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## HEAT WITHOUT FUEL

by

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Prof. Elmer Gates Has Solved the Problem.

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### ELECTRICITY FROM SUNSHINE

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Wizard of Chevy Chase Has Worked Out a Problem Which Has Puzzled the Electricians of the World—Ninety Per Cent. Of Power Lost in Combustion of Coal Will be Conserved—One Square Yard of Sunlight Will Produce Ten Horse Power

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Prof. Elmer Gates of Washington, has discovered the way to produce heat without fuel. It is by turning sunshine into electricity. In his laboratory at Chevy Chase he charged a cell with electricity in this manner and obtained enough power to run a small motor. The instruments by means of which this wonderful feat is accomplished are a simple magnet and a crystal.

It is one of the well known principles of physics that there are always two currents moving in opposite directions. So it is that when light passes through crystals it goes with one current while another passes it. Prof. Gates has succeeded in turning both of these currents in the same direction, a seeming perversion of nature's methods, but in reality not so at all. While it has not been possible as yet to estimate the exact amount of electricity procured from a given amount of sunshine, Prof. Gates believes from his calculations thus far that from one square yard of sunshine can be extracted ten horse-power of electricity.

When all that pertains to this curious extraction of electric fluid is considered, the fact dawns upon one that by his experiments at Chevy Chase, just out of Washington, Prof. Gates has apparently solved the problem with which the great electricians of the world have long been struggling without any positive results. How to produce heat without fuel is a question which all the genius of the world has been unable to answer. Prof. Gates says he has answered it satisfactorily and conclusively. If further experiment shall again demonstrate the correctness of his claim there will no longer be any necessity of always wasting the 90 per cent. of power contained in coal now lost in combustion.

Sun Stronger Than Horses.

Every sunshiny day enough electricity can be gathered from old Sol's beams to furnish sufficient power for all things electrical for some

time to come. This discovery of Prof. Gates opens an entirely new and broad field as to the possibilities of utilizing the rays of the sun. Some of the wise men of India and others of great occult wisdom who live in Thibet (sic) have long assured us that certain natural forces in connection with sunlight are unknown to modern scientists. It may be that Prof. Gates has merely rediscovered a fact well known to ancients.

All the experiments of Prof. Gates are conducted at his charming home in Chevy Chase, a suburb of Washington, and directly across the street from the residence of Secretary of the Treasury Lyman J. Gage. Beginning in a very modest way, Prof. Gates has enlarged his home of science as fast as possible, until now he is fitting up what will undoubtedly be one of the finest laboratories in the world. It is to electrical matters that he is paying particular attention at present, and th[us] because of his experiments to bring up to date his own ideas in that regard that the discovery regarding sunshine was made.

When I walked through the labyrinth of science the other day, Prof. Gates unfolded to me more new and remarkable ideas regarding electricity than it is the average man's fortune to learn of in a year. Prof. Gates is as gifted in inventive genius as he is with speech, and that is saying much. To be sure, some of his inventions, like words, amount to little, but out of such a wilderness of thought there must necessarily come much that is valuable.

#### Its Practical Application.

Of all the things that he told me, the extraction of electricity from sunshine seemed most important. I asked him if he really thought that this idea—or established fact, as he considers it—could be put to a practical use for every-day purpose.

“I have not the slightest doubt of it,” he answered. “I am going to experiment a little further with it, but merely because there are a few details I do not thoroughly understand as yet, and not because I have any reason to doubt its practicability.” Then we walked into a room where long rows of battery cells stood on a table. They were the ordinary cells, such as one sees in any electrical place. “I took a cell just like one of these,” said the Professor, “and with the aid of a magnet and a crystal I secured enough electricity to operate a little motor. I brought it all about by simply reversing one of the currents, one of those two that are always moving in opposite directions. No, I am not reversing nature. It is simply taking advantage of one of nature's possibilities.

“Like every one interested in electricity, I have been deeply interested for many years in the solution of the problem of how to produce heat without fuel. The saving by such discovery would, I realized, be enormous, and yet such a discovery to be of any practical value must be simple. Can you find anything more simple than a magnet and a crystal? I am not prepared to say yet just how I accomplished the result. I am not of a sordid disposition, but I am sufficiently worldly to understand the necessity of protecting inventions before making them fully public. But you can be assured that electricity can be drawn from sunshine, just as you would draw cider from a barrel. The one process is as simple as the other.

### Importance of Simplicity.

“Do you know that lack of simplicity is one of the evils of electrical study today? I am engaged on a task which I believe will be of the greatest value to students of electricity. It is selecting from the thousands of books written on electrical subjects that facts, the things which have been actually proven, and omitting all the 50 per cent. theory. I do not believe that it is necessary to read what does not exist. The laboratory is for experiment. The way to probe further into the secrets of electricity is to make experiments and not to gorge one’s mind on the unproven theories of other people.

“I hope to found here at Chevy Chase—if I live I will found it—a university of the sciences where students will learn practical facts. I shall have in the electrical laboratory every instrument used in any way in connection with electricity. Many of these instruments I shall have to make here, because it would be almost impossible to procure them. In this way the student at this university who studies electrical science will be enabled to see all that has been accomplished in that line of practical value. This will be the first department of the university that I shall endeavor to inaugurate. I know that I cannot wait until sufficient funds have been secured for all the departments, so I shall begin one at a time. The university will not be one where money is asked from the students, but a free place of learning which I shall endeavor to have supported by means of endowments.

### An X-Ray Room.

“One of the features of my laboratory which will of course be attached to the university is an X-ray proof X-ray room. It will be the only sort of a place ever built in which experiments with the X-ray have been carried on which the ray itself cannot penetrate. I think the way in which you will see the object sought to be revealed by means of the X-ray in this room will be interesting. For instance, I am building now a machine which will make an unusual combination of electrical forces, the result being an X-ray of wonderful power, far more powerful in fact than any ever before created [US Patent No. 653,383]. We will say you wish to see the frame-work of the human body. You are in this X-ray room in darkness so dense that it seems impossible for light to penetrate it. The screen which stands in the room and upon which will be thrown the object you wish to see has been heated, this making it more sensitive. You will not see the person standing in the room with you, the framework of whose body you seek to look at, but presently when the X-ray is turned upon the subject, you will see not the subject, but the skeleton, appearing as if from the darkness itself. On one has ever been able to accomplish this before, but that is just what will be done in this X-ray room of mine. That is a practical idea, and one that will be of benefit in demonstrating the advance along this particular line of science.

### A University Scheme.

“In regard to my university plan, it may surprise you to know that I have already 20,000 applications from persons who wish to become students. Of course, at the beginning I shall only be able to offer instruction to a very small proportion of these, and my manner of

selection will be somewhat different from that operative in the ordinary university. I shall require a student to be physically perfect. I want neither the mental nor physical pervert. Each one of these students will be required to maintain a certain standard of personal care. They will be asked to enter for a term of five years, and during these five years, I propose to take measurements of the emotions of each one of them every day. In that way I shall become thoroughly familiar by means of practical tests with the effect of environment and changing conditions and shall also learn to know the symptoms of disease that really appear in the body far in advance of their discovery by a doctor. I shall know precisely by this means just what the effect of each and every emotion is upon different temperaments.

#### Study of Emotions.

“You know my experiments so far have shown that different emotions are made perceptible through the breath. The subject will breathe into a central tube. The precipitation of his breath, meaning the moisture that congeals from it, drops down into one of the little tubes that [hang down] from the long glass tube into which the moisture from the breath first descends. By means of the use of certain chemicals, and change in the breath is made known by a change of color. The breath of a person with a clear mind and undisturbed emotions is colorless, regardless of chemicals. You cannot say that any emotion has any particular color, because changes that are shown by varying emotions are indicated according to the color of the chemical used. For instance, I was made the victim of a stupid writer when I once spoke regarding this fact, and in explaining the changes shown by the breath of a person of evil mind, said that I used a certain chemical and that the moisture from the breath was pink. So it was heralded far and wide that the color of sin was pink. It might be sky blue or chrome yellow or any other color.

“A problem which I think I shall solve in the study of the emotions is the explanation of the power of one person to control or influence another. We have had all kinds of ideas advanced on this subject, most of them grouped around the idea of hypnotic suggestion. Sometimes it is called personal magnetism. As a matter of fact, I believe it is electricity. We all know that the body consistently throws off electric rays and that the amount and force of those rays is largely controlled by the animation and interest of the subject. For instance, you question me regarding this subject and the interest in your mind causes an increase in the amount of the electricity, the strength of the rays, that are thrown from your body. Correspondingly, you increase the electricity that exudes from me because you arouse in my brain a mental activity necessary to answer your questions. Now that makes each of us more interesting to the other. Neither controls the other, yet both feel a keen degree of interest.

#### Theories of Magnetism.

“Now, then, here is the explanation, as I view it, of the power to arouse love or affection in one person by another. If one has a sufficient mental power to arouse an interest in another, that means that one’s mentality is sufficiently strong to increase the electric output of the other, and this grows and the influence of the one becomes more and more felt

until finally the effort to create the interest brings about a greater and greater result each day. That is my explanation of *personal magnetism*. Perhaps it is the explanation of love. Certainly it has much to do with every emotion of that sort.

“It is possible to dirigate or concentrate the mind to a tremendous degree. In my own case I have demonstrated it. I knew nothing at all about weaving, or looms, or anything of the sort. Yet the idea came to me one day that electricity could be applied to the loom. I went down to the mills where cloth is woven and I thought of nothing else with a result that in two months I made 41 inventions regarding electricity and the loom, and my electrical loom that I have patented [US Patent Nos. 565446 through 565449] and which experts tell me is thoroughly practical and a great labor saver, is a result of mind concentration and nothing else. It is making our brains our servant. We control them and profit thereby. Necessity may be the mother of invention, but so is will-power. That is what has helped me to invent, and I shall devote an hour of my time every day hereafter to invention.”

CHARLES CULVER JOHNSON.