

formed which require months to heal. But by careful regulation the effects can be so moderated as to be beneficial in treatment of disease. Thus, unhealthy skin can be destroyed in such a way as to be replaced by healthy growth. In many other ways radium is coming into use in the treatment of disease. Its action is found to arrest or hinder the action of colonies of microbes. So important has this substance become that there are scientific societies the sole object of which is to investigate its properties. Its manufacture is being carried on assiduously wherever the precious minerals which contain it can be found in any quantity. *Pitchblende*, the principal source, has been known for centuries, and has been mined as a by-product for the manufacture of uranium compounds.

Sir Wm. Ramsay recently reported in the *London Times* that radium had been for the first time produced in Great Britain from British ore, the *pitchblende* of some of the Cornwall tin mines. He stated that there are not more than five grammes (74 grains) of radium in the world at present. From each ton of pure pitchblende the British Radium Co. can extract eight grains of radium. The Cornish supply of pitchblende was richer in radium than the Austrian and greater in amount than any other known in the world. "The supply of radium is thus assured. From the medical point of view alone the demand will be very great; in fact the present demand is much greater than the supply." At Karlsbad, baths containing radium water are prescribed and are found very useful in cases of rheumatism, gout, neuritis, etc. All this goes to show that radium has become a very important substance for curative purposes. As it loses only half its weight in 1700 years its use is practically continuous. Polonium, on the other hand, similar to radium in its curative powers, disappears completely after 140 days.

Sir Wm. Ramsay in referring to this wonderful substance says:—"While radium, during its spontaneous change, parts with a relatively enormous amount of energy, largely in the form of heat, it is a legitimate inference that if the atoms of ordinary elements could be made to *absorb* energy, they would undergo change of a *constructive*, and not of a disruptive nature. If, as looks probable, the action of B-rays, themselves the conveyers of enormous energy, on such matter as glass, is to build up atoms that are radioactive and consequently of high atomic weight; and if it be found that the particular matter produced depends on the elements on which the B-rays fall and to which they impart their energy,—then the transmutation of the elements no longer appears an idle dream. The Philosopher's Stone will have been discovered, and it is not beyond the bounds of possibility that it may lead to that other goal of the philosophers of the dark ages, the *élixir vitae*. For the action of living cells is also dependent on the nature and direction of the energy which they contain; and who can say that it will be impossible to control their action when the means of imparting and controlling energy shall have been investigated?"

That other dream of the ancients, a universe resulting from and composed of whirling atoms, has also come true. By the brilliant work of Zsigmondy and others with the ultra-microscope the range of vision has been extended to