

## PSYCHOLOGY

**Stuttering Children Talk More, Not Less, Than Others**

**T**HE STUTTERING child is not driven by his speech defect to silence. On the contrary, stuttering children are considerably more talkative than are children with normal speech, tests conducted by Dr. H. Meltzer, of the Psychological Center, revealed. (*Journal of Genetic Psychology*, June.)

Fifty stuttering children from the speech centers of a large city school system were tested, as were also a comparable group of 50 children with normal speech. Each child was shown an ink blot and asked to tell what it looked like to him.

Here is the response of a talkative little stutterer—a ten-year-old girl from the fifth grade (with the stutters omitted for the sake of the printer):

"It looks like a butterfly. It has wings and its face is up in the front. It is very pretty. It has no color. It is spreading its wing. It looks like it is going to fly. It has something like a tail at the bottom. It has a straight line through the middle. Its face is very little."

And here is the terse reply of a 14-year-old sixth-grade boy who does not stutter concerning the same ink blot:

"A cloud."

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## NUMISMATICS

**"Holey" Money Suggested For New One-Mill Coins**

**W**ILL the United States have "holey" money—coins with the center cut away like the French 5, 10 and 25 centime pieces or Chinese coins?

As discussion of one mill and half-cent (five mills) coins to help payment of sales taxes throughout the nation wages in Washington, officials of the U. S. Mint are wondering what kind of coin Congress will authorize, if and when it legalizes such minor currency.

The coins will be made of aluminum; of copper; and of combinations too diversified to be mentioned, according to unconfirmed rumors and off-the-record reports.

But at the offices of the Mint, from which the job of producing the coins will be directed, if they really are wanted, no one knows what size, weight or metal will be used.

All the Treasury officials know is that any coins—including any new ones to come—must be produced on the black side of the ledger.

A one-cent piece, for example, must cost less than a cent to produce.

With talk of a one-mill coin, the problem of producing a thousand of them for one dollar becomes a major mass production problem.

If Congress really authorizes the coinage of fractional cent pieces and fixes the size to be something like that of present coins, then it may be necessary to use the French technique of punching out the center and producing a doughnut coin to save metal.

That's one solution suggested so far to meet a problem which is yet to be faced.

More than that, the metals used in the coins will have to be cheap whether they are aluminum, copper, nickel, bronze, zinc or any of the diversified metals used by other nations of the world for their minor coins.

The assayers of the Mint are making quiet tests on various possible coin alloys but are saying nothing at all about what the metals used may be.

The Treasury, these days, is bending over backwards because of its peculiar position in that it does not want even to give the appearance of attempting to sway Congress in any way about legislation which has not yet been officially requested. And yet it must watch all fronts and be prepared to offer advice on the best possible type of coins, when, as, and if it is asked to do so.

Discussing the situation, Director of the Mint Nellie Tayloe Ross told Science Service:

"I would scarcely believe that Congress would wish to dictate the exact nature of the alloy in any new coins which may be suggested but would wish merely to authorize coinage. The expert assayers of the Mint are now working on tests to determine the best composition for minor coins."

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## MEDICINE

**Acid in Spinal Fluid Test For Brain and Nerve Diseases**

**T**HE AMOUNT of lactic acid in the fluid in the spinal cord gives valuable aid in diagnosing certain diseases of the brain and central nervous system, particularly meningitis, Dr. S. Bernard Wortis of New York City reported at the Second International Neurological Congress in London.

The measure of this acid may also be used to tell the physician something of the progress of the disease and the patient's chances for recovery, Dr. Wortis reported.

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**IN SCIENCE**

## CHEMISTRY

**Burn Oil Remaining In Exhausted Wells**

**O**IL remaining in exhausted wells is being burned underground, and the resulting gases brought to the surface for use in industry, in a series of large-scale experiments conducted by Russian engineers in the great Baku oil fields. Hitherto such residual oil, estimated by some geologists to constitute as much as 20 per cent. of the original quantity, has been left as a total loss.

Analogous projects for the production of power underground have been proposed, for firing exhausted coal mines in the United States and other coal-producing countries.

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## PUBLIC HEALTH

**Mottled Teeth Increase In Vast Area of Texas**

**M**OTTLED enamel of the teeth, a condition traced to water supplies, is on the increase in a vast area of Texas, affecting many thousands of inhabitants, the U. S. Public Health Service has learned by a survey.

Changing from a normal smooth, glossy surface and creamy color, teeth of the affected individuals show opaque, paper-white patches and streaks, and there may be brown stain and tiny pits in the tooth surface. Very small quantities of fluorine in water supplies can cause this dental disease, it has been demonstrated.

"The Panhandle-west Texas region constitutes the largest mottled-enamel area in the United States," says the report to the U. S. Public Health Service by Dr. H. Trendley Dean of the Service and R. M. Dixon and Chester Cohen, representing the Texas State Department of Health.

"The fact that the municipal water supplies of such large cities as Amarillo, Lubbock, and Plainview contain the causative factor of mottled enamel in sufficient concentration to produce this hypoplasia in a high percentage of their children, has developed an acute and urgent public health problem."

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# E FIELDS

## ENGINEERING

### New Link Forged in World-Wide Communication Chain

THE possibility of imminent war between Italy and Ethiopia has resulted in the newest link in the world-wide system of radiotelegraph communication to handle the expected increase in message traffic.

Cable and Wireless, Ltd., of London, announces that London and Addis Ababa, Ethiopian capital, are now in direct communication by radio. The previous circuit included a relay station in Cairo, Egypt.

Messages from the United States are transmitted from New York to London by RCA Communications, and then to Ethiopia by its British associate, Wireless and Cable, Ltd.

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## ASTRONOMY

### "Forbidden Light" Unseen On Earth Clue to Nebulae

"FORBIDDEN light," which in reality never reaches the earth, has been indirectly analyzed by the spectroscope to give man increased knowledge of his remotest neighbors of the universe, the far distant nebulae.

Dr. I. S. Bowen of the California Institute of Technology announced this achievement at the Massachusetts Institute of Technology spectroscopy conference.

Applying a recently developed astronomical theory, he has investigated the light which does reach the earth and has worked back to an analysis of the "forbidden" wavelengths of light. This light with its plentiful energy is situated in the extreme ultraviolet of the spectrum and it is believed to cause the light that reaches the earth.

Theoretically the forbidden light, present in the powerful energy of the extremely hot stars, excites the tiny atoms of helium and hydrogen in the star. As these shaken-up atoms return to normal, they emit the light that reaches the earth. This phenomenon is known as "the fluorescence of hydrogen and helium in the stars."

For some time scientists have been

seeking to learn more about the astronomical islands whose distance in space is measured in terms of millions of light years with the penetrating eye of the spectroscope to aid them. Astronomers have been able to analyze some of the light coming from these nebulae and have learned much concerning their composition, probable origin and condition.

The fact that all the light leaving the nebulae does not reach the earth, some of it being filtered out by the layer of ozone circling our globe, has been a great obstacle to more complete knowledge. Attempts to produce this light artificially in the laboratory have also failed, and the light has been termed "forbidden" since science has never been able to analyze it.

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## AERONAUTICS

### Torn Fabric Caused Loss Of Soviet Balloon

RIPPED balloon fabric ended the recent (June 26) Soviet stratosphere flight just as it caused the failure of the Army Air Corps-National Geographic Society balloon Explorer II before it left the ground.

Whereas no lives were seriously endangered by the latest American adventure, the Russian flight in the balloon U. S. S. R. One Bis ended without major tragedy only because two of the three men who made the ascent jumped in parachutes and lightened the load at the crucial instant.

Details of the Soviet venture have just reached Science Service in Washington in mailed dispatches from Moscow. They offer a picture of what might well have happened to the Explorer II if its accident had occurred in the stratosphere instead of on the ground.

Prof. Alexander Verigo, chief physicist of the Department of Radioactivity and Cosmic Rays of the Geophysical Laboratory in Leningrad—who was scientific observer—and engineer Y. Prilutski, the co-pilot, were the two men who jumped. Chief Pilot K. I. Zille was then able to bring the balloon to a safe landing without damaging its highly valuable scientific apparatus and priceless cosmic ray records.

At 45,000 feet altitude on the ascent the balloon passed through a layer of turbulent air which tossed the 24,000 cubic meter bag to and fro. It is believed that this stormy session caused the rips. The buoyant gas quickly leaked away and only the parachute jumps stayed the rapid descent to a degree that made a safe landing possible.

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## METEOROLOGY

### No More Floods in Mississippi Valley

RESIDENTS of the central valleys drained by the Mississippi and its tributaries can breathe easier now that mid-July has passed without heavy rainfall. Ol' Man River keeps on flowin', but the flood season should now be over for 1935, says M. W. Hayes of the U. S. Weather Bureau. Past records of the Bureau fail to show that any extensive flood ever occurred between July 15 and winter in the Mississippi region, he says.

The ways of Nature can not always be predicted with exactness, however. From all indications, there should have been no floods in the Central Valley region this spring. The floods turned out to be the worst since 1927, due to unusual circumstances.

In most heavy flood years large amounts of rainfall during the preceding fall and winter saturate the ground, making water from the spring rains run into streams and rivers and cause them to overflow. This spring the ground was parched and dry from the 1934 drought, and streams were at extremely low levels. Hard and continued spring rains, coming suddenly, saturated and packed the surface soil, preventing absorption by the dry ground underneath. The water ran off into streams, bringing them from low levels to the flood stage quickly.

In the Central Valley region the use of river gauges enables the Weather Bureau to predict the possible rise in a river from two days to a month in advance.

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## ASTRONOMY

### Dr. Adams Elected Officer Of Astronomical Union

DR. WALTER Adams, director of Mt. Wilson Observatory, Pasadena, Calif., was elected a vice-president of the International Astronomical Union. Dr. Adams was the only American among the officers elected.

New president of the Union is Prof. E. Esclançon, director of the Paris Observatory. Other vice-presidents besides Dr. Adams include:

Prof. C. Bergstrand of Upsala University, Sweden, and Dr. H. Spencer Jones, astronomer royal of Greenwich Observatory, England.

The new secretary of the Union is Dr. J. H. Oort of Leiden University.

The next assembly of the international astronomical group will be held in 1938 at Stockholm.

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