

ment can be differentiated. Bones become clues to the migrations and changing fortunes of ancient American groups.

Hope of learning more about antiquity of the Peruvian surgical practice of trephining, or cutting a hole in the skull,

is held by Dr. Stewart. This major operation served to release pressure although the Indians apparently thought of it mystically as a way of letting out evil.

*Science News Letter, February 22, 1941*

MEDICINE

## Sulfanilamide May Prove Rheumatic Fever Preventive

### Establish Record of No Attacks Among 55 Patients Taking Treatment From November Through June Annually

**I**NCREASED hope that sulfanilamide may prove the means of preventing rheumatic fever attacks appears in a report to the *Journal of the American Medical Association* (Feb. 15) and in editorial comment on that report.

A record of no rheumatic fever attacks among 55 patients while taking continuous sulfanilamide treatment from November through June of each year between 1936 and 1940 is announced by Dr. Caroline Bedell Thomas, Dr. Richard France and Dr. Franjo Reichsman, of the Johns Hopkins Hospital and University. During the same four years, 15 major attacks of acute rheumatic fever occurred among 150 patients not taking sulfanilamide during the control period.

Rheumatic fever is a very widespread disease which seriously damages the heart and leads frequently to early death. More than 900,000 persons in the United States are said to suffer from rheumatic heart disease. It is the chief cause of death among school children and is responsible for at least 30,000 deaths annually in the United States.

The exact cause of rheumatic fever has not been discovered. Infection with the beta hemolytic streptococcus usually precedes attacks and this germ is thought to play a significant role in starting the disease. This germ is the one over which sulfanilamide accomplished its earliest triumphs, saving mothers whose lives were threatened by this streptococcus during childbirth.

Because of these facts, sulfanilamide was tried as a treatment for patients suffering rheumatic fever attacks. It was not successful in these cases and there was some evidence that it might be dangerous. The Baltimore doctors, however, and Dr. A. F. Coburn and Dr. Lucile V. Moore, of New York City, decided to try it, not as treatment, but as

a preventive of recurring attacks of the disease. Authorities generally agree that the patient who survives his first attack of rheumatic fever would have a good chance of living out a normal life span if he could be protected from these repeat attacks with their added injury to the heart.

As early as 1939, the Baltimore and New York doctors reported that major attacks of rheumatic fever did not occur, or occurred in only 1% of patients given sulfanilamide prophylaxis during the winter and spring months when streptococcus infections are most numerous. The present report of experience over four years adds to the hope that sulfanilamide prophylaxis of rheumatic fever will prove successful.

The drug is given twice daily in doses smaller than those used for treatment of disease. No serious toxic effects were observed. The editor of the *Journal of the A. M. A.* comments on the "hopeful picture" the report gives and adds:

"The final evaluation of this method of prevention awaits results obtained in large, carefully controlled series of young rheumatic subjects. In view of the widespread occurrence and the crippling effects of rheumatic fever, it is to be hoped that interest in and support for such projects will be sufficient to permit a final evaluation of this promising lead in the prevention of rheumatic fever."

*Science News Letter, February 22, 1941*

NUTRITION

## Frozen Dough for Cookies; Frozen Grass for Chickens

**F**ROZEN cookie dough that can be kept a year before baking, frozen grass for chicken feed, and frozen flowers for wintertime parties are news from the chilly realm where research workers are

adding more and more things to the list that can be frozen for a convenient future.

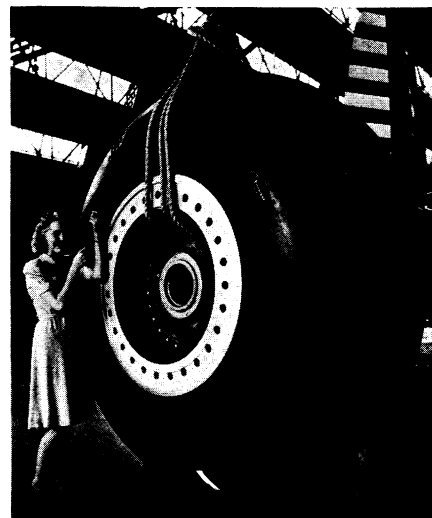
Putting various kinds of batter and dough through the quick freezing process—that gives us fresh-tasting strawberries and peaches now at all seasons—three home economists at Purdue University have been baking with material kept frozen up to a year.

Cakes which they baked from batter frozen and stored four months taste just like fresh-batter cakes, they found by handing out samples to critical helpers. Stored longer than four months, the cake dough was not so successful, they stated, reporting these experiments to the *Journal of Home Economics*.

Cookie doughs kept frozen a year turned out cookies just like freshly mixed batches of cookies, they learned. Pies baked from pastry dough nine months in storage were like freshly made pies. Rolls were "acceptable" when made from frozen-stored dough kept up to six weeks. Beyond that time, "off" flavors were detected.

Prospect that quick-frozen batters and doughs of many kinds may become commercial products for bakeries and may be added to the line of frozen foods in groceries is foreseen as a result of these tests.

Frozen grass for human eating and for the chickens has passed the experimental stage and become a new commercial product. Made from cereal grasses, cut when the growing grass is at the peak



**WORLD'S BIGGEST WHEEL**

*This giant is for the big Douglas Air Corps bomber and is about 23 times the weight of the young lady who stands beside it.*

of nutritive value, the grass product is a dried and powdered green flour which is stored at near zero Fahrenheit to preserve its vitamin content. A vitamin drink for humans and a mash for poultry are the forms the grass food takes when actually consumed. That the product is 10 to 80 times as rich in certain vitamins as fresh fruits and vegetables is the report of the laboratory producing the refrigerated grass food.

Gladioli, quick-frozen in the opening bud stage, have been held there several

months waiting a chance to blossom as if their opening had never been interrupted in experiments which promise to make the idea of flowers in season a quaint and old fashioned memory.

And to round out a picture of ours as a frozen age, are such current developments as frozen blood plasma for keeping blood for vital transfusions and the saving of babies' lives by freezing mothers' milk into wafers and shipping it as needed.

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#### AERONAUTICS

## Whirling From 50-Foot Tower New Test For Parachutes

### Adaptation of the Amusement Park Airplane Ride Shows Faults of 'Chutes by Slow Motion Pictures

**P**ARACHUTE testing might seem to be a rather perilous task, like distinguishing between mushrooms and toadstools by noticing whether or not you are alive the morning after you eat them.

Of course, it is possible to tie a man-sized sandbag to a chute, and drop it from a plane, but then it is hard to observe exactly what happens when it opens.

To avoid these difficulties and make feasible the testing of these aerial life-

belts to assure that they will operate the way they should when they are needed, a novel method has recently been introduced at Manchester, Conn., by the Pioneer Parachute Company, now operating on a 24-hour basis supplying chutes to the Army and Navy.

The testing equipment is an ingenious adaptation of the amusement park airplane ride—the kind where little airplane-shaped cars are suspended by cables from a huge horizontal wheel on top

of a tower. When the wheel is revolved, the cars are thrown outwards by centrifugal force, and the riders whiz through space at a high speed.

Floyd Smith, Vice-President of the company, himself a pioneer in the parachute business, worked out the new method. On a hillside a few miles from the plant a fifty-foot tower has been erected. At the base is a 320 horsepower Diesel engine, connected by a shaft to a revolving rigging at the top. Attached to this is a dummy, with a parachute pack attached to its back, which can be spun around at speeds ranging from 70 to 300 miles per hour.

When the whirling dummy is going at the desired speed, the parachute is automatically released. Then, with the dummy, it gently floats to earth. This, of course, happens so fast that the eye cannot follow the action. So a 16 mm. movie camera, speeded up 7.5 times, to take 120 frames per second, films the whole process.

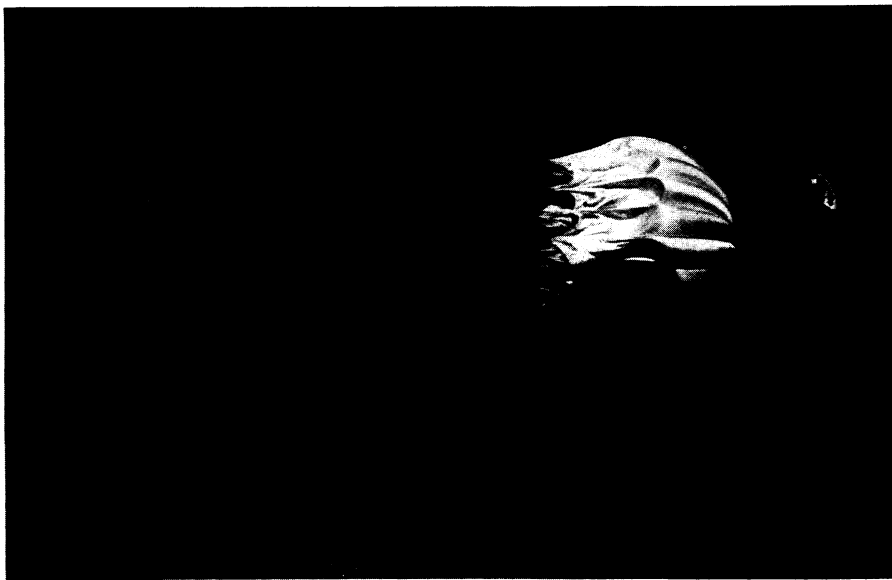
The camera is attached to the rigging, revolving with it. It starts just before the parachute is released, so every detail is recorded, for future study.

Some surprising, and enlightening, facts have been discovered. For instance, the little "pilot" chute, supposed to open first and serve as an anchor to aid the unfolding of the big umbrella, in many cases was the last thing to open. This represented a possible source of danger since it might foul the main canopy and the lines holding the user. So an improved pilot was devised, and a way found to pack it so it would always open first.

The studies also showed how the main parachute could be packed to avoid another source of failure. This happened with the older packing methods when the skirt of the canopy tilted upwards in opening, spilling the air out.

The armed services of Canada, England and South American nations, as well as our own country, have sent representatives to inspect the tower and its work, says Mr. Smith. He foresees rapid strides in parachute development, not only for bringing aviators from damaged planes safely to the ground, but also for the safe dropping of heavy bodies, such as boxes of supplies to an isolated location.

*Science News Letter, February 22, 1941*



#### SIMULATED JUMPS

*Parachute jumps of several miles at least would be needed to duplicate the speed which the testing dummy attains in this device for finding why parachutes sometimes do not open as they should.*

Traditional luck of the farmer's wife with *house plants* in the kitchen is largely due, says a botanist, to the vapor pouring steadily from the kettle on the range into a moderately heated room—very different from hot, dry city dwellings.