

animals by the use of the techniques developed by Dr. Knisely and associates. Better defenses against many diseases may result.

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## New Theory of Acne

**A** NEW theory of acne, which lays its cause to an upset of glands and chemical processes akin to that in diabetes, and a new treatment which succeeded in more than 400 cases, was announced by Dr. Richard L. Sutton, Jr., of the University of Kansas Medical School, at the meeting of the Southern Medical Association.

Acne, along with greasy skin and blackheads, is due, Dr. Sutton believes, to "failure of the bodily chemical economy to manage oils successfully," just as in diabetes the body fails to handle sugars and starches successfully. In diabetes, the glands called the Islands of Langerhans, in the pancreas, are disordered. In acne, Dr. Sutton believes, the disordered gland is the thyroid.

Diabetes is controlled by reducing the intake of sugars and starches, enhancing the body's ability to handle these, if necessary, by giving insulin. Acne is controllable, he finds, by reducing the intake of fatty foods, enhancing the body's ability to handle these, if necessary, by giving thyroid gland extract.

Some patients with acne are not helped by the low-fat diet plus thyroid extract. These are the redheads with very fine-textured skins. They are helped, Dr. Sutton discovered, by a diet low in carotinoids, the chemicals which give color to carrots and spinach and from which vitamin A is formed.

The low-fat diet, Dr. Sutton warns, can lead to serious trouble if it is not followed under a doctor's supervision. But no ill effects developed, he reported, in the more than 400 patients who followed it under his supervision and they were "relieved of fatigability, constipation and mental depression to a noteworthy degree, while at the same time their acne gave ground."

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## Lotions Prevent Acne

**A**CNE can be prevented in many cases by starting children between the ages of 7 and 11 years on the regular use of lotio alba or other mild sulfur preparations for their faces, Dr. Andrew Louis Glaze, of Birmingham, Ala., declared.

Satisfactory results with this prophylactic treatment for 10 years in 200 cases has convinced him that acne can be mitigated and in many cases prevented, although cystic acne is not prevented by the procedure.

Young patients are advised to continue using the lotions through ado-

lescence. The idea of prophylactic treatment is based on the general agreement among skin specialists that the earlier acne is treated, the better. Dr. Glaze believes in starting the treatment ahead of the early stages of acne, at the time when the ground is being paved for development of the condition.

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PHYSICS—PSYCHOLOGY

# Artists, Like Rest of Us, Sing Best in the Bath

## Public Address System Inaudible to Audience Enables Singer To Hear Himself as Though in Small Room

**V**OCALISTS on the concert stage will produce the best effect upon their audience if the stage is just one big bathroom, acoustically speaking. This is the latest advice from science to art.

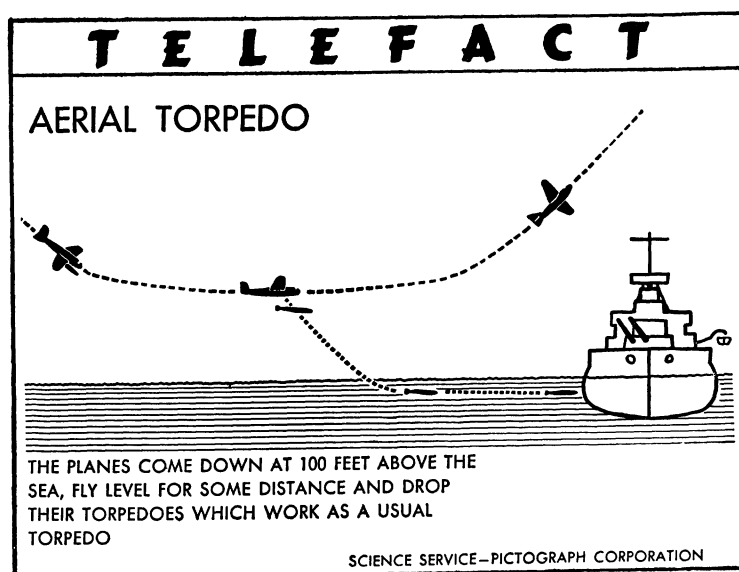
Concert singers, like ordinary mortals, sing their best in the bathroom. Thus, their performance in public is better if the stage is made the equivalent acoustically to the bathroom, Harold Burrismeyer, of Stevens Institute of Technology, Hoboken, N. J., has found.

Speaking before a meeting of the Acoustical Society of America in Chicago, he told how this effect is obtained, using a technique originated by Paul Robeson, and employed by him last month in a Carnegie Hall recital.

The Robeson technique, as Mr. Burrismeyer has developed it, consists in using a public address system with the loud

speaker about fifty feet away from the singer. This is aimed at him, so he gets the effect of the reverberation of a small room, and can hear himself. The volume of the reproduced sound is kept low enough that the audience is not aware of it.

"The results of not being able to hear," said the speaker, "are the catalogue of the artist's woes: tension, inability to relax, a feeling of being ill at ease, of low vocal efficiency, forcing the voice in an effort to project, using a higher key than is best for the song in an effort to get out more volume and fill up the house. Some singers carry all the pieces in their repertoire in a number of keys and use the one which is nearest the resonant frequency of the hall, despite the fact that few singers can sing the same number equally well in more than one key."



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"The concert artist does not really doubt his ability to fill the house. The inability to hear himself, however, bothers him, sometimes enough to lead him into faults which militate against a good performance."

Mr. Burris-Meyer finds that the method works best when only the higher frequencies of the voice, those above 500 cycles per second, reproduced. At the relatively low intensities used, the absence of low frequencies is not apparent, he stated, and if they are used they are more likely to spill over and be heard by the audience.

"The enthusiasm of the artists who have tried it beats anything of the sort

I have encountered," Mr. Burris-Meyer declared. "We inveigle them into trying the technique and they won't go home. We have heard expressions like 'I could sing all night' and 'Why, it shrinks the room way down.' These are standard first reactions. The enthusiasm of the artists seems to be justified. In the first concert in which the technique was tried at Carnegie Hall, Mr. Robeson was able to sing 'Water Boy' in a lower key than he had ever used before for that number in concert.

"It is important to emphasize the fact that the technique has no effect on the sound as the audience hears it."

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Jotham, king of Judah, Aramaic writings on scraps of pottery, and the rare find of a Minaean inscription, a fragment of writing of a Semitic people of Arabia who established an extensive empire there.

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## Ancient Seals Arranged

THE largest collection of Mesopotamian cylinder seals in the United States, in the Pierpont Morgan Library, is being catalogued, Miss Edith von Porada reported to the American Philological Society. More than a thousand records of Babylonian and other ancient Tigris-Euphrates peoples who wrote on clay are in the collection.

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### ARCHAEOLOGY

# Americans Have Salvaged Much of Athens' History

## Ten Years of Digging in Athenian Market Place Have Brought To Light Impressive Array of Relics

WHILE Athens lies in the zone of devastating war, American scientists in Philadelphia listened to the deeply impressive summing up of history and art relics that Americans have saved in ten years digging in the old, buried Athenian Market Place.

Eight thousand Greek treaties, decrees, and other records have been unearthed, greatly enriching Athens' history, Dr. T. Leslie Shear, director of the American School of Classical Studies at Athens, told the American Philological Society. His expeditions, which have excavated a 25-acre area to examine the long-lost civic and trade center of classical Athens, have recovered much sculpture, including unique masterpieces, and well-preserved vases showing art progress from 4000 B. C.

The plan of the Market Place has been accurately mapped, and the appearance

of this scene of so many historic Greek events can be vividly shown on paper, now. About 90,000 coins from all over the Mediterranean world have been unearthed, furnishing significant evidence of trade history. War conditions interrupted the excavations this summer.

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## King Solomon's Naval Base

CONTINUING to dig this spring at Solomon's seaport of Ezion-geber, despite disturbed international conditions, Dr. Nelson Glueck of the American Schools of Oriental Research learned more about King Solomon's ancient Hebrew Empire and trade expansion ventures in the Near East, he reported.

Ezion-geber was a strong fortress and an important naval base, Dr. Glueck has determined. Located by one horn of the Red Sea in Transjordan, this city which Solomon built far beyond Palestine could guard the junction of roads leading to and from Arabia. Copper and iron ingots and metal objects which were turned out in the factory area of Ezion-geber were loaded on Solomon's ships and dispatched through the Red Sea to Arabia, returning with incense and other precious wares.

In Ezion-geber's ruins, Dr. Glueck reported unearthing a signet seal-ring of

### ASTRONOMY

## Mercury Transit Films Indicate Planet Was Early

WHEN the planet Mercury passed in front of the sun on Armistice Day, it was about half a minute earlier than the time predicted in advance, according to observations made at the Mt. Wilson Observatory. (See SNL, Nov. 23 for photograph.)

Astronomers do not regard this difference as very important, however, since the atmospheric conditions through which the light passes could easily make it this much early or late. Though cloudy weather over much of the nation prevented many planned observations by amateurs as well as professional astronomers of the transit of Mercury, it is hoped that a number of them secured satisfactory results. By averaging these, accidental differences may be ironed out, and a precise value obtained. This is important in checking both the rotation of the earth and the movement of Mercury.

The Mt. Wilson photographs were made with the two tower telescopes, one 60 feet, the other 150 feet in height, which are especially designed to observe the sun. A preliminary reduction of these films was made by Dr. Seth B. Nicholson, who finds that Mercury was completely on the face of the sun beginning at 12 hours 50.4 minutes p.m., Pacific Standard Time. According to advance prediction, it should have been 50.9 minutes.

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Some primitive languages have no word for "word."

Welding, instead of riveting, may be tried in construction of Army tanks.

## ● RADIO ●

D. B. Mason, director of Freeport Sulphur Company, will describe a flotation process pioneered in Cuba to improve low grade manganese ores to make them suitable to be made into ferromanganese for use in steel manufacture, as guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, Dec. 5, 3:45 p.m. EST, 2:45 CST, 1:45 MST, 12:45 PST.

Listen in on your local station. Listen in each Thursday.