

Science Finds a Force That Could Blow Up the Earth

But—Professor Aston Declares That the Terrific Explosive Power of Hydrogen, as Now Revealed, Is More Likely to Serve Life Than to Endanger It

Professor F. R. Aston, of Cambridge University, England, Whose Announcement of the Discovery of a Tremendous Latent Force in Hydrogen Is of Profound Interest to Scientists.

SCIENCE has just discovered a new force, which, if it can be commanded and controlled, may furnish all mankind with heat, light and power in limitless quantities.

It is the explosive energy of hydrogen.

All that is needed is to invent a machine in which hydrogen may be "jammed into a corner" and forced to break up. But—and here's the rub—if such a machine is invented, it might be possible to blow up the entire earth with it—just as you explode a toy balloon by touching it with a lighted cigarette!

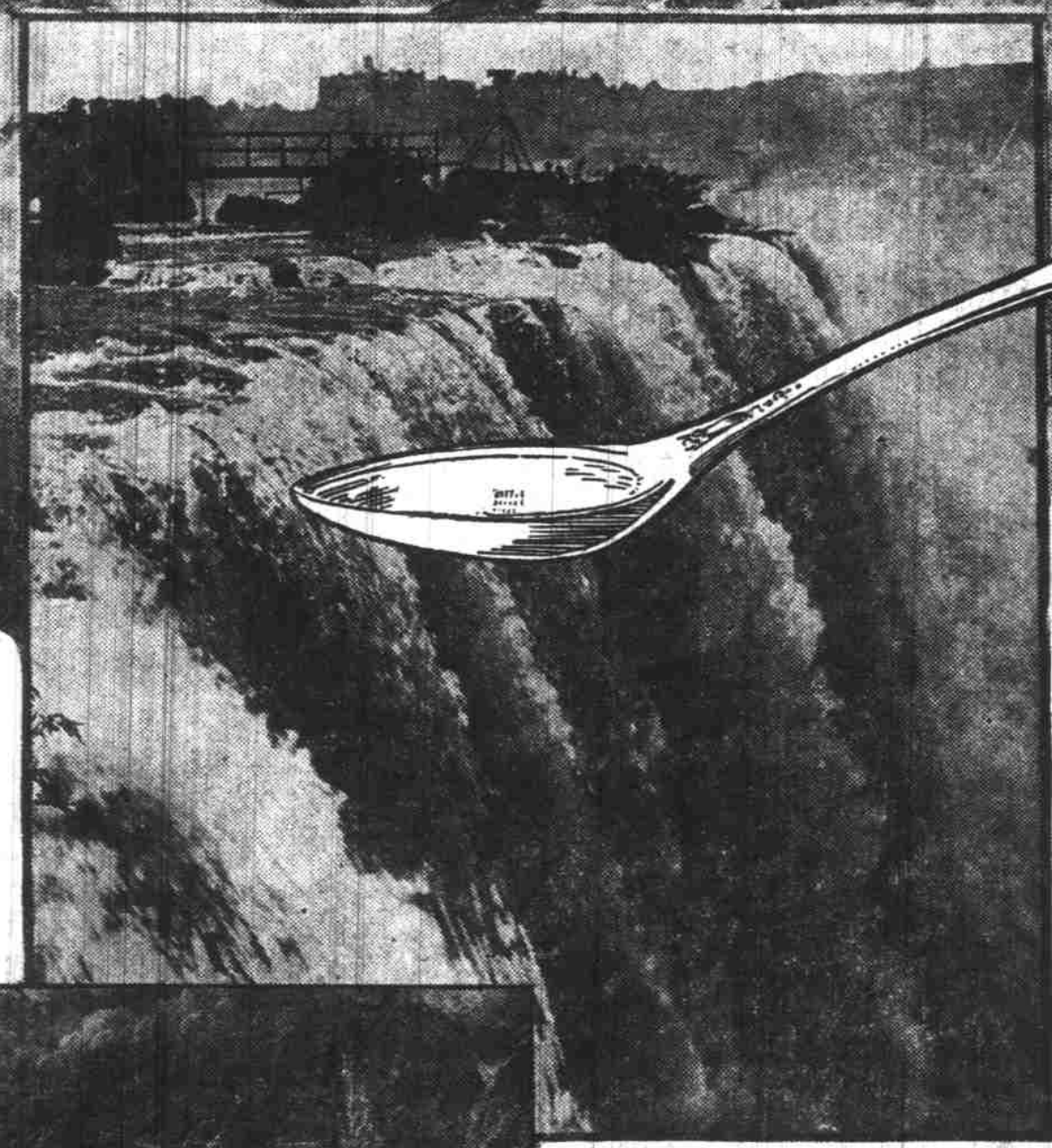
Don't let this frighten you—or even cause you a moment's worry. There is no practical danger that the world will ever come to such an end. If science invents a hydrogen machine, it will also discover some way of harnessing the power, just as it has harnessed lightning.

The statement that hydrogen, one of the simplest and commonest elements, contains such an amazing force, has just been made by Dr. F. R. Aston, Fellow of Trinity College, Cambridge, England, who has just been lecturing in America on scientific subjects. He declares that the discovery of the explosive power of the hydrogen atom furnishes the first tenable theory to account for the heat of the sun. Heretofore scientists have held various theories of how the sun remained hot for millions

of years, but none of the theories was satisfactory. Dr. Aston declares that hydrogen is the missing link.

The scientific importance of the theory is that it brings into accord the two sciences of geology and physics. In the past there has been sharp conflict in the efforts to reconcile what is known about chemistry with what is known about the

The Famous Painting by Francis Danby, A. R. A., Illustrating the Force of Divine Wrath in Its Action Upon the Earth, as Described in Revelations, VI., 22.



Professor Aston Has Estimated That There Is Sufficient Hydrogen in One Teaspoonful of Water to Produce 200,000 Kilowatt Hours of Electrical Energy. This Is Two and Three-Quarter Times Greater Than the Electrical Energy Generated Every Hour by the Combined Plants at Niagara Falls.



Photograph Showing Destruction Wrought by the Terrific Explosion of 4,000 Tons of Ammonium Sulphate Saltpeter at Oppau, Germany, When 2,000 Lives Were Lost, a Whole Town Wiped Out, Leaving a Crater 300 Feet Wide and 40 Feet Deep, Where the Explosion "Let Go."

uncontrollable and by its intense violence detonate or explode all neighboring substances.

If that happens, all the hydrogen on earth might be transformed at once (the hydrogen in the air and the hydrogen in the oceans), and this most successful experiment might be published to the rest of the universe in the form of a new star of extraordinary brilliance, as the earth blew up in one vast explosion.

Almost simultaneously with Dr. Aston's statement comes the announcement that a group of American scientists, including Dr. Robert A. Millikan, who isolated the electron, are engaged in a series of experiments along these very lines.

They are striving for the construction of "cosmic crucibles," in which matter is to be bombarded by high potentials of electricity up to a million volts, with the idea of "breaking it up" and causing new arrangements of its atoms—exactly as is suggested by Dr. Aston for the "hydrogen machine."

One of Dr. Millikan's laboratories has already been fitted up at Pasadena, California, and experiments are under way.

"A part of our program from a standpoint of physics," Dr. Millikan is quoted as saying, "involves the use of tremendously high potentials which furnish the only possible means of bringing to bear here on the surface of the earth such enormously concentrated energies as are presumably at work among the stars."

While scientists are agreed that the power to be derived from hydrogen in the event it could be "exploded" in some such machine or crucible, would be great enough to literally "blow up the earth" if it got out of control—they regard the possibility of such an actual happening as about as unlikely as that the world will be destroyed by final collision with a comet or some other heavenly body.

It is a curious fact that old religious teachings by those who took all the statements of the prophets literally without making any allowance whatever for allegorical intent, predicted just such an

end for the world as that which Dr. Aston says would occur if it came through a tremendous hydrogen explosion.

They expected it to go out one day in fire and flames. Such an imaginative scene is depicted in the famous painting of the "Opening of the Sixth Seal," reproduced on this page.

Barring such almost impossible accidents as a collision with a comet or destruction by human experiment with such cosmic forces as hydrogen and atomic energy, science regards it as likely that the earth itself will last hundreds of millions of years more.

In fact, science believes, it will last much longer than the human race. Geological relics, buried in the strata of the earth's various ages prove that the climate and temperature of the globe have varied greatly at different times. There have been periods when the whole of what is now the United States of America was covered with arctic glacial ice. Scientists see no reason why, in the course of millions of years, such violent changes in climate may not come again, possibly so extreme that human life will either disappear entirely or become so changed to meet new conditions, that our successors may be as different from the man of the present as we are different from a fish or insect.

Or all organic life may first be destroyed, and the earth may last for millions of years afterward as a "dead world" such as the moon is supposed to be today.

Millions, perhaps billions of years, will pass, however, before such cosmic changes occur. There is no reason, scientifically, to doubt that the earth will be a habitable place for some form of life so long as the sun continues to give light and heat, and if the sun's heat is due to radio-active energy, as some scientists have supposed, or to the disintegration of hydrogen into helium, as Dr. Aston has just suggested, the earth's chief luminary could remain "on the job" for at least another ten billion years.