

## CHEMISTRY

## Industrial Chemical Odors In Air Now Measured

► A FORWARD step in eliminating pollution of the atmosphere in industrial cities, caused by chemical odors from factory operations, is promised with new devices which isolate and measure the chemical components of the odors.

These devices were developed by the Franklin Institute of Philadelphia in cooperation with Philadelphia City Planning Commission. They make possible the enactment of city ordinances to protect the citizens from harmful chemicals added by industries to the air. Many American cities are controlling smoke nuisances but little has been accomplished in municipal control of industrially produced odors, principally because no way up till now had been found to measure odors.

In this Franklin Institute development, equipment was designed and built to collect and concentrate the chemicals causing odors in the atmosphere. Included is a specially constructed liquid-nitrogen condenser which cools the odorous gases to temperatures of 300 degrees Fahrenheit below zero. The resulting liquid is analyzed in an infra-red spectrometer. A simple tester has been developed that can identify certain malodorous compounds in the field.

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## INVENTION

## Dog House Door Closes When Fido Goes to Bed

► MR. DOG may now enjoy the comfort of a dog house with a door that automatically closes when the animal steps onto his bunk and opens when he gets off.

His sleeping bunk occupies the rear half of the dog house. The weight of the animal activates the levers which close and open the door. One side of the roof of the dog house is on hinges so that it may be opened by the owner if the dog for any reason refuses to leave his bunk. Patent 2,583,354 was awarded to George Blatchford of Los Angeles for this invention.

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### ROCK CHARTS

These various Rock Charts are visual aids for elementary courses in rock and mineral study. They are practical standard equipment in laboratories and libraries devoted to geology study. **ROCK CHART FOR IGNEOUS ROCKS.** Price \$6.50. Size 14 x 22" and contains 77 of all major types of igneous rocks. With the aid of this Chart the untrained person can identify almost any igneous rock and at a glance understand its relationship to all other igneous rocks. **ROCK CHART FOR SEDIMENTARY ROCKS.** 14 x 22", 40 specimens \$6.50. **ROCK CHART FOR METAMORPHIC ROCKS.** 14 x 22", 32 specimens \$6.50. **ROCK CYCLE CHART.** 14 x 27", \$6.50. **CHART "CHEMISTRY OF THE ROCKS",** 14 x 27", \$12.00.

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Grapefruit

► IT DOES not look like a grape and it does not taste like a grape, so most people are puzzled to account for its name. Horticulturists, however, believe that it was originally applied because of the habit of the big fruits of growing in clusters of from three or four to a dozen, suggesting bunches of giant grapes. In this, the grapefruit differs from most other citrus fruits, which are born singly or at most in twos or threes.

There is only one proper way to serve grapefruit. This way, though widely used, is not as well known as it should be. It is based on the fact that the bitter taste of the fruit comes largely from the "rag," or white partitions between the sections and the white pulp core at the center.

## BIOCHEMISTRY

## B Vitamin for Cortisone

► DISCOVERY THAT the B vitamin known as pantothenic acid is needed by the body to manufacture cortisone, famous arthritis medicine, was announced by Dr. George R. Cowgill of Yale University at the International Conference on Vitamins in Havana, Cuba.

The discovery was made in experiments by himself and Robert W. Winters, Robert B. Schultz and Dr. Willard A. Krehl.

It might suggest that arthritis sufferers would be helped by doses of the vitamin, but there is no evidence that this would be the case.

Depriving rats of pantothenic acid causes hemorrhage and other damage to the adrenal glands, other scientists had previously discovered. The cause of this had been a matter of "debate" and it was to settle the matter, if possible, that the Yale scientists started their research.

The damage to adrenal glands of rats deprived of the vitamin is more severe, they found, when the animals are given ACTH.

When this is cut the bitter flavor is released, and the longer the fruit stands after cutting, the more bitter it becomes. Consequently, grapefruit should be kept cold and whole until just before it is to be used. Then it should be cut in two, and the seeds picked out.

The rest of the job of loosening the pulp had better be left to the eater, or at most a sharp knife may be run around the sections, being careful not to cut any of the partitions. The mangling a grapefruit gets in a cheap restaurant is a sin against a noble fruit. Properly handled, a good grapefruit needs little or no sugar when it reaches your dining table.

Grapefruit may well make claim to the title of the world's most migratory edible. Apparently the progenitors of this citrus fruit originated in Malaysia. The first grapefruit tree was found in the West Indies and no one is sure just how it originated from its ancestors, variously called the pummelo or shaddock. It may have been either a mutation or a hybrid.

The grapefruit was first described in 1750 in a book about the island of Barbados, and less than a hundred years later it had been introduced into Florida. For a long time, the fruit was cultivated only in that state, but now grapefruit is raised commercially in California, Texas and Arizona as well.

The pink grapefruit now so popular at U. S. tables was originally what is known as a sport, that is, a biological mutation produced in nature by chance, no one knows why. Plant breeders are always searching for these freaks of nature, for from them they can sometimes grow bigger and better plants.

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This is the pituitary hormone that stimulates adrenal glands to produce cortisone. The adrenal damage caused by vitamin lack can be prevented by cortisone, Dr. Cowgill reported.

In tests of the rat's utilization of starches and sugars during pantothenic acid deficiency, the Yale scientists found more evidence that the vitamin deficiency caused failure of the adrenal glands to produce cortisone.

This all points to the vitamin as essential for fully functioning adrenal glands and for production by them of cortisone.

Now the Yale scientists are trying to set up experiments to see how rats deprived of the pantothenic acid vitamin will react to stress of various kinds. The adrenal glands react to stress in various ways. How they react in a vitamin-deficient animal is expected to give more information that may be useful ultimately in treating human patients.

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