pharyngeal secretions of one influenza patient, and of a considerable number of other persons, normal or suffering from various mild respiratory infections, other filterable organisms, not *Bacterium pneumosintes* and not pathogenic for rabbits, have recently been cultivated. What the importance of these microorganisms may be, or whether they have any pathogenic significance, remains to be determined. They indicate, however, that the cultural methods recently employed in these studies may lead to the isolation of a group or groups of hitherto undescribed bacterial inhabitants of the upper respiratory tract and so they point to interesting opportunities in this field of bacteriology.

CONCLUSIONS

In conclusion, we have isolated from the nasopharyngeal secretions of influenza patients in the early hours of the epidemic disease a hitherto undiscovered organism, *Bacterium pneumosintes,* filterable, anerobic, resistant and pathogenic for rabbits, in which it induces a typical infection comparable with epidemic influenza in man. The significant features of this experimental infection are the incidence of a leucocytic depression chiefly affecting the mononuclear cells, and the production of a characteristic lesion in the lungs associated with a defect in their resistance to secondary invasion with common pathogenic bacteria.

All our strains of *Bacterium pneumosintes* have similar antigenic properties, indicating a common source. Animals subjected to a primary infection, or injected with living or killed organisms are immune to subsequent injection. The killed bacteria induce specific antibody formation even when injected subcutaneously in doses well tolerated by man. The blood serum of recovered influenza patients contains agglutinins for *Bacterium pneumosintes,* whereas that of normal persons does not.

On the basis of these experimental observations, reported in detail in *The Journal of Experimental Medicine,*[8] and especially in view of the source of the cultures, their clinical and pathological effects in rabbits, their antigenic identity, and the presence of specific agglutinins in the blood serum of recently recovered influenza patients, it might seem justifiable to claim *Bacterium pneumosintes* to be the bacterial incitant of epidemic influenza. At present, as already stated in an earlier report, such a course does not seem desirable. Apparently we are at the threshold of knowledge of a group or class of minute microorganisms which the anerobic Smith-Noguchi technique and more recently developed methods of cultivation have thrown open to exploitation. It has seemed wiser, therefore, merely to report the experimental facts, and to defer decision of the precise relation which *Bacterium pneumosintes* bears to epidemic influenza until further experience is obtained.

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[8] Olitsky, P. K., and Gates, F. L., *Jour. Exper. Med.,* 1921, xxxiii, 125, 361, 373 and 713; *ibid.,* 1921, xxxiv, 1; *ibid.,* 1922, xxxv, 1, 553 and 813; *ibid.,* 1922, xxxvi, 685. Papers XI and XII in press.

GARDEN FOR THE PROPAGATION OF TROPICAL AND SUBTROPICAL PLANTS

UNDER a revocable license, which it is believed insures a sufficiently long tenure to secure useful results, Secretary Weeks has just turned over to Secretary Wallace the Chapman Field air station of 850 acres, located on Biscayne Bay, 12 miles south of Miami, Florida. This tract has a coast line of 1⅘ miles and is composed of about 195 acres of pine land and rock reef and 655 acres of low land and mangroves, more or less subject to overflow during the high waters. Of this latter, 80 acres have been filled above high water level and will be made available for use as soon as the salt has been washed out of it.

The striking feature of this tract of land is that it is located in one of the warmest spots on the whole peninsula of Florida, which means that it is less liable to cool winter temperatures than almost any other spot in continental United States. Vegetation which is strictly tropical, such as that of the mango, coconut palm, and West Indian avocado can be grown here in perfect safety. It is not commonly understood that in such a station can be propagated to advantage a wide range of those valuable food and otherwise useful plants upon

which the development of the horticulture of the tropics is dependent.

The insect pests and fungus diseases which make plant propagating difficult and the distribution of small nursery plants so dangerous in the tropics can be kept under control on this coast of Florida, and this control represents an advantage of no mean importance in the dissemination of tropical plants.

Not only this. The growth of Florida has thrown into a region in which the white man can work out of doors hundreds of thousands of intelligent horticulturists who are keenly interested in the development of those fruits, vegetables, forage crops and grains which can be grown somewhere on the 54,000 square miles of Florida territory, a region which in area is only one fifth less than the whole of New England with its six and a half millions and more than half as large as the whole West Indies with their six millions of people.

The Department of Agriculture has maintained in Miami since 1898 a Plant Introduction Garden and research laboratory on Brickell Avenue, on seven acres of land the use of which was given the department by the late Henry M. Flagler and Mrs. Mary Brickell, and since 1914 a twenty-five acre garden at Buena Vista, on land given to it by Mr. Charles Deering, of Chicago.

With the great influx of settlers into south Florida, the growing interest of Americans in the tropics, and the increase in utilization of tropical plants by Americans in Panama, Hawaii, and Porto Rico, has come the evidence that much more comprehensive facilities must be arranged for to take care of the coming demand for useful tropical plants than has hitherto been realized.

The stringency of the regulations covering the importation of living plants from tropical countries has tended largely to increase the demand for government aid in their introduction and the first step in meeting this demand is the acquiring of a suitable site of adequate size for the operation of a plant introduction garden.

Through the action of Secretary Weeks, this first step in the origination of this new garden has been made possible.

The range of plants which will be grown and sent out from the new Chapman Field Garden will include many which are adapted to regions visited by severe frosts, for it has been found that under lath sheds a very wide range of young plants can be grown economically.

While the distribution of new experimental plants will always be a prominent feature of the new garden, a test orchard and arboretum will be gradually built up, in which will be preserved collections of the valuable and beautiful trees and shrubs of foreign countries which are adapted to the soil and climate of Chapman Field.

Inasmuch as it will require several years to build up such a garden, and, inasmuch as there are growing at the Brickell Avenue and Buena Vista gardens many rare and valuable specimen plants, these older gardens will be maintained for the present and probably for some time to come.

In how far this garden can fulfil the functions of an arboretum such as the Arnold Arboretum the circumstances of funds and soil conditions will determine. That it can be developed into a center of tropical agricultural research seems certain. Its position on the waters of the Caribbean, within thirty-six hours of the great centers of American civilization, cannot fail to make it in time the most available spot for American students to visit, who want to get an idea of the great problems of the tropics and live in a perfectly healthy climate in an intellectually stimulating community.

To the state institutions of Florida especially the collections of tropical plants must appeal particularly, for from the growing body of students of agriculture and horticulture of that state should come the men and women who will develop the new tropical vegetables, fruits, forage crops and ornamental plants which are destined to compose not only the agriculture of Florida but the agriculture of many strictly tropical regions as well. In time it should become a center where the strictly tropical plants will be bred with the hardier forms of the regions further north and result in combinations of characters hitherto unknown. Plant breeding has so far scarcely touched the tropics, and the opportunities presented by a garden at Chapman Field for the production of new and valuable forms are believed to be very unusual.

There is a special romance connected with this spot on the coast of Florida which ought to appeal to all agriculturists. Chapman Field, which is named in honor of Manuel Chapman, the first American aviator to fall in the great war, joins on the east the Perrine grant which was the first grant of any kind whatever made by the Congress of the United States in aid of agriculture. It was made July 7, 1838, to Dr. Henry Perrine who was killed by the Indians while he was making efforts to establish on his grant tropical trees and plants, particularly the sisal fiber plant from Yucatan, for which plant introduction purpose he had been granted a township of land in what was then the wilderness of south Florida.

As the work develops, the Chapman Field Garden will place its facilities at the disposal of the investigators in other offices of the Bureau of Plant Industry. Under proper departmental procedure, it will also cooperate with other research institutions throughout the country. Studies in the tropics or subtropics often shed a new light upon problems of northern agriculture and have a broadening influence of great value upon the mind of any investigator.

Much of the equipment remaining at Chapman Field, such as its water system, buildings, etc., can be utilized.

The management of this new garden will be in the office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry.

DAVID FAIRCHILD
Agricultural Explorer in Charge
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
JANUARY 12, 1923

SCIENTIFIC EVENTS

THE CARNEGIE CORPORATION

ACCORDING to the report of the president of the Carnegie Corporation made public on February 5, the major interests at present receiving their support wholly or largely from this corporation are the Institute of Economics in Washington, an agency for analyzing and publishing economic facts in popular form; the Food Research Institute at Leland Stanford University, a scientific extension of studies in the production and distribution of foods begun by Mr. Hoover during the war; the National Research Council in Washington, an organization that aims to focus and promote all sorts of scientific research in America; the Potter Metabolic Laboratory at Santa Barbara, California, where insulin, the recently discovered specific for diabetes, is being manufactured and perfected; the American School of Classical Studies at Athens, for which the corporation is paying the cost of a building to house a library recently acquired by the school; and comprehensive investigations into the fundamentals of unemployment and into the means of improvement of the law.

A total of $5,254,000 has been paid to beneficiaries during the year ended September 30, 1922, of which $2,578,000 went to colleges and universities. Of nearly $58,000,000 expended during the eleven years of the corporation's existence, $23,415,000 has been given to Carnegie institutions: the institution at Pittsburgh, the foundation in New York and the institution and the peace endowment in Washington. In addition to $30,000,000 granted by Mr. Carnegie personally for public library buildings, $12,292,000 has been devoted by the corporation to the same purpose. Schools and colleges have received $9,276,000; medical and health education, $3,266,000; and scientific research, $1,511,000, chiefly within the past four years.

The report explains the policy of the corporation in discontinuing its gifts of libraries, and in a discussion of the "science of giving," notes the difficulties of making wise public benefactions.

The assets of the corporation amount to $130,000,000, which will be increased by about $10,000,000 on the final settlement of Mr. Carnegie's estate. The board of trustees, which includes as *ex officio* members the heads of the six important Carnegie organizations, is to be enlarged from ten to fifteen members. As has already been noted, Dr. Frederick P. Keppel, formerly dean of Columbia College and this year in charge of work for the Russell Sage Foundation, has been elected president of the corporation.

THE PROPOSED REORGANIZATION OF FEDERAL HEALTH ACTIVITIES

WE learn from a report in the *Journal* of the American Medical Association that, on