

# Natives of THE Philippines Show Steady Improvement Under THE Guidance of Uncle Sam



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## Some of the Practical Uses of Radium Rays.

### Few Grains Might Provide Energy Enough to Run a Locomotive.

WRITTEN FOR SUNDAY REPUBLIC.

The discovery of radium has brought to the scientists of to-day dreams that exceed in fantasy those of the alchemists of old. The possibilities of this wonderful element, of which at present we know so little, are almost beyond conception.

Leaving the scientific and physical problems that are at present agitating the scientific world out of the question, let us consider briefly and in plain language the conceivable possibilities of radium in the industrial world, and its probable effect on man.

Judging from the results of the most recent investigations we have in radium a body that is continually giving off heat and that constantly maintains a temperature of 5 or 6 degrees Fahrenheit higher than its surroundings.

Here we have a concentrated energy in the smallest possible bulk that is both lasting and constant.

The practical uses of such a body in the industrial world would be illimitable and would revolutionize all known methods of locomotion and mechanics. It is probable that a few grains might provide energy to drive our locomotives, motor cars and mechanical engines and carriages of every description.

With a minute quantity of the element properly employed we may in future be able to heat our houses throughout and keep them at an equable temperature.

The domestic cooking would be done on radium stoves, while electric generating stations for lighting and purposes of locomotion would be driven by the same energizing force.

The application of radium to motors would solve one of the chief difficulties of aerial flight, and, in fact, dreams beyond aerial flight might be rapidly conjured up as to what radium may do.

The first great difficulty to solve is how

to obtain this remarkable element in its pure state, for up to the present all our knowledge is derived from the effects of its salts or compounds with other bodies.

The chief ore from which radium is obtained is pitchblende, but the quantity it contains is so small that only about three grains can be extracted from a ton of the mineral.

Better methods of extraction are now being patiently studied by scientific investigators. But apart from the possibilities of radium from an industrial point of view its effect on the body of man, owing to the peculiar rays it emits, is not less remarkable.

These peculiar rays have recently been proved to have a very extraordinary action on diseased tissue.

Already three distinct kinds of rays are distinguished, namely: (1) Infinitely small positively charged atoms of matter, flying at great speed, which can be measured and the result seen by the bombardment of zinc sulphide screens; (2) rays which appear to correspond to the cathode rays in a Crookes tube; and (3) rays which correspond to the X-rays.

When the surface of the body is exposed to these rays a peculiar action takes place, which in healthy tissue takes the form of a burn, while in diseased tissue, distinct beneficial effect is produced.

In two cases of cancer treated in Vienna with local application of radium, the disease is said to have disappeared, and other cases are said to be progressing favorably. In a case of lupus in Scotland four weeks' treatment caused the disease to disappear, while in another case more recent of rodent ulcer under the influence of radium the discharge soon dried up, and within a fortnight improvement was evident. But it is too soon to judge if these remarkable results are permanent or not.

In applying this marvelous body it seems almost incredible that it should have any action without being removed from the hermetically sealed glass tube which contains it. Nevertheless, such is the case. There is something weird and even awe-inspiring in watching the action of this invisible force, which will even pass through metal over an inch thick.

A tiny particle of radium bromide weighing only the twelfth part of a grain will visibly discharge a gold-leaf electroscope when placed within a distance of six feet. Taken into a dark room it brightly lights

up the spot where it nearly touches an X-ray screen, and even when a sheet of metal over an inch thick is placed between it and the electroscope, action still takes place.

Another investigator has found that if a tube containing a minute quantity of radium-bromide is wrapped in black paper and brought near the eye in a perfectly dark room the eye seems to be filled with light, which is due to a general fluorescence of all the structures and fluids of the eye.

The same effect is produced even when the eyelid is closed. If the tiniest particle of radium is placed on a piece of glass and allowed to remain there for two days or so, a dark patch is produced, which is doubtless due to the reduction of the metallic constituents of the glass.

This patch produced is not merely on the surface, but penetrates completely through the glass; thus a glass tube or bottle containing radium is soon darkened.

Owing to this action on glass, for application purposes, a small cell with a mica front is now adopted, but even then the substance must be kept a considerable distance from the skin.

Curiously enough, some of the rays of radium are easily stopped by thin interposed substances, while other rays emitted by it have marvelous penetrative power.

Its effect on man internally has yet to be investigated, although there is little doubt an extremely minute quantity even of a preparation of radium would have fatal results, and it will, in all probability, prove to be one of the most dangerous and poisonous substances known to man.

WRITTEN FOR THE SUNDAY REPUBLIC.

The Filipino, according to Herbert E. Ellsworth, who has returned to St. Louis after spending four years in Uncle Sam's new possessions, shows signs of marked improvement, and he predicts that within the next twenty years the mulattoes of the little islands across the Pacific will be full-blooded Americans.

"The Filipinos are not capable of governing themselves as yet," said Mr. Ellsworth, "but the children are being educated according to the American idea in the public schools, and the succeeding generation will be able, I think, to make its own laws and to enforce them."

"The Filipino of this day is a coward and a thief, but at that he is clever. He is as good an imitator as the Japanese and he is quick to learn. There is hope that he may be corrected in the habit of stealing, but as to the cowardice, we must look to future generations. Maybe the new stock will be better."

"The Filipinos have taken American customs in a manner that would prove amazing to one who had seen them in their primitive state. Four years ago the American invaders found the people practically only half-civilized. Their idea of dress was primitive, they were unclean and indolent. It is far different now."

**PROUD OF AMERICAN MADE CLOTHES.**

"Nowadays the average Filipino has his every-day suit and his Sunday clothes just like his new American brother. His clothes are American made, and he is as proud of them as a boy is of a new top. A few years ago the Filipino did not wear bare feet; he was not seen free of the streets of Manila now. The trade has invaded the islands and the dress of the Filipino has been changed. Where formerly he went about and half naked, he is now from head to foot and looks like an American, wearing American clothing, boots,

shoes, hats and haberdashery everywhere in the islands.

"In all parts of the islands, but in Manila chiefly, the American spirit is prevalent. In the theaters you see American plays and American actors; in the gambling halls, poker has succeeded casino as the most popular game, while in the saloons the native beverages have been placed on a back shelf and there is a steady and big demand for American beer.

"It is really astonishing the way baseball has caught on there. We have a six-man league and two-thirds of the players are Filipinos. They play a good game and the sport is well patronized. The last Sunday game I saw in Manila was witnessed by over 6,000 spectators and fully half of these were Filipinos.

"The Filipino small boy, like the American, utilizes the back alley and the vacant lot for baseball purposes and 'scrub' games are not infrequently seen."

**IMPROVEMENTS THAT HAVE BEEN MADE.**

During the four years that the United States have been engaged in an effort to conquer the islands vast improvements have been made in Manila, and other of the larger cities, according to Mr. Ellsworth. There are 10,000 American civilians on the islands now, and most of these are in Manila. These men are employed largely in the Government service, and the Federal officials are making a serious effort to induce the single men to get married. There is a theory that the matrimonial method is the best way to keep the Government employes away from the United States.

In Manila about fifty American firms are engaged in the retail and wholesale trade and nearly every known American product can be purchased there.

Within the last year the streets of Manila have been kept clean by a force of men employed by the Government for that purpose. A sewerage system has also

been established. This sewer was perfected about a year ago, and it was the first time the natives had ever heard of such a thing.

The Government has built an ice plant and the product is supplied at a price lower than the retail rate in any city in the United States.

There are bicycles and automobiles in the Philippines, too, according to Mr. Ellsworth, which is another sign of rapid progress, he thinks.

**AS A FIELD FOR YOUNG MEN.**

Mr. Ellsworth thinks that the Philippines offer a good field for the young man. It is a good lumber country, he says, and there are no end to the list of agricultural products. Anything can be raised in the ground of the Philippines.

Mr. Ellsworth will remain in St. Louis until after the World's Fair, when he will return to the Orient. While in the Philippines he took over 1,400 photographs of interesting scenes in various parts of the islands. These pictures will be a part of the Philippine exhibit at the Louisiana Purchase Exposition.

"The Filipinos are taking a great interest in the Fair," he said. "The Government is expending over \$500,000 in making a showing for the Philippines at the big Exposition, and the display will be one of the most interesting of any of the foreign or domestic exhibits. Every tribe in the Philippines will be represented by from thirty to forty members, and instead of one Filipino village, there will be several."

"The industries of the Philippines will be given a complete representation and an effort will be made to show a specimen of every good thing the islands have."

"The exhibit of Philippine curios will be unusually interesting. Curios 400 and 500 years old are being secured and some rare oddities will be included in the collection."