

Radium Gift Useful

The gift of one twenty-eighth of an ounce of radium, worth \$100,000, made by the women of America to Madame Curie in 1921 has been instrumental in establishing and proving a new law of nature.

Mme. J. S. Lattes, a worker in Mme. Curie's laboratory, has described in *Annales de Physique*, her studies of filtering of radium rays.

Madame Lattes was originally interested in finding the best method of wrapping up the applicator tubes which are brought in contact with the flesh of a patient who receives radium treatment, but her results led her into fundamental studies of the absorption of radium rays by different materials. She was able to confirm definitely, using the American radium, a law discovered last year by Georges Fournier in the same laboratory, according to which there is a simple mathematical relation between the absorption coefficient of a material and its atomic number. She also attained her original object, for she learned how to avoid the destruction of the flesh, or necrosis, which occurs when a radium tube is improperly used. Essentially her method is to use first a thin sheath of a dense metal, such as platinum, around the radium, and then to wrap the tube in many layers of light material, such as gauze, to absorb the secondary rays issuing from the platinum. This method which has also been developed empirically is now for the first time clearly understood and explained.

In her latest report, published in the *Annals of the University of Paris*, Madame Curie tells of the great and growing activity of the group which she directs. No less than thirty investigators are studying different problems of radioactivity, and fifteen scientific papers were published from the laboratory between November, 1925, and May, 1926. In addition, the various technical services of the laboratory have been kept up. Madame Curie's daughter, Dr. Irene Curie, who accompanied her mother on her visit to this country, is one of the most productive research workers at the Radium Institute, and also has charge of some of the laboratory teaching.

Science News-Letter, November 6, 1926

A deadly substance secreted by certain toads is used by primitive tribes to poison arrow tips.

Science News-Letter, November 6, 1926



View across the valley at Larderello, in Tuscany, Italy, showing the webwork of steam pipes and high-tension electric wires that turn into useful power hitherto wasted energy—and steam, steam, everywhere.

Servants of Steam

(Continued from Page 81)

happens that a plant somewhat like Prince Ginori Conti's has been erected in Sonoma County, California, where some unusually powerful natural steam vents have been "capped," and the power is used to generate electricity for use in the surrounding region.

So far the Sonoma plant is the only one that has been built in this country, and our abundance of coal and water power will probably make further growth of this novel industry slower than it will be in Italy, where there is better economic reason for its development. On a recent visit here, Prince Ginori Conti suggested that America has, in the Valley of Ten Thousand Smokes, up in Alaska, an area of far greater potential power than any in Italy. But at present there is very little prospect of its industrial development, because of lack of population and also because of long distance from any present world markets. But if the next few generations see the growth of transpolar aviation lines, there is no telling what may happen.

It is more likely, however, that so great a natural wonder as this Alaskan volcanic valley will be held by the Government as a national park, and the policy of the National Park Service has been to set its face like flint against any suggestion of commercial development in any of the areas under its control. There is enormous natural steam power displayed in Yellowstone National Park, for example; "going to waste," the more material-

minded of the tourists sometimes say. But the Park Service figures that it is not going to waste: that the illumination of electric signs or the manufacture of chewing-gum, or other useful consumptions of power, are of a lower order of utility than the illumination of people's minds or the generation of wonder in their hearts by the contemplation of the unconstrained might of the forces of nature. So it is highly likely that natural steam power plants will be built in this land of ours only in such peculiar localities as have an abundance of steam vents without any particularly striking or spectacular features about them. Of such peculiar circumstances the Sonoma plant is a good example.

The capture of earth-steam is not always a simple matter of "capping" the natural vent and attaching a pipe running to an engine. All sorts of difficulties attended the Larderello venture from the very start, and it was only because of his combination of great natural courage and resourcefulness with adequate scientific training that Prince Ginori Conti finally succeeded where others had failed. In the first place, the steam of most "soffioni" is acid, and will eat the insides out of an engine cylinder if used "as is." The earlier workers had attempted to meet this situation by not using the steam directly in their engines, but by running it under boilers filled with pure water, as if the steam were fire, and then operating the engines with the "second-hand" steam generated in the boilers. But this, for various technical reasons, did not work

(Just Turn the Page)