

**SCIENCE WRITTEN
IN POPULAR TERMS**

Report of Smithsonian Institution
Tells of Recent Discoveries in
Most Interesting Style.

FIELD FOR APPLIED CHEMISTRY

WASHINGTON, Sept. 25.—The Smithsonian Institution at Washington has issued its sixty-ninth annual report, dealing with the various activities of the institution and its branches, and including thirty-two timely articles on recent advances and developments in astronomy, geology, mathematics, mechanics, aviation, chemistry, geography, botany, zoology and ethnology, all of which are prepared in a non-technical style making them of interest and value to the general reader.

These articles are either written especially for the report, or are selected from scientific journals and publications from all over the world, which are not readily obtainable by the public. The whole report comprises a volume of over 700 pages, with 155 plates and many other illustrations, but the individual articles are issued in separate form for distribution to those interested in particular subjects treated.

Nature of Latent Life.

One of the most fascinating articles in this report is written by a French scientist, Paul Bequerel, and concerns the nature and relations of latent life, one of the most remarkable phenomena of the living kingdom. We meet latent life everywhere that germs exist, and since germs are continually emitted in a considerable quantity, even more by plants than by animals, there is not a piece of ground on which we tread, nor the smallest quantity of air that we breathe, which is free from them. The spores of fungi, bacteria, algae, mosses and of ferns, the myriads of grains of pollen and seeds in flowers and plants, the cysts of certain minute protozoa, the eggs of some crustaceans and insects, pass into a state of latent life. So do animal tissues, and even some perfectly developed forms of life, such as certain species of algae, mosses, lichens, rotifers, artica and nematodes, called reviviscents.

To Leewenhoek (1703), the founder of microscopy, we owe the first observations on reviviscents, the artica or water bears, and the rotifers of the roofs and gutters. He observed with great astonishment that these little beings may remain dried up for five months amid moss and dust without showing the slightest trace of life, and when moistened, resume their vital functions. Baker experimenting with the nematodes, whose life cycle is only ten months, succeeded in bringing them to life twenty-eight years after the desiccation, proving that their life had been greatly prolonged by this procedure; Spallanzani brought rotifers to life by placing them in water, after they had been dried and preserved for three years; another scientist experimented with rats' tails and succeeded in grafting them successfully after they had been dried eight days, and heated two hours at a temperature of 99 degrees centigrade. The author's work has been applied mostly to seeds, some of which he brought to life after twenty-eight to eighty-seven years had elapsed, who employed great heat and cold, and experimented with dry and wet seeds, seeds in a vacuum and seeds submerged in liquids, and on the whole evolved much interesting information concerning this subject, dealing literally with life and death.

Industrial Chemistry.

Some aspects of industrial chemistry are discussed by Dr. L. H. Baekeland, who says that industrial chemistry has been defined as "the chemistry of dollars and cents," although it possesses far-reaching economic influences, and its endless ramifications have become interwoven with the fabric of modern civilization. Reviewing the early history of applied chemistry, beginning a little over a hundred years ago, the author shows the development of this branch of science and the many phases of manufacture into which it enters.

Prof. Felix V. Luschian of the University of Berlin, contributes an article on the early inhabitants of western Asia, which covers diverse races found in that part of the world, and gives much ethnological data thereon. Standing on the "New Bridge" in Constantinople, the author states that he has heard over twenty different languages spoken, and seen as many different types. He describes some of the apparent foreign elements, and then takes up the remaining tribes and groups encountered in an anthropological study of western Asia, a study pursued by the writer for thirty years.

Excavations in Egypt.

Recent excavations at the ancient Egyptian city "Abou," called by the Greeks Abydos, are described by Edward Naville. Abydos was primarily a place for the worship of Osiris, the most human god of the Egyptian pantheon, who was cut into pieces by his rival Set, or Typhon, but brought back to life by his son, Horus, who reconstructed his body. Here was located his tomb, although we do not know whether it contained the god's body or just his head, as the Greek writers say. It was a noted burying ground from the Neolithic age to the Roman empire, and all about are cemeteries filled with dead from the intervening epochs. Remains of temples are nearby, that of Set I., father of Ramesses II., being almost in its entirety. Between a doorway with enormous lintels and the temple of Set I., the excavators unearthed a large edifice evidently built at the time of the pyramids; that is, belonging to the first dynasties. It is a unique structure built of massive materials, rectangular in shape, and enclosed by two-layer walls six meters thick, bound together by dovetails. The area enclosed measures thirty by twenty meters and was separated into three parallel naves by enormous monolithic pillars of granite. The two side naves had a ceiling of granite monoliths about five meters long and more than two meters thick. The central section composed a great reservoir or pool surrounding which are seventeen cells, connected by a narrow footpath. Through the rear of one of the cells located in the center of the back wall, the entrance to the tomb of Osiris, was found. It seems curious that this ancient Egyptian structure, which may be one of the oldest, should be neither a temple nor a tomb, but a reservoir, fed by subterranean waters. It was probably connected in some way with the worship of Osiris. The cells are possibly those mentioned in the famous Book of the Dead, and it may be that the water had curative properties.

Other subjects of general interest in-

clude radiation of the sun, with some astonishing facts concerning the same, as well as much information relative to the physical properties of the sun, written by Dr. Charles G. Abbot, director of the Smithsonian astrophysical observatory; gyrostats and gyrostatic action; from the spinning top, to the later developments for steadying trains and ships, are ably set forth by Prof. Andrew Gray; under botany, some problems of plant pathology are discussed by Prof. L. R. Jones; R. M. Strong reports on the habits of the herring gull as observed near Green Bay and Lake Michigan, Wisconsin; the regeneration of the horns or feelers and legs, after amputation, of the curious insect known as the walking-stick, is strikingly related by H. O. Schmitz-Jensen, of Copenhagen; ancient Chinese bronzes, dating from 2500 B. C., are described and identified in an interesting and well illustrated article by John C. Ferguson, who also offers advice for the detection of counterfeit; recent developments in the art of electrical illumination are explained by Preston S. Millar of New York, and many other instructing and entertaining articles, some of which have been reviewed separately by the press.

**To Confer Fourth
Degree to Knights
of Columbus Here**

Four bishops of the Catholic church, Bishop Richard Scannell of Omaha, Patrick McGovern, Cheyenne; J. H. Thien, Lincoln, and James A. Duffy, Kearney, and John H. Reddin of Denver, supreme master of the Knights of Columbus' fourth or patriotic degree, will attend the exemplification of this degree for a class of 150 candidates in Omaha on October 14. The event will be held at the Fontenelle hotel and will be followed by a banquet.

**GERMANS PLAN TO OPEN
UNIVERSITY IN POLAND**

(Correspondence of The Associated Press.)
WARSAW, Poland, Sept. 20.—Less than a month after the occupation of Warsaw by the Germans, plans have been all but completed for the creation of a Polish university, designed to attract the young Poles who heretofore have always sought foreign institutions of learning because they would not or could not attend the old Russian university here.

**ONLY ONE LIFE MEMBER IS
LEFT IN FRENCH SENATE**

(Correspondence of The Associated Press.)
PARIS, Sept. 20.—With the recent death of Senator Rene Berenger, there is now left only one life member of the senate. When this body was created by the national assembly at the time of the adoption of the constitution of February 25, 1875, provision was made for seventy-five life senators and 225 to be elected. In the revision of 1884, the suppression of life senators by extinction and the transformation of their seats into elective seats was decided upon. The last survivor of the life senators is Monsieur Marce, who was elected by the senate February 28, 1884, only a few months before the measure for suppression of life senators went into effect.

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