duced by the penetrating radiation. While it is to be hoped that in the years to come we may have available for study in our laboratories swifter beta-rays and higher-frequency radiation than we have to-day, we can hardly hope in the near future to produce artificially radiations, atoms and electrons which have an individual energy of the order of 100 million to 1,000 million volts, such as are present in our atmosphere.

It is thus of great interest and importance to use every promising method of attack to throw light on the nature and origin of these penetrating radiations and the effects arising in their transmission through matter. The magnitude of the effects to be observed is small and not easy to measure with accuracy; but with the ever-increasing delicacy of methods of attack we may hope to gain much further information. The study of these extraordinarily penetrating radiations is not only of great interest in itself, but also for its promise of throwing new light on fundamental processes in our universe connected with the building up and destruction of atoms. It may take many years of faithful experiment before the evidence is sufficient to test the correctness of the numerous interesting speculations that have been advanced to account for the origin and nature of these radiations.

ERNEST RUTHERFORD

SCIENTIFIC EVENTS

THE NATIONAL RESEARCH COUNCIL OF ITALY

THE National Research Council of Italy held its inaugural meeting on February 2 in the presence of Signor Mussolini and of the president, Senator Marconi. Modern scientific research, said Signor Mussolini, according to the London *Times*, required an adequate organization and vast means. It was the lack of these in the past that had led to the present decadence of research and to the paucity of research workers in Italy. To remedy this situation individual research workers needed to be assured that they could "live by science and for science."

The National Research Council, added Signor Mussolini, must keep in living contact with the industrialists, agriculturists, the business men and the administrative authorities, and in particular with the different confederations of employers and workers, since scientific research ultimately resulted in improvement and increase of production. The Seamen's and Airmen's Confederation had already offered 100,000 lire to the council for research into ways of life-saving at sea and the better utilization of fuel by ocean craft.

The inadequacy of individual and unorganized research was also laid stress upon by Senator Marconi, who referred to the need of coordination and discipline among research workers. It was important, he said, that a discovery made or piece of research work begun in Italy should mature and develop so far as possible in Italy. At the same time, means should be found for a rapid development and application in Italy of inventions made abroad. Twelve national research committees had already been formed in Italy in the fields, respectively, of agriculture, astronomy, biology, medicine, chemistry, physics, geodetics, geography, geology, engineering, mathematics and wireless telegraphy. Research in agriculture was for Italy of capital importance, as also was every application of science destined to make Italy less dependent on foreign imports. In conclusion, Senator Marconi recalled for the inspiration of Italian researchers the motto of Galileo, the greatest of their scientists: "Try and try again."

A BELGIAN ROYAL COLONIAL INSTITUTE

THE *Journal* of the American Medical Association reports that a royal decree has established a Belgian Royal Colonial Institute. Similar institutes exist in all large countries possessing colonies. Particularly the royal colonial institution of Amsterdam has awakened appreciation of the important services that a central colonial institute can render when it carries on scientific researches and serves as a clearing house of practical information in connection with the economic problems that affect the colonies. Many organizations in Belgium are engaged in the study of colonial problems, such as native politics and jurisprudence; agricultural and industrial colonization; transportation problems and equipment for the colonies. Now their activities will be concentrated and a unity of direction will be established. It is desirable that interest in the colonies be developed in the universities and in other institutions of higher learning. The young people of the country should become familiar with colonial needs and colonial services, for that would aid later in procuring physicians, civil engineers, magistrates and administrators whose knowledge and experience would contribute to the efficient administration of the colonies and to the prosperity of colonial enterprise.

The Institut Royal Colonial Belge is divided into three sections. The first section, of moral and political sciences, deals particularly with questions pertaining to history, native politics, colonial legislation, ethnology, languages, literature and missions. The second section, of natural and medical sciences, deals with questions of physical and commercial geography, geology, chemistry, botany, zoology and entomology, hygiene and medicine, agriculture and

animal husbandry. The third section, of technical sciences, handles problems pertaining to transportation, communications, civil engineering, colonial equipment, implements and mine exploitation.

PLANT EXPLORATION IN MADAGASCAR

DR. CHARLES F. SWINGLE, botanist of the Bureau of Plant Industry, recently returned to Washington from a plant-exploration expedition to Madagascar, bringing back a mass of plant material which the bureau hopes will prove to contain a number of useful and valuable additions to the ornamental and economic plant life of the United States. Dr. Swingle was accompanied on the expedition by Professor Henri Humbert, professor of botany in the University of Algiers, North Africa, an authority on the plant life of Madagascar. As far as there is record, Dr. Swingle is the first American botanist to visit Madagascar, an island, nearly a thousand miles long, a possession of France, lying in the Tropic and Temperate Zones of the Southern Hemisphere in the Indian Ocean off the southeast coast of Africa.

The material brought back by Dr. Swingle, consisting mainly of live plants and seeds, will be tested for adaptation in the United States, but of course it may be many years before the value of it all is known.

Numerous ornamental plants—shrubs, vines and trees—some of which are unidentified, were in the collection. Of these, 12 species of Kalanchoe seem to be the most promising, especially in the southern states. Other promising ornamentals collected are a number of specimens of elephant's foot, several aloes and a striking and rare hibiscus-like plant.

In the collection are 23 lots of plants which seem to have some value as potential sources of rubber. Ten of these are now being commercially exploited for rubber in Madagascar. Some of them have been introduced previously into the United States and are now being tested in the department's experiment garden in southern Florida, but undoubtedly several are entirely new to the United States. The southern part of Madagascar, which lies just outside the Tropics in the South Temperate Zone, is like parts of our own southwest in many respects and the bureau hopes that some of these new rubber plants may be adapted there.

Apparently the real prize of the expedition consists of live specimens of *Euphorbia Intisy,* an almost extinct species of rubber-yielding plant. Twenty-five years ago the rubber from this plant was highly prized in France for making automobile tires. But the high value of this rubber spelled the doom of the species as a commercial one, at least for the time, for the natives collected the rubber so ruthlessly that even most botanists acquainted with Madagascar feared the species had become entirely extinct. The Humbert-Swingle expedition found some of these plants growing in an arid region, subjected yearly to six months without rain and sometimes to drought lasting as many years. This plant, which is almost leafless, is able to withstand these extremely arid conditions by having a water-storing root system of unique type.

Before leaving Madagascar with the collection, much of which was obtained near Fort Dauphin on the southeast coast, Dr. Swingle left a duplicate set of the living plants at Tananarivo, the capital, in the east-central interior, as a sort of "nest egg" to provide replacements in case of losses or injury to the collection during its long journey to the United States. Another duplicate set was sent to the University of Algiers, which cooperated in the expedition.

Dr. Swingle's trip was made possible through the cooperation of the Bureau of Plant Industry with the Arnold Arboretum, of Boston, with the University of Algiers, and by the friendly interest and numerous courtesies of the French and Madagascar governments.

A PROPOSED NATIONAL MONUMENT IN THE BAD LANDS OF SOUTH DAKOTA

THIS proposed national monument, which embraces a great part of the most scenic and interesting section of the South Dakota Bad Lands, is to be established by presidential proclamation, when certain requirements provided in a bill (S. 4385), upon which the House Committee on Public Lands has voted a favorable report after amending the measure as it came from the senate, have been met.

The total area proposed to be set aside in the substitute measure comprises approximately 50,760 acres (a reduction of 18,360 acres from the area proposed in the original bill), of which approximately 3,760 acres are privately owned.

The boundaries of the monument are fully set out in the bill, in which provision is made for its administration, protection and promotion under the National Park Service act.

The following are the conditions which must be met before the proposed act shall become effective:

1. A quantum of the privately owned lands within the proposed area, satisfactory to the Secretary of the Interior, must be acquired and transferred to the United States for monument purposes without cost to the government; and

2. Construction by the State of South Dakota, in a manner satisfactory to the Secretary of the Interior, of approximately 30 miles of highway, same to extend from