

CHEMISTRY

Italy's Chemists Gave Her Weapons for War in 1934

Permits Issued for 118 New Chemical Plants; Problems of Dyes, Fuels, Medicines, Were Studied

THAT Italy's mind was occupied with the possibility of future war in 1934 is indicated, according to well-informed observers, by the great strides her chemical industry took that year. When Mussolini finally decides to put on the gloves with Abyssinia, his country will find nothing neglected in the way of laboratory preparation. Synthetic gasoline is only one of the weapons his chemists have given his army.

A report just issued by the Chemical Division of the Bureau of Foreign and Domestic Commerce details this chemical progress. It shows that Italy has joined the race to prepare more quickly and efficiently in the laboratory what Nature does out-doors. Nor have Italian chemists been concerned chiefly with such melodramatic contributions as the supposed chemical which will be sprayed upon the ground where Ethiopians march and thus burn their bare feet.

Italy in 1934, the report states, issued

permits for the erection of 118 new chemical plants during 1934, bringing the total number to 874 at the end of the year, with an aggregate capitalization of 2,426,500,000 lire. Her foreign trade in chemicals followed the course taken by her general trade. She imported heavily and allowed her exports to drop.

During the year the Montecatini Chemical Company, Italy's largest, constructed two huge research laboratories, on a scale hitherto unknown in that nation. The company reported that important advances were made in the production of synthetic dyes and medicines, methanol, formaldehyde, synthetic resins, artificial cryolite and synthetic camphor.

The company claimed to have produced a satisfactory synthetic gasoline from domestic lignite—a big boon to petroleum-lacking Italy—and an important new explosive derived from methanol and nitric acid. It is also reported to have solved the problem of producing a

domestic cellulose suitable for nitration and the rayon industry—a big help to timberless Italy. And as far as cellulose for the manufacture of paper is concerned, Mussolini's chemists have found it in rice and wheat straw.

Other chemists attacked the problem of gasoline from another angle. They have not found a new way of preparing it. They have eliminated its use. They have met the possibility of a future national emergency by studying the production of sugar-beet alcohol for motor fuel.

On another front of the laboratory race to outdo Nature, scientists reported new progress in the separation of gases from natural steam geysers. In addition to getting carbon dioxide, they obtained valuable quantities of hydrogen, nitrogen, methane and helium—all highly strategic weapons for the war chemist.

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PSYCHIATRY

Mental Disorder Is Viewed As Disease Of Old Age

MENTAL disorder is primarily a disease of old age. It may be considered a result of the general lowering of vitality and the wearing out process which causes certain physical diseases of old age.

This new view of mental disease results from statistical research by Dr. Neil A. Dayton of the Massachusetts Department of Mental Diseases. Study of more than 61,000 admissions to New York and Massachusetts mental hospitals over several years shows that most of the cases of mental disease occur in older persons.

"In ages over 70 the admission rates are four times as high as those of middle age," Dr. Dayton stated.

"Mental disease," says Dr. Dayton, "is now placed squarely in line with failing physical processes. Mental disorder is quite removed from those diseases which are supposed to be due to the many strains imposed by our present civilization. In the younger and middle ages, when the stresses of life are most pronounced, the population does not present large proportions of mental disease.

"However, the older ages, accompanied by lesser degrees of business and social activities but with increased physical impairment and lower vitality, show admission rates for mental diseases which are the highest of all.

"Mental disease should not be accepted entirely as an abstract disorder of the



LOG 60,000,000 YEARS OLD

A log of petrified wood, dating back to somewhere around the time when the great coal beds were still tangled swamps, has been turned up in the Ozarks—a rare find for that region. Studies by Prof. J. E. Cribbs of Drury College disclosed some portions still uncrushed, showing microscopic details of structure quite clearly. It is regarded as probably a new species of fossil tree. The photograph is by Wm. J. Gibbs.