

## METROLOGY

## Discuss Metric System

WHETHER INDUSTRY should abandon the inch and adopt the centimeter is being debated. It is being urged that the other units of the metric system widely used abroad and in research laboratories in this country should be used more universally.

Already legal and the prime standard of measurements, the metric system is still not generally used.

Discussions at the American Association for the Advancement of Science, meeting in Chicago, showed that some large industries notably in pharmaceuticals and astronautics favor converting to the metric system. Other areas, notably steel fabricating, automobile manufacturing and gauge manufacturing are opposed.

Vice Admiral G. F. Hussey Jr., managing director, American Standards Association, New York, reported that the discussion tended to support opposition to the conversion.

Most industries that favor the metric system, like pharmaceutical manufacturers, are closely allied to research methods. For instance, Parke, Davis and Company, Detroit, has converted to the metric system with standardization of all weighing and measuring equipment, reduced chances of error, less maintenance, simpler inventory, and full use of electronic data processing.

## ARCHAEOLOGY

## Ancient Winery Found

A WINE-MAKING plant, complete with storage space for a total of 30,000 gallons of wine, has been found near the famous well of Gibeon, at the modern village el-Jib, Palestine.

The 2,600-year-old winery, probably the oldest in the world, was discovered when handles from wine jars found in the well suggested further investigation. Each handle bore the name and address of the maker of the wine, indicating that ancient Gibeon was a wine industry center.

In the course of excavation, 38 unusual vats were found cut out of limestone bedrock. Each one has a small opening of about 29 inches in diameter that could be covered with a stone. Each measures about six feet in diameter and averages seven feet, four inches in depth. The scientists decided they had served as cellars for storing and aging the wine.

Hundreds of broken pieces from storage jars were found in one cellar. In another, which had been covered by a stone, a whole jar was found. Here the wine could be kept at a temperature of 65 degrees even during the hottest part of Palestine's summer.

A number of funnels, found in the cellars, had apparently been used for transferring the wine from larger jars into smaller ones for export. Stoppers for the jars also turned up, but the scientists who excavated the area were reasonably sure

On the other hand, metal industries, auto makers and similar firms cite in opposing the metric system the cost of the physical changes in drawings and equipment that would be necessary and the loss of skills on the part of designers and workmen accustomed to visualizing in inch dimensions.

Expression of fractions of pounds, pints, etc., in decimals, not in ounces, etc., was favored by Dr. Colston E. Warne, professor of economics, Amherst College, and president, Consumers Union of U.S. Where 3 lb. 2½ oz. now appears on a "giant size" detergent package, it would read 3.16 lb. This would make it easier for a customer to do his arithmetic in choosing the best buys.

The eventual goal in Dr. Warne's opinion would be a switch to the metric system of units, but a step in that direction would be to do what one brand of baby food does, when its label states both kinds of units: 3½ oz., 99 grams.

Dr. Warne suggested that some manufacturers may produce varied and peculiar weights of packages merely to confuse the buyers. On one grocery shelf seven weight packages, ranging from 2 lb. 5½ oz. to 3 lb. 8½ oz. were found all labeled "giant size."

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these could not have provided the air-tight seal necessary to keep wine from spoiling while in storage.

A wine maker at a nearby monastery provided a possible answer. If olive oil is poured on top of wine in a jar or bottle, a seal is provided, he said. The finding of two olive presses on the site confirmed this answer. Wine presses, dipping basins and stone troughs were parts of the wine-making equipment found.

The expedition to Gibeon was sponsored by the University Museum of the University of Pennsylvania, Philadelphia, under the direction of Dr. James B. Pritchard. His report appears in *Expedition* (2, 17, Fall, 1959).

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## ENGINEERING

## Supersonic Wind Tunnel Nearing Completion

### See Front Cover

A HUGE supersonic wind tunnel is now nearing completion at the Arnold Engineering Development Center at Tullahoma, Tenn.

The tunnel, a key facility for testing space vehicles, missiles, propulsion systems and components, has a diameter of about 55 feet at the point shown in the photo-

graph on the cover of this week's SCIENCE NEWS LETTER. Speeds of approximately 3,000 miles per hour at simulated altitudes of more than 100,000 feet will be created using what is described as the largest rotating machine ever built.

Two 83,000 horsepower motors as well as two smaller "starting" motors of 25,000 horsepower each, built by the Westinghouse Electric Corporation, supply the power.

The scaffolding supports workers who are installing the layer of insulation material that will absorb temperatures as high as 650 degrees Fahrenheit.

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