neillie, eye-witnesses, described a recent encounter between one airplane laden with poisonous dust and thousands of caterpillars firmly infecting the tops of a large grove of Catalpa trees.

Casualties are estimated at 99 per cent of the caterpillar enemy. The human forces suffered no harm whatever. The battle lasted only 54 seconds. In this time one airplane accurately dusted a six acre grove, containing 4815 trees, 25 to 30 feet tall, whose leaves were being devoured by the caterpillars. The engagement took place at Troy, Ohio, and the campaign against the caterpillars was directed jointly by the U. S. Air Service, the Ohio Experiment Station and the Department of Forestry of Cleveland.

Airplanes have been used previously by the insect fighters for scouting against the pink boll weevil in Texas and forest insects in Canada and the United States, but this battle is believed to have opened a new era of offensive anti-insect warfare from the air.

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NEW YEAR'S DAY IN DIFFERENT LANDS.

By Isabel M. Lewis,  
of the U.S. Naval Observatory.

(Science Service)

January 1 is now celebrated as New Year's Day among all Christian nations that use the Gregorian or reformed Julian calendar.

Russians and Greeks still keep the Old Style or Julian calendar devised by Julius Caesar with the aid of the astronomer Sosigenes and introduced into Rome in 45 B. C. It is based on the so-called Julian year of exactly  $365\frac{1}{4}$  days which is eleven minutes and fourteen seconds longer than the true tropical year, which is counted from equinox to equinox. The accumulated difference between the two years amounts to three days in four hundred years.

The reformed calendar of Pope Gregory adopted by all Catholic countries in 1582 allowed for an accumulation of ten days up to that year by calling the day after Oct. 4, 1582, Oct. 15 instead of Oct. 5, and provided that the first year of every century should not be counted as a leap year unless divisible by four hundred. The difference between the Old Style and New Style Julian calendars now amounts to thirteen days so the New Year of the Russians and Greeks falls this year on January 14.

Before the adoption of the Gregorian calendar January 1 was not so universally celebrated as New Year's Day by Christian nations. Constantine, the first Christian Roman Emperor, proclaimed that New Year's Day should fall on Easter and in France New Year's Day was celebrated on Easter until the year 1565 when it was changed to January First by Charles the Ninth.

Among the ancient Persians, Babylonians and Syrians the favorite date for New Year's Day was the date of the vernal equinox when the sun crossed the equator going north. In Egypt the New Year began with the maximum inundation of the Nile.

January 1 was also celebrated as New Year's Day by certain tribes and religious sects even in the distant past because it fell near the time of the winter solstice when the sun started its northward journey. The Druids began their New Year about January 1 for this reason.

The Chinese and Japanese as well as religious sects of different lands began their New Year with the accession of some emperor or with a date of some religious significance. At the present time, however, the Chinese and Japanese are generally celebrating their New Year's Day on January First. Among the Chinese this is considered the most important holiday of the year and great preparations are made for its celebration.

The Mohammedans and Jews have preserved the lunar calendar of twelve or thirteen lunations to a year and so their New Year necessarily falls continually in different seasons. In 1922 the New Year of the Mohammedans will begin at sunset on August 23 and the New Year of the Jews at sunset on September 22.

Scientists and chronologists find it convenient to use a Julian Period of 7980 Julian years, each year consisting of  $365\frac{1}{4}$  days. The epoch, or starting point, is January 1, 4713 B. C. and January 1, 1 A. D. was Julian Period 4714. This furnishes a universal calendar that makes it possible to compare dates readily. The number of days that have elapsed since January 1, 4713 B.C. is called the Julian Day. It is possible to tell at once how many days have elapsed between two dates, however, far apart, by simply comparing their Julian Days. January 1, 1922 is Julian Day 2,423,056 and the year 1922 is Julian Period 6635.

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HARVARD UNIVERSITY TO HAVE  
60-INCH REFLECTING TELESCOPE

(By Science Service)

Release, Thursday afternoon, Dec. 29.

Swarthmore, Pa., Dec. 29.—One of the largest telescopes in the world will be put in operation within a few months at the Harvard College Observatory in Cambridge, according to an announcement made at a meeting of the American Astronomical Society at the Sproul Observatory in Swarthmore College here today. A reflecting telescope of 60 inches aperture, exceeded in size by only two other reflectors, has been tested and found satisfactory for special types of investigations of the stars and planets.

The telescope was built in England by A. A. Common about thirty years ago, and sold to the Harvard Observatory in 1902. It was tested by the Harvard astronomers and found to be unsuited for the particular type of work for which it was purchased, that is, for visual and photographic star measurements. The telescope was abandoned and has remained stored away on the grounds of the Harvard Observatory in Cambridge.

Meanwhile the modern science of astrophysics has devised many new uses for telescopes, and provided an increasingly large number of problems in which the light and heat from a star, rather than the size of a photographic image, is the thing measured. It is for such problems as these, some of which are now of the highest importance to astronomers, that the telescope with the five-foot mirror, once adjudged useless because it would not produce small round images, is to be restored.

The type of mounting used for the Harvard telescope, as described by Dr. Harlow Shapley, director of the Harvard Observatory, at the meeting, is different from that of any of the other large telescopes. Its unique feature is the arrangement that permits the observer to work in a closed observing room always in a fixed position, and the star light is brought to him from the principal reflector by means of a system of secondary mirrors.

The 60-inch telescope at Harvard is exceeded in size by two telescopes on the Pacific coast. One is the 100-inch reflector at Mount Wilson, and the other is the 72-inch reflector which belongs to the Canadian government and is located at Victoria, B. C. Mount Wilson's second largest reflector is of the same size as the Harvard telescope.

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IMPURE PLANT SPECIES COMMON,  
NEW IDEA IN BIOLOGY

(By Science Service)

Release Friday, Dec. 30.

Toronto, Dec. 29.- The conception that impure species of plants are common, was explained by Prof. Bradley M. Davis of the University of Michigan, in his presidential address before the American Society of Naturalists here today. This idea is relatively new to biology and was not known to Darwin and the older naturalists.

There is evidence, he declared, that impure species, or those that do not breed true to their characters, are not uncommon in nature, and that certain groups of plants may be largely made up of them. The ability to reproduce plants or animals of the same characteristics is considered by the biologist to be the test of a pure species.

Many of the common fruits, which are hybrids, can be successfully propagated only by grafts and cutting and this method maintains an impure line indefinitely without sexual reproduction.

DISCOVER WHY PLANTS  
NEED LIME IN SOIL

(By Science Service)

Release Thursday, Dec. 29.

Toronto, December 28.- Why plants must have their lime or calcium in order to thrive, was explained today by Dr. Rodney H. True, professor of botany and director at the University of Pennsylvania in the leading address before the botanical section of the American Association for the Advancement of Science.

By growing seedlings in carefully prepared solutions that do and do not contain calcium, Dr. True has been able to show that when calcium is present the roots absorbed other nutrient from the solution, but that when calcium is lacking in the solution the plants actually give up their salt constituents to the water, do not grow as well and finally die.

"Perhaps the fundamental reason for liming the soil is to provide the soil solution with sufficient calcium ions to protect the calcium compounds in the walls of the plant cells, as well as the inner membranes, and thus insure normal powers of absorption and retention of the necessary nutrient ions," said Dr. True.

When molecules of different salts, such as those of lime, are dissolved in a great volume of water they break up into smaller particles, called ions, which bear electrical charges. By measuring the capacity of the solutions to conduct electricity, Dr. True was able to tell just how much of each element the roots absorbed.

Since Salm-Horstmar in 1856 first discovered that higher green plants need calcium, various theories have been advanced as to the reason why. Dr. True's work explains the value of lime fertilizers.

CATERPILLARS THREATEN  
SUGAR MAPLE TREES

(By Science Service)

For use Wednesday, Dec. 28, or later.

Toronto, Dec. 30.- Tiny caterpillars that appear by thousands and mine and riddle the leaves of sugar maple trees are threatening New York's maple sugar industry, Prof. Glenn W. Herrick of Cornell University said, at the meeting of the entomologists here. However, these caterpillars that develop into small moths called Maple Case-Bearers, are being studied and feasible and efficient methods for their control are being found. This same pest ravaged the trees 60 years ago.

FORSAKES STRAWBERRIES  
FOR APPLES AND COTTON

(By Science Service)

For use Wednesday, Dec. 28, or later.

Toronto, Dec. 00.— Tired of a fare composed of mere strawberry, blackberry, and raspberry buds, the strawberry weevil has invaded new fields. S. Marcovitch of the Agricultural Experiment Station, Knoxville, Tenn., told the American Association of Economic Entomologists here that this pest has begun to breed in and eat apple buds, and that it is also cutting the buds of the tomato and cotton.

BORER MAY INJURE  
NEW YORK CORN

(By Science Service)

For use Wednesday, Dec. 28, or later.

Toronto, December 00.— The European Corn Borer, which caused severe injury in certain Canadian areas last year, may do considerable damage to New York's corn crop, during the coming year, E. P. Felt, state entomologist of New York, declared at the meeting of the American Association of Economic Entomologists here.

He urged that systematic repressive and control measures be taken at once. An exceptional outbreak by the corn ear worm has attracted general notice and served to obscure the European Corn Borer situation, he said.

IMMERSION IN WATER PREVENTS  
DECAY OF WOOD PULP

(By Science Service)

Toronto, Dec. 00.— Total immersion of wood in water protects against ordinary decay, and this fact has been applied by R. J. Blair of the Forest Products Laboratory of Canada in Montreal to perfect a method of storing ground wood pulp, such as used for paper making.

Commercial pulp stored in clean water for seventeen months was found by experiment to be in better condition than that stored in a warehouse or open air. Partially moist pulp deteriorates seriously.

Wooden piles which were used for supporting the homes of prehistoric lake-dwellers have been recovered in good condition from some of the Swiss lakes. On this continent trunks of trees removed from beds of rivers where they had remained undisturbed for hundreds if not thousands of years, have been converted into merchantable lumber.

MOON AWAKENS  
PHILIPPINE PLANTS

(By Science Service)

For use Wednesday, Dec. 28, or later.

Toronto, Dec. 00.— The light of the moon when it beams down strongly in the Philippines will cause the leaflets of various legumes to open and spread out nearly as much as they do during the day sunshine, F. C. Gates of the Kansas State Agricultural College, told the Ecological Society which is meeting here. At twilight the leaflets normally fold up for the night.

LONG-TONGUED BEES GATHER MOST HONEY

Toronto, Dec. 00 (Science Service).— Keep large long-tongued bees, advises J. H. Merrill of the Kansas State Agricultural College. He has found that the bees with the longest tongues and the greatest body weight, brought home the most honey. To the American Association of Economic Entomologists meeting here he declared it is possible to tell which colony of bees in a beeyard will collect the most honey during a summer by measuring the tongues, the amount of nectar, and obtaining the weight of 40 bees from each colony in the spring.

DO YOU KNOW THAT -

The sap of the sugar maple contains malic acid, and the "sugar sand" deposited in pans during the boiling of maple syrup is its calcium salt.

Perfectly pure specimens of rock-salt form beautiful colorless cubes, and are known as "sel gemme." Ordinary rock-salt is only semi-transparent and has a rusty color, due to the presence of iron.

Before the steam-engine was applied directly to hoisting coal from mines, it was used to pump water into an elevated reservoir above the mine shaft; the water turned a water-wheel, and this hoisted the coal.

Millions of feet of hickory have been wasted because of the general belief that the red heartwood is inferior in quality to the white sapwood. Exhaustive tests have proved that this prejudice is unfounded and that weight for weight sound heartwood is fully as strong and tough as the sapwood.

DO YOU KNOW THAT -

Eggs of the extinct great auk are worth about \$2,000 each.

There are sharks and sharks, and very few kinds are capable of devouring human beings. For instance, the dogfish is a species of shark.

Purification of the water of swimming pools by ozone has been tried out in several places and appears to be practical in an engineering way and satisfactory from a sanitary standpoint.

Sir Ross Smith and his brother Sir Keith Smith of Australia, who recently made the successful flight from England to their home are planning an aeroplane flight around the world.

DO YOU KNOW THAT -

The only permanent animal inhabitant of Great Salt Lake, Utah, is a tiny "brine shrimp," a third of an inch in length. No plants grow in the lake, and the salt spray is fatal to all land vegetation along the shores.

With the ultramicroscope it is possible to detect particles of gold about a millionth of a millimeter in diameter. A millimeter is approximately four-hundredths of an inch.

Inflammable gases are generally more prevalent in anthracite mines than in bituminous coal mines. One of the most "fiery" mines in the world is near Wilkes-Barre, Pa.

One of the many queer things about the duckbill, or platypus, of Australasia is that the male animals have poisonous spurs. The appearance of the duckbill is so extraordinary that when the first stuffed specimen was brought to England it was believed to have been skilfully fabricated.

DO YOU KNOW THAT -

Soda water, as now made, does not contain any soda. It is water charged with carbon dioxide.

Insect scavengers of the variety Achorutes viaticus are propagated on the sewage filters in Glasgow, Scotland, to keep the filters from being clogged by colloidal material.

The radio department at Fort Sill, Oklahoma, recently got a description from the daily Dallas radio police report of a bank defaulter headed that way. Before the end of the day he was under arrest.

Food and shelter absorb from 70% to 90% of the living expense of 85 million of our 100 million people.

DO YOU KNOW THAT -

The total amount of mechanical power used in the United States is estimated at 150,000,000 horsepower.

The temperature of the sun's atmosphere, the layer of incandescent clouds floating in the solar atmosphere, is between 6,000 and 7,000 degrees centigrade, about twice that of an electric furnace.

A musical note can sometimes be detected in thunder. This happens when the lightning consists of numerous successive discharges at brief and nearly regular intervals.

Fine dust discharged into the upper atmosphere by explosive eruptions of volcanoes falls through the air so slowly that it takes from one to three years to reach the ground.

DO YOU KNOW THAT -

There is little need to fear the undue destruction of vitamins in our food by ordinary cooking unless the time of cooking is excessive.

The drain upon the forests caused by the necessity of replacing decayed railroad ties, mine timbers, poles, posts, piling, bridge timbers, and other material used under exposed conditions equals the loss due to fires.

The name of the plant candytuft has nothing to do with candy. It is derived from Candia (i.e., the island of Crete), from which one of the species was introduced.

Camels sometimes carry a load of 1,500 pounds.