

as in ordinary present-day air conditioning.

Just as the kerosene lamp industry was rendered obsolete by the incandescent gas mantle, and gas lighting was laid on the shelf by the electric lamp, Mr. Smith foresees that the present incandescent lamp may be superseded by the more efficient gas discharge lamp.

Danger of Breakdown

Danger to modern civilization threatens on two fronts. There may be a quick collapse due to war, or a slow breakdown due to internal decay. The only way out is through a general rise in the standard of living of all the people.

Voicing this Jeremiah-vision, Stuart A. Rice of the U. S. Central Statistical Board addressed the meeting. He said:

"There is a real possibility either of general breakdown in social organization as a result of another world war or of a slow decay of social organization arising from more subtle forces of disintegration within the social structure itself."

The danger of breakdown through military pressure, Mr. Rice declared, is due to a change in the nature of war in modern times. War in the past has often served as a force for social unification and progress, but its character has so changed that destruction of social organization is a major military objective.

Plenty for Everybody

The earth's resources are sufficient, even abundant, for any imaginable human needs, if only they are wisely developed and their products equitably distributed. This was indicated in a survey presented by Frank E. Lathe of the National Council of Canada.

Immense supplies of the commoner metals, especially iron, aluminum, magnesium and a few others are within easy reach, the speaker said. A few important metals, like tin, copper, zinc, and lead, face an "obscure" future, Mr. Lathe admitted, but the present supplies are readily available.

There need never be lack of food, clothing, and shelter, he continued. There are food supplies enough in sight now for all the earth's population, and production can be greatly increased through scientific application of fertilizers. Nor is there any visible limit to the possible resources in fiber for clothing and materials for housing. And sources of energy for heat and power are practically unlimited. The real problems facing the world are those of distribution and cooperation.

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AERONAUTICS—GEOGRAPHY—ASTRONOMY

Comfortable Week-End Cruises To North Pole are Foreseen

Sikorsky Predicts Service in 100-Ton Boats; Peary Hit Pole Exactly; Find Ancient Chinese Pictures

COMFORTABLE week-end cruises to the North Pole or one-week cruises around the world in 100-ton flying boats within a few years were predicted before the American Association for the Advancement of Science in Ottawa by Igor I. Sikorsky, noted aeronautical engineer and designer of two widely used types of clipper ship.

These flying boats, which will bring Liverpool within 12 or 15 hours of Quebec or India and Australia within three days of America, will appear like zeppelins with a wing on the upper surface, he declared.

Crews of future clippers that will ply the oceans will have their living quarters aboard the planes, in much the same fashion as the crews of today's ocean steamers.

Greater Efficiency

All these things are made possible by the relative efficiency of the large flying boat design. "It appears that above the sizes of 50 or 100 tons, the flying boat will become the most efficient and also the most practical type of heavier-than-air machine," Mr. Sikorsky asserted.

The Sikorsky S-42, the flying clipper used by Pan-American Airways between New York and Bermuda and on other runs, is in important respects more efficient than its smaller and older brother, the S-40, the first clipper-type ship brought out for Pan-American Airways and still in use on many runs in the Caribbean and to South America.

Uses Less Fuel

The newer, larger plane actually uses less fuel and oil for a thousand-mile trip than its smaller predecessor, even though the former carries a payload more than double that of the latter. The newer ship, while carrying 8,363 pounds of payload, requires only 6,692 pounds of gasoline and oil, as against 7,800 pounds of gas and oil for the older ship, which on this same 1,000-mile journey is carrying only 3,200 pounds of payload.

Expressed in a figure used by the avi-

ation industry to describe economic efficiency of an airplane, the newer airplane gets 4.25 ton-miles per gallon as against 1.35 ton-miles per gallon.

Peary Scored Bull's-Eye

Admiral Robert E. Peary, first man to reach the North Pole, scored a bull's-eye on the Pole, Dr. Heber D. Curtis of the University of Michigan, told the Association.

America's Number One Man of the North came within three-quarters of a mile of the center of rotation of the earth on his famous dash north in 1908, a check on his observations by Dr. Curtis reveals.

Peary's own observations were a little bit in error because of a strange prank that a position very close to the Pole frequently plays upon navigators. An observation he thought he was making at noon he actually made at 6; his "midnight" shot was made at 1 and other shots were likewise taken at a different time than Peary himself believed, he pointed out. The errors did not, however, result in any important errors in Peary's observation that he had reached the roof of the world.

"Demon Star"

The hitherto unrecorded spectrum of Algol C, third of three companion stars known together as the "Demon Star" because of the marked eclipse undergone at regular intervals, has been photographed by Dr. J. A. Pearce of the Dominion Astrophysical Observatory at Victoria, B. C., Dr. W. E. Harper, director of the observatory, announced.

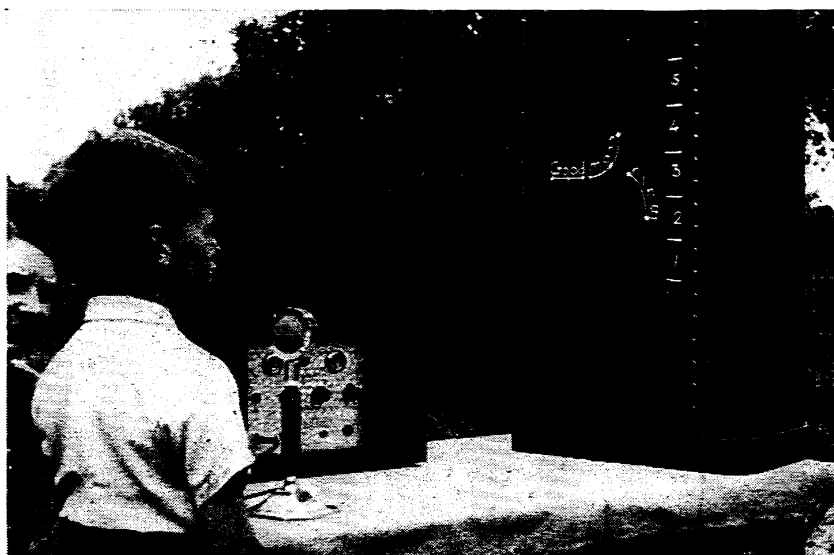
Algol, which fades away every 2 days, 20 hours, 49 minutes, was being studied by Dr. Pearce to clear up certain disagreements between theory and observation. The spectrum was recorded in the course of making 58 spectrographic plates of the system. Reason for the triple-star system's fading behavior is that one of the companions is a dying dark star, causing the whole to fade in appearance when the dark star is nearest the earth. The spectrograph is a means of analyzing the light from the star,

Pictures of Ancient China

Knowledge of ancient China, previously confined almost entirely to what has been learned from literature, has been greatly expanded by tile pictures in the tombs of China in early days, Prof. William Charles White, formerly Bishop of Honan, and now of the University of Toronto, revealed.

Dating back 22 centuries, the tile pictures, well-protected through the ages against vandalism, present a new and fresh picture of the costumes, weapons, and pursuits of the time. A large collection of the tiles, which are from five to six feet long, two feet or less in width and six inches thick, is now housed in the Royal Ontario Museum of Archaeology.

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TALKING IN COLORS

The vertical row of colored lights, which flash to show this deaf child whether his voice is pitched naturally or not, is controlled by tuning forks operated electromagnetically. The youngster talks into a microphone, tries to imitate the rise and fall of voice indicated by his teacher on the blackboard before him.

PUBLIC HEALTH

New Attack on Cancer To Seek Early Treatment

A NEW attack on cancer, aimed at prevention and early treatment, was explained by Dr. Ludvig Hektoen, executive director of the National Advisory Cancer Council.

Where in the past states have tried to open new institutes for the seriously ill cancer patients, now it is being advocated that the main attack be turned on state-wide prevention and early treatment of this disease in its controllable stages.

Dr. Hektoen, who addressed the annual conference of health officers and public health nurses of New York State, pointed out that this state-wide, local method of fighting cancer is recommended by the State Cancer Commission which New York's legislature appointed to study the problem.

Dr. Hektoen emphasized that the control of cancer is a public health problem affecting an entire state. Since the majority of people in a state are unable to get early diagnosis and proper treatment if they develop this disease, it is becoming recognized that state health agencies have the duty of helping forestall this serious and dangerous malady.

Prevention of cancer includes teaching the public to avoid occupational hazards and personal habits, such as rubbing the tongue against a rough tooth, which may lead to a persistent and possibly cancerous sore.

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The most brightly colored of all large birds is the flamingo.

PSYCHOLOGY

Ways of Helping Deaf Child Discussed at Conference

Mechanical Device Enables Deaf To Avoid Monotone; Efforts At Salvaging Residual Hearing Successful

NEWEST ways of helping deaf children get along in the world were given serious consideration at the meeting in Detroit of the American Association to Promote the Teaching of Speech to the Deaf.

Educators give the cheering news that it is far less tragic for a child to have defective hearing now than a generation or two ago. So much more can be done.

Statistics show 1,600,000 children in the United States, or six out of 100 of school age, have defective hearing. Of these, 300,000 are seriously enough affected to need eyesight help by reading a speaker's lips.

Under discussion was an invention from South Africa, which an engineer has devised to teach deaf children to talk naturally, instead of in a dull monotone. The invention, used successfully in South African schools for the deaf, looks like a box. At one side is a vertical string of fourteen light bulbs, gay colors. On the front of the box is a green black-

board. The teacher writes "Good morning" on the board, and draws a curve to show how the voice should rise and fall. The deaf child says, "Good morning," and the colored lights flash to show the pitch of his voice. Electromagnetically operated tuning forks operate the device. The top four and bottom two lights are red, meaning danger—voice too high and shrill or too low and gruff.

Inventor of the device is A. E. Coyne, instructor in engineering at Cape Technical College. The invention is mainly for the totally deaf child, who has no way of hearing his own speech defects.

Helping the deaf child to "hear" by feeling the vibrating bones of a speaker's head is another recent development discussed and demonstrated. At the Detroit Day School for the Deaf, where this vibration method has gained fame, all incoming classes are taught to feel speech. Children who have little or no hearing, cannot get help from mechani-