

ARCHAEOLOGY

Ancient Jade Jewels Found in Mexico

► **ACCLAIMED** by Mexican museum authorities as the most important archaeological find since the unearthing of the famous Monte Alban jewels a decade ago, several hundred priceless pieces of jade from the jungles of Tabasco are resting in vaults of the National Museum of Archaeology in Mexico City. They were brought in by an American expedition headed by Dr. Matthew W. Stirling of the Smithsonian Institution. Discovered in tombs deep in the jungle, the specimens are believed to be more than 1000 years old, of Olmeca culture.

Jadite axes numbering 70, some of them six inches long, are among the jewels. A necklace of 62 pieces, five statuettes with wide open mouths, engraved earrings and richly engraved styluses are in the treasure. One of the axes was engraved with a half-human, half-tiger figure. Jade finer than that from Java predominates in the funeral offerings of the tombs. A ring of quartz crystal, together with amber and obsidian jewels, were found.

The tombs excavated are near La Venta in the District of Huimanguillo in Tabasco. Under Mexican law such archaeological treasures are national property and become museum treasures. There is a possibility, however, that they may be exhibited in the United States after the war.

Science News Letter, May 22, 1943

CHEMISTRY

Biotin, of Vitamin B Family, Now Made Synthetically

► **BIOTIN**, recently discovered vitamin of the B group, has been made synthetically by a four-man chemical team in the research laboratories of Merck and Company, Rahway, N. J. The exact chemical structure of biotin was announced only last autumn by Prof. Vincent du Vigneaud and associates of Cornell University Medical College. Collaborating in one phase of the work leading to the discovery of the vitamin's chemical structure were five Merck and Company researchers. Four of these, Dr. Stanton A. Harris, Dr. Donald E. Wolf, Dr. Ralph Mazingo, and Dr. Karl Folkers, immediately undertook the difficult task of putting the vitamin together artificially, and now give first news of their success in *Science* (May 14).

Like most vitamins, biotin consists mainly of carbon, hydrogen and oxygen, with two atoms of nitrogen and one of sulfur in the molecule. It has a rather complex ring structure, with one long side-chain of atoms attached to a corner of the ring.

Biotin, also known as vitamin H until its place in the vitamin B family was ascertained, was discovered so recently that its activities are not yet well understood. It is known to be necessary for the growth of yeast cells and other microorganisms. It cures rats of the skin disease known as egg-white injury. It may play a role in cancer and has recently been found necessary to prevent a skin disease that develops in rats when given sulfa drugs.

The role of biotin in human nutrition is not yet known, but now that its synthesis has been accomplished, ample supplies should soon become available for research purposes, and a rapid increase in scientific knowledge about it can be expected. Scientists will be interested in the report that the synthesis verifies the structure assigned to biotin by Prof. du Vigneaud and associates.

Science News Letter, May 22, 1943

ENGINEERING

New Plan For Rebuilding Post-War Cities Urged

► **LARGE-SCALE** re-design and rebuilding of depreciated and decaying central areas of our cities to bring them up to modern efficiency was urged by the committee on post-war reconstruction of the American Institute of Architects.

Planning must be changed "from the basis of the individual property to the basis of the locality and to planning for groups of properties and groups of buildings, instead of for the individual building and the individual plot."

This means democratic planning, the committee points out, but with individual initiative attuned to the needs of the community.

"Unregulated urban growth has created economic and financial problems which demand attention. Expert opinion is now pretty well agreed that growth by small units, unrelated to the larger whole district, neighborhood, and the city, is responsible for the present condition of great areas of blighted properties which are found in nearly all American cities."

Such problems of post-war reconstruction will be one of the chief subjects discussed at the Cincinnati convention of the nation's architects May 26 to 28.

Science News Letter, May 22, 1943

IN SCIEN

ENGINEERING

United States Production Outstrips Foreign Nations

► **THE UNITED** States has produced as much war equipment in a little more than two years as Japan in thirty years, Russia in twenty years and Germany in ten, Harold V. Coes, vice-president of Ford, Bacon and Davis, Inc., told the American Society of Mechanical Engineers in his presidential address.

A 600% increase in shipbuilding since 1937 was pointed out by Mr. Coes. Whereas six years ago there were only ten shipyards with 46 ways able to accommodate the larger ships, today there are 60 such yards with more than 300 ways. One plant is now producing one 135-ton engine every day.

The 1942 increase in production of all munitions over that of the previous year was 400%, stated Mr. Coes. The rise in the production was as great as six and one-quarter times for ordnance and five times for merchant ships.

The machine tool industry's production, of vital importance in maintaining and expanding war production, is seven times the peacetime peak.

The creation in a year and a half of an entire synthetic rubber industry to produce from 800,000 to 1,000,000 tons a year was listed by Mr. Coes as one of the recent industrial accomplishments. He also stated that by the end of 1943 we will have seven times our 1939 aluminum production, the fruit of 50 years of intensive development.

Science News Letter, May 22, 1943

GENERAL SCIENCE

Food Medal Awarded To Former Dean of M.I.T.

► **DR. SAMUEL C. PRESCOTT**, emeritus dean of science of Massachusetts Institute of Technology, has been awarded the Nicholas Appert medal by the Chicago Section of the Institute of Food Technologists, in recognition of his research on food manufacture and processing.

Science News Letter, May 22, 1943

CE FIELDS

PHARMACY

New Medicated Gauze For Burns and Wounds

➤ **BETTER FIRST** aid treatment for burns and wounds is promised by a new methalose gauze dressing developed by Dave Brady, Robert Bauer and Fredrick F. Yonkman, pharmacologists at Wayne University, Detroit.

A soothing, healing water-soluble preparation, easily compounded and applied, are the advantages cited in a preliminary report (*Journal, American Pharmaceutical Association*, May).

Sulfanilamide and sulfathiazole, infection fighters, are dissolved in the chemical, propylene glycol, then added to a solution of alkyl cellulose. Sprayed on loose mesh gauze, this mixture makes a durable elastic pressure bandage.

Adhering readily to injured areas, the gauze tends to prevent loss of fluid and plasma proteins. The dressing can be removed at any time by soaking in water or salt solution.

Excellent first aid treatment is thus obtained, the researchers point out, without the disadvantages of greasy ointments or astringent precipitants, such as tannic acid, that kill cells in the injured area, thereby delaying healing.

Science News Letter, May 22, 1943

GENERAL SCIENCE

Model Maternity Center From Fellowship Award

➤ A **MODEL** Brazilian maternity center and a botanical encyclopaedia will result from fellowship awards made by the American Association of University Women. Modern scientific studies predominate in the research projects which outstanding women scholars, recipients of the 1943-44 \$1,500 fellowship awards, will undertake.

A Brazilian woman physician, Dr. Yvonne Parigot de Souza, will study advanced obstetrics. After learning this country's method of handling maternity and child welfare cases, she expects to set up a model maternity center in Brazil.

A botanical encyclopaedia for the Eastern United States, a twin to "The

Vegetation of Western United States" on which she is already working, will be prepared by Dr. Dorothy I. Parker of Bargersville, Ind.

Animal surgery experiments in the field of sex hormones will be conducted by Miss Elly M. Jacobsen of the University of California at Los Angeles. Dr. Elizabeth Z. Burkhart of Clarksville, Ark., recipient of another fellowship, will study at the University of Chicago the reactions of the accessory reproductive glands of male rats to doses of hormone.

A student of pharmacology at the Harvard Medical School, Miss Harriett F. Mylander of Cambridge, Massachusetts, was awarded a fellowship to study inhibitions of the central nervous system.

The effectiveness of dental hygiene methods in the public schools will be investigated by Miss Leah Gold, Dental Hygienist of New Haven, Conn.

Miss Marguerite Young, of Terre Haute, Ind., will write a book on "Utopias on the Wabash." This will give the history of "old" New Harmony, the home of two communistic societies.

The A. A. U. W. recently conferred a new achievement award of \$2,500 upon Dr. Florence Seibert for her work in the field of tuberculosis research.

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CHEMISTRY

Fabrics Rendered Fireproof, Waterproof, Mildewproof

➤ **COATING** fabrics to render them fireproof, waterproof and mildewproof is now done commercially with chlorinated paraffin. This is not a new chemical; it has been known for some time, but until recently no satisfactory commercial process had been discovered by which sufficient quantities could be obtained to put it into general use.

Chlorinated paraffin is made by treating paraffin, a petroleum product, with chlorine. Hydrochloric acid is obtained as a by-product.

The new process produces chlorinated paraffin of stability and good color. It has properties which will make it usable in many commercial fields. It is non-inflammable, has low vapor pressure, and favorable plasticizing qualities.

Chlorinated paraffin does not oxidize or undergo other changes in hardening. In order to use it in the production of fabric and other coatings, and in making plastics and other products, it is compounded with cellulose derivatives, resins or other solid materials.

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PSYCHIATRY

Absenteeism May Be Due to Emotional Ills

➤ **ABSENTEEISM** may be due in some cases to emotional illnesses of workers, Dr. John Romano and Dr. Milton Rosenbaum, of Cincinnati, told the American Psychiatric Association meeting in Detroit.

Many defense workers have been treated by these physicians for troubles that seemed to be provoked or at least affected by the strains and stresses of their work, it was revealed.

One woman, who was of a strong masculine type, was described. This woman, when placed with all men workers, proved to be very efficient and outdid the men at their own work. This resulted in jealousy and hostility both in the woman and among the men.

The very size of the plant is distressing to some persons working in the modern huge war factories. The worker feels insignificant, insecure and in fear of losing personal identity, the physicians said. This may be a special problem for the timid, the aged and those with limited intellectual capacity.

Some are affected by the noise, especially at first, and some have difficulty in sleeping when they are on the night shift. Some women expect special privileges on account of their sex.

Science News Letter, May 22, 1943

DENTISTRY

Girls Have More Caries Than Do Boys Same Age

➤ **GIRLS** have more teeth affected by decay than boys of the same age, according to a report by Lieut. Harry J. Healey, U. S. Naval Reserve, and Dr. Virgil D. Cheyne, Indiana University School of Dentistry (*Journal, American Dental Association*, May). This statement was based on a survey made of 4,348 University of Minnesota freshman students and 3,234 students at the University of Indiana.

The difference in the prevalence of caries between boys and girls was not large, however, and Dr. Cheyne and Lieut. Healey believe that the length of exposure of the teeth in the mouth would account for this. A girl's permanent teeth come through sooner than a boy's, so that beyond this difference the authors believe that the decay bears no relation to sex.

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