

sistance welding because many new and special alloys have been brought into common use and because welding must be done by comparatively unskilled men and women.

"Conventional alternating current resistance welding control has been expanded to meet the exacting requirements of welding the many new alloys made available for war use," Mr. Pal-

mer said. "A current regulator has been developed that will maintain constant current. Special sequence controls are available to meet any cycle of power applications found necessary to weld and heat treat the material to be fabricated."

*Science News Letter, April 24, 1943*

*Sugar beets* produced about one-fourth of the sugar used in the United States before the war.

"Fabrication is intimately related to gluing operations and until the aircraft manufacturers solve their gluing problems they will always have fabrication problems," declared Mr. Peterson. Most glue manufacturers supply users of their products with general instructions on gluing temperatures, pressures, and assembly periods which the aircraft manufacturers are advised to follow. Supplementary instructions were given by the speaker.

Above-normal temperatures have been recommended to reduce the period required for pressing for cold-press glues.

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## CHEMISTRY

## Gas Attacks Expected

If Hitler's bombers make raids on American cities, they can be counted on to drop poison gases in bombs or sprays, official declares.

► **HITLER'S BOMBERS**, if they make their expected raids on American cities, can be counted on to drop poison gases in bombs or sprays, Col. A. Gibson of the Chemical Warfare Service declared in Detroit.

Col. Gibson, who is chief of the inspection section, Office of Civilian Defense, took part in a special symposium on civilian preparedness at the meeting of the American Chemical Society.

Gas will be used in raids on civilian populations whenever Axis war planners think it will be advantageous to them to do so, the Colonel asserted, and he added that a gas attack on an industrial area is capable of doing us a good deal of mischief because of the necessity to stop work in all places affected until they have been thoroughly decontaminated.

He disagreed with the widely accepted doctrine that civilians can avoid danger during a gas attack by going to the second story or higher and closing all windows tightly. Shutting the windows will do no good, he pointed out, because the enemy can be counted on to drop high explosive bombs along with the gas, and these will shatter the windows.

Neither can the heavy poison gases be expected to settle to the ground at once, Col. Gibson added. In chemical warfare demonstrations over New York City, in which harmless white smoke was used, the fumes piled up as high as the tallest skyscrapers; and at least some concentration of poison gases could be expected to do the same kind of thing.

In Germany, where civilians also expect to be gassed, basement air raid shelters are given gas protection, so that the same refuge can be used in

either high-explosive or gas bombardment or (what is much more likely eventually to happen) in a mixture of both.

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### Panic Is Feared

► **PANIC IS FEARED** even more than poison gas by those charged with the defense of the civil population against possible chemical attacks, Prof. Chauncey D. Leake of the University of Texas stated. People do not know about war gases, and they are afraid of them; but "Tell the people the truth about war gases and they will probably respect them more and fear them less," he said.

Some fumes that arise in certain types of fires may be mistaken for poison gases spread by the enemy, Prof. Leake pointed out, and this can give rise to reports of chemical attacks that have not actually taken place.

*Science News Letter, April 24, 1943*

## AERONAUTICS

### Mass Production of Wood Planes Means Good Glues

► **EFFORTS** to turn out wood aircraft in mass-production quantities and at the same time take full advantage of recent developments in glues, design and fabrication techniques, are problems facing the manufacturers of wood airplanes. These were discussed by Ivar C. Peterson at the National Aeronautical meeting of the Society of Automotive Engineers in New York. Mr. Peterson, an aeronautical engineer, is with the U. S. Civil Aeronautics Administration in Washington.

## PHYSIOLOGY

### High Blood Pressure After 40 Not Abnormal

► **SLIGHT** and moderate degrees of high blood pressure, as represented by readings around 150 systolic and 90 diastolic, in persons 40 years old and older are not abnormal. Probably half the population over 40 has such blood pressure readings.

These opinions, based on careful studies of 14,849 persons over age 40 from all walks of life, are reported by Commander A. M. Master, U.S.N.R., and H. H. Marks, of the Naval Medical School at Bethesda, Md. and Capt. Simon Dack, M.C., A.U.S. (*Journal, American Medical Association*, April 17). Part of the work was done at Mount Sinai Hospital, New York, and the Metropolitan Life Insurance Company before the scientists entered the services.

This new view of what constitutes

### The History of Chemotherapy

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normal blood pressure in middle and old age, however, does not conflict with the fact that persons with lower blood pressures have a better chance to live longer.

Limits of normal blood pressure at ages over 40 should be raised, the scientists state, adding that they are now working on the development of new standards.

*Science News Letter, April 24, 1943*

## CHEMISTRY

## Food Research Reported

Nutritional values of meat proteins for troops and lend-lease shipments are found to be preserved in processing.

➤ MEAT for our armed forces overseas and for lend-lease shipment to our fighting allies keeps its nutritional value under the processing methods used, a three-man research team in Swift and Company's laboratories learned by test feedings to white rats. They experimented with the proteins of beef and pork as processed in four different ways: dehydration, canning, roasting and frying. In all cases, the results indicated "that from a practical standpoint there was no significant decrease in the nutritive quality of the proteins."

This report was presented to the American Chemical Society in Detroit by Dr. C. E. Poling, Dr. H. W. Schultz and Dr. H. E. Robinson.

*Science News Letter, April 24, 1943*

### Processed Milk Valuable

➤ PROCESSING milk leaves its proteins unimpaired in nutritional value, Prof. Carrell H. Whitnah of Kansas Agricultural Experiment Station told the Society. The milk samples used in tests on that most accommodating of animals, the laboratory rat, were evaporated, canned and sterilized. Some of them were also irradiated to produce either 270, 540, or 800 units of vitamin D per quart. In all tests, the variously treated samples of milk were found to be "without loss of protein quality as measured by digestibility or biological value."

Other tests showed no difference in digestibility or biological value in samples of evaporated milk at various periods from two weeks to 14 months after preparation; in other samples protected against spoilage with various preservatives, and in still others selected at various stages in the cow's lactation period.

*Science News Letter, April 24, 1943*

### Sulfa Affects Nutrition

➤ UNFAVORABLE effects of some of the sulfa drugs on the nutrition of patients receiving them was reported by Dr. Gustav J. Martin of the Warner Institute, New York. At least part of these drawbacks to the use of the "miracle drugs" are due to action of the sulfa compounds in discouraging the growth of the bacteria in the digestive tract, which appear in some way to aid the formation of certain vitamins.

One vitamin in particular, the hemorrhage-stopping K, is dangerously diminished by sulfa treatment, so that the patient is apt to bleed troublesomely from minor wounds. This condition can be corrected by adding vitamin K to the diet. It appears also that vitamin C acts as an "encourager" to vitamin K, so that the addition of C to the sulfa-treated patient's diet is helpful as well.

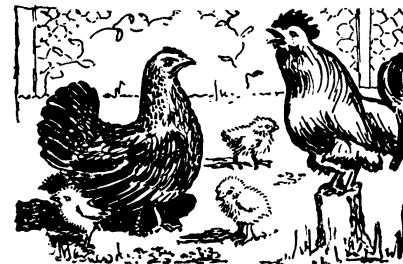
*Science News Letter, April 24, 1943*

### Test Loss of Thiamin

➤ EFFECTS of various steps in the canning process on the thiamin (vitamin B<sub>1</sub>) content of several vegetables were reported before the meeting by Dr. L. E. Clifcorn and Dr. D. G. Heberlin, of the Continental Can Company.

The preliminary process of blanching, that is, brief scalding of the vegetables with steam or hot water, seems to have variable effects. Even size has something to do with it; large green peas lost less thiamin upon blanching than did little ones. Asparagus showed no loss of the vitamin after blanching in hot water at 170 degrees Fahrenheit for 90 seconds. After blanching, whole green beans were found to have retained 94% of their original thiamin content, but their retention in cut beans was only 84%.

*Science News Letter, April 24, 1943*



### Mixed Symbols

➤ EASTER EGGS, gaily dyed and decorated, have come to be taken pretty much for granted as just something we do at Easter time, just as candles are an accepted part of the Christmas celebration. Most of us have forgotten the symbolism once taught us at Sunday School: that the egg, capable of producing a living chick when its seemingly lifeless shell was cracked, is a sign and token of "resurrection, and life everlasting," breaking the seal of the sepulcher.

Presence of a rooster, somewhere in the background, fitted well enough into the Easter picture: was it not one of these trumpet-voiced birds that chided Peter for his weak-kneed denial, and put into his spine the stiffening of repentance?

All this is wholly orthodox and proper Christian symbolism; but there are elements mixed in with it that represent survivals of remoter, more nearly forgotten pagan observances. Giving gifts of eggs at all is a pre-Christian custom: the old spring festivals were seed-time rites, and anything suggesting sprouting and fertility was proper to the occasion. Eggs and chickens, rabbits and their young, wreaths of flowers for the hair, all belong to these dimly remembered ceremonials of the childhood of our race.

It is, perhaps, not too violent a stretch of the imagination to suggest that even our most sophisticated Easter bonnets are such survivals. All the ladies have done is interpose a bit of straw or felt between their hair and the flowers, and substitute non-wilting artificial blooms for the perishable gleanings from spring-time meadows and woodlands. Confirmation of this theory of the paganness