



**PRODUCES HIGH SPEED WINDS**—Gales approaching the speed of sound can be made in this new concrete wind tunnel, which has recently been put into operation at one of the Boeing Aircraft Company's laboratories, for testing the behavior of planes and their parts.

the future. It is believed that present-day aircraft at their moderate speeds affect the air ahead of them in such a way that the air can readily flow about their wings and bodies. The airplanes of

the future are expected to cruise at speeds from 600 to 800 miles an hour, and it is felt that a different type of air-flow occurs at these higher speeds.

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#### PSYCHIATRY

## Electric Sleep

**New treatment used for schizophrenia, common mental disease, results in improvement for 26 out of 34 cases. Differs from shock treatment.**

➤ A NEW TREATMENT for the mental disease, schizophrenia, was announced for the first time at the Philadelphia meeting of the American Psychiatric Association. The treatment is called electronarcosis, or electric sleep. It was described by Dr. George N. Thompson of Los Angeles. Working with him to develop the new treatment were Dr. Esther Bogen Tietz and Dr. A. Van Harrevel, of Los Angeles, and Dr. C. A. G. Wiersma, physicist of the California Institute of Technology at Pasadena.

Of the first 34 patients treated, 13 were termed Grade A recoveries, another 13 improved to the point of social adjustment though retaining some personality defects, four were improved but not markedly, and four failed to benefit. Of the four failures, it was subsequently found that three had had previous attacks of schizophrenia more than two years before the treatment. The Los

Angeles doctors believe the treatment is likely to succeed only in early cases who have been sick less than two years.

The treatment differs from electric shock treatment in that the electric current passed through the patient's brain is controlled to produce first a convulsion and then to keep the patient unconscious for seven minutes. Although electric sleep had been given to animals and even used as an anesthetic during operations on them, it was not possible to give it to human patients until a method was found for automatically compensating for the moderate changes in the resistance of the patient's circuit. Credit for devising a machine to do this goes to Dr. Wiersma.

Electronarcosis is safe and practical, the California scientists reported. They have given over one thousand such treatments without a death or significant complication. They consider it superior to electric shock, stating that the

latter gave 43% recoveries and improvements compared with 76% for electric sleep which is, they stated, approximately the same as with insulin shock treatment.

The treatment is almost as fearful to watch as the various shock treatments. In moving pictures Dr. Thompson showed, the patients' bodies were drawn up in violent convulsion as the current went through their brain. In 30 seconds the current was reduced and the patients were quieter although one kept twitching her feet and another made walking motions with her legs. During the sleep phase carbon dioxide and oxygen were given through a mask. The patients breathed as if gasping for air, perspired profusely, had flushed faces and kept their arms drawn up rigidly. Within a few minutes after the current was cut they regained consciousness and a half-hour later one patient was shown smiling and relaxed, apparently on her way to recovery from the sickness that had locked her mind up in the shadows and delusions of insanity.

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## Aiding War-Bereaved

➤ HOW TO HELP the war-bereaved mothers, wives and other close relatives of the fighting men who will not come back was told by Dr. Erich Lindemann, of Massachusetts General Hospital, at the meeting.

These people who have what psychiatrists term grief reaction are likely to suffer symptoms of physical distress and mental and nervous abnormalities, he said, on the basis of experience with surviving relatives of the Coconut Grove fire victims.

Tightness in the throat, choking and shortness of breath, need for sighing, an empty feeling in the abdomen, lack of muscular power and intense subjective distress described as tension or mental pain are common to all sufferers from grief reaction. Lack of strength and exhaustion with the complaint, "everything I lift seems so heavy," was universal among those studied. The reaction may come immediately or be delayed. A slight sense of unreality, which may make the person fear insanity, a loss of warm feeling toward other people, a tendency to isolate herself from social activities, are other features of the condition.

Sometimes the grief reaction comes at the time of separation when the beloved one goes overseas, in anticipation of and as safeguard against the notice of death.

Many family disasters may result from this if, as in cases Dr. Lindemann cited, the soldier returns and complains his wife does not love him any longer and demands an immediate divorce.

In such cases the wife has done her "grief work" so effectively that she has emancipated herself from the departed husband and must readjust herself to his presence again.

The "grief work" which the bereaved must do consists in emancipating herself from bondage to the deceased and finding new patterns of rewarding interactions, forming new relationships and readjusting to an environment in which the deceased is missing. Comfort alone will not give enough help in this job of grief work. The severe cases, especially when the person develops great

and often frightening feeling of hostility, will need the help of a psychiatrist.

Since there are not enough psychiatrists to aid all the war-bereaved, ministers and social workers will have to acquire enough psychiatric knowledge to help the persons with normal grief reactions and to recognize the signs of more ominous trouble and refer such patients to psychiatrists for aid.

Persons who try to escape the discomfort of grief reaction by refusing to talk or think about their loss or by imagining the deceased is still with them are only storing up trouble for themselves. Much better, Dr. Lindemann says, is to express their sorrow and sense of loss and any guilt they feel and then work through to new feelings and patterns of conduct.

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#### MEDICINE

## Preventing Rh Deaths

➤ HOPE that vitamin C, the anti-scurvy vitamin of orange and tomato juice, might save the babies and their mothers who die because of the Rh factor in the baby's blood appears in a report by Dr. Lyman Burnham, of Englewood, N. J., at the New York meeting of the New York State Medical Society.

The Rh factor was first discovered in the blood of the Rhesus monkey, hence its name Rhesus factor, or Rh for short. Harmless in itself, it causes tragedy when blood containing it is mixed with blood not containing it, just as the mixing in the veins of any incompatible bloods may cause death. (See *SNL*, Nov. 27, 1943 and April 1)

When the baby has inherited the Rh factor from its father and the mother has non-Rh blood, the blood of the two cannot mix safely. Sometimes, however, the two bloods do mix before the child's birth and then the baby is likely to be still-born or to die soon after birth, though the first-born child in such a situation may survive.

How the mother's and baby's blood mixes before birth has not been understood. Dr. Burnham suggests that it is due to deficiency of vitamin C in the mother which results in a break in the blood vessels of the developing infant. This would permit its Rh blood to escape into the mother's blood. Capillary blood vessels are known to be fragile and likely to break when there is a deficiency of vitamin C.

The mother might not be so deficient

in vitamin C as to show signs of scurvy and yet might not be getting enough for her own needs plus the amount needed to give strength to the developing capillary blood vessels of her unborn infant.

In support of his theory, Dr. Burnham points out that in normal pregnancy the amount of vitamin C in the blood plasma decreases almost to deficiency levels and is only about one-third that of non-pregnancy. Food habits and tastes of the mother, seasonal variations in the amount of the vitamin in foods, and nausea and vomiting may keep the mother from getting enough vitamin C.

In 12 out of 13 mothers of babies with erythroblastosis, the condition resulting from the mixing of the baby's Rh blood with the mother's non-Rh blood, Dr. Burnham found from their histories that the mothers had apparently not been getting enough vitamin C in their diets during pregnancy.

Even when the mothers are eating enough vitamin C foods, they may have some condition that prevents absorption of the vitamin or increases its elimination by the kidneys. The latter occurs in dogs in the presence of increased female sex hormone. Large amounts of this hormone are normally found in human mothers in early pregnancy.

If Dr. Burnham's theory proves correct, it may be possible to prevent Rh deaths of mothers and babies by vitamin C treatment if the father's blood shows the Rh factor.

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#### PSYCHIATRY

## First Aid to Save Minds Taught in New Courses

➤ A NEW KIND of first aid course, designed to teach people how to save minds threatened by battle or other war strain, just as the Red Cross first aid courses teach them to save lives threatened by hemorrhage and physical injury, was announced by Dr. Daniel Blain, of the U. S. Public Health Service, at the Philadelphia meeting of the American Psychiatric Association.

Experience at a rest home for men of the Merchant Marine who have broken mentally and emotionally led Dr. Blain and his associates, Dr. Paul Hoch of New York and Dr. V. Gerard Ryan of New Orleans, to develop this course in psychological first aid. Actually, there are three such courses, one elementary, one for lay persons, and two more advanced ones for teachers, medical personnel and physicians without special knowledge of psychiatry.

The elementary course teaches what the nerves are, how they affect the body, how the body responds to feelings of hunger, fear, anger, and the like, and how to keep both mind and body healthy.

There is a set of directions for psychological first aid in mild cases of mental or emotional disturbance which the patient can apply to himself, and another set of directions for first aid in acute cases to be applied by someone else.

Merchant seamen trained in these courses will be able, Dr. Blain believes, to help themselves and their mates in time of stress. Since civilians are also subject to war strains, he thinks they, too, should take courses in psychological first aid to learn how to apply a splint, as it were, to a mind threatening to crack if not helped through the emergency before the psychiatrist can arrive to take over.

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#### PHYSIOLOGY

## New Three-Minute Test For Night Vision Used

➤ A NEW three-minute test of night vision is being installed in Navy ships and training centers to help in checking the fitness of men for duty as night flyers, night lookouts and other work requiring "cat's eye" vision, it is announced by the American Optical Company.