mit at 9 a.m. on ten meters under the call letters VE2KI; at 2 p.m. on 20 meters with same call letters, and a repeat of this transmission again at 3 p.m.

Science News Letter, August 21, 1937

MEDICINE

"Aviator's Ear" Described In Medical Journal

AERO-OTITIS MEDIA — you may have suffered from the condition without knowing what to call it. If you stay on the ground, you'll never have it. Only airplane pilots and passengers are affected.

Capt. Harry G. Armstrong of the U. S. Army Medical Corps and J. W. Heim of the Physiologic Research Laboratory, U. S. Army Air Corps, describe the effects of flight upon the middle ear. (*Journal, American Medical Association,* Aug. 7).

They have christened these ill-effects, once known only as "aviator's ear," as "Aero-otitis media," and term both the acute and chronic conditions a new clinical entity.

The difficulty is caused by the pressure difference between the air in the tympanic cavity and that of the surrounding atmosphere. It occurs during changes of altitude in flying. Its manifestations are inflammation, discomfort and pain in the ear, ringing and deafness. Sometimes in severe cases it affects the facial nerve and its branches, causing a neuralgic-like pain.

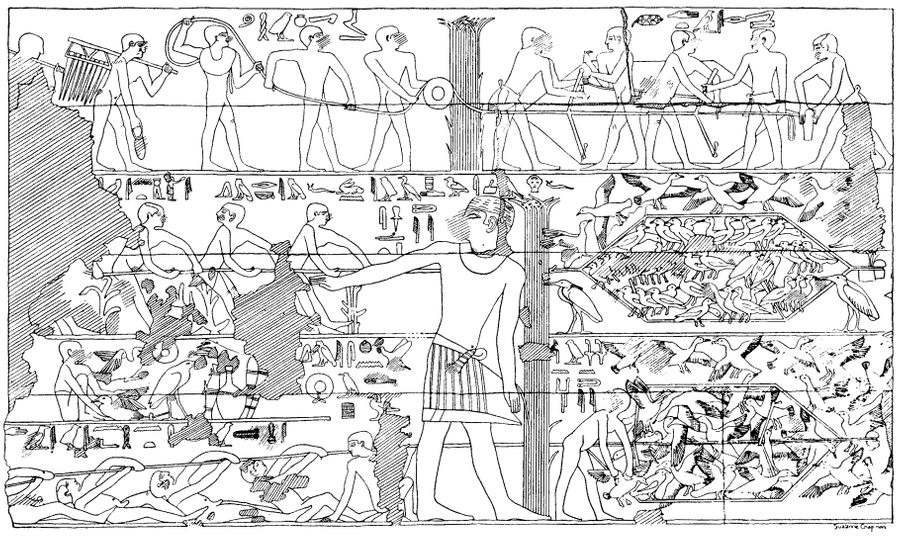
The harmful effects of flight on the middle ear are due to the peculiar structure and functioning of the eustachian tube, Dr. Armstrong and Mr. Heim assert.

If a passenger is inexperienced or ill or asleep or has a bad cold, he may easily experience this difficulty. Trained pilots usually try to avoid flying when they have bad colds because of the discomfort and pain in the ears that almost invariably follow.

The simplest maneuver to ventilate the tympanum and prevent the trouble is to swallow. Yawning, singing, shouting, auto-inflation and contracting the salpingopharyngeal muscles also help.

The last named defies description, these specialists in aviation medicine declare. It can be learned only by stifling a pretended yawn, at which time a roaring in the ears will indicate that the effort is successful.

Science News Letter, August 28, 1937



EGYPTIAN BIRD-TRAPPING SCENE

From the tomb of Ti at Sakkara about 2800 B. C.

ARCHAEOLOGY

Modern Prints Help to Clear Mysteries of Ancient Egypt

Odd System of Bird Netting Found Duplicated on Italian Print; Ancient Game Played by Modern Arabs

TWO baffling points depicted in carvings on Egyptian tombs of the Fifth Dynasty, dating from about 2900 B. C., have been cleared up by a relatively "modern" print from 15th century Italy and by a truly modern photograph in an American magazine.

Experts of the Egyptian department of the Boston Museum of Fine Arts have used these sources to explain the construction of bird traps used by the ancient Egyptians of about 5,000 years ago and to explain a peculiar type of jumping game.

Dows Dunham, associate curator of Egyptian Art, recently went over to the print department of the museum to attend an exhibit of their outstanding works. There he saw a 15th century bird-trapping scene which was strikingly similar to scenes occurring on certain Egyptian tombs of the Fifth Dynasty.

Both bird traps were an intricate system of nets and ropes and stakes so arranged that they came up and overlapped the bird. They moved in a manner like that of old-fashioned outside cellar doors in rural American homes.

Using the Italian print and the Egyptian tomb carving, Mr. Dunham has now reconstructed a working model of the Egyptian device which in some respects was superior to and more ingenious than the Italian bird trap used thousands of years later.

The modern clue which helped solve the puzzle of high jumping games of Egyptian children came from a recent issue of the National Geographic Society's magazine in which a scene was shown of modern Arab children jumping. Miss Elizabeth Eaton, assistant in the department of Egyptian Art, noted the similarity between the Arab youngsters hurdling their companions and ancient scenes of children playing—scenes dating from Egypt in the Fifth Dynasty.

Characteristic of the youngsters being jumped, was the position of their feet and hands to form the hurdle. Two children sat on the ground facing each other and placed their feet one above the other. Then they placed their hands one above the other atop their feet and

so made a sizeable barrier of arms and legs over which their companions could jump.

"There can be no doubt," says Miss Eaton, "that in these two scenes we have the ancient Egyptian record of sport still known among the modern Arabs, and another of the thousands of minor mysteries which obscure our knowledge of the past has been solved by the light of present-day experience."

Both Mr. Dunham and Miss Eaton report their findings in the *Bulletin* of the Museum (August).

According to the Reisner system of dating used by the Boston Museum, the Fifth Dynasty in Egypt was from 2900 to 2750 B. C. with an uncertainty of 100 years plus or minus for each date.

Science News Letter, August 28, 1937

ORNITHOLOGY

Crows Raid Many Nests of Wild Ducks in Part of Canada

Expelling of Crows Should Be Done Only With Due Regard for the Privacy of the Nesting Ducks

CROWS are major enemies of wild ducks in at least a part of the great wild duck breeding grounds in Canada, a survey by E. R. Kalmbach of the U. S. Biological Survey shows.

Of 512 duck nests studied, 31 per cent. (156 nests) had been ravaged by crows. Other causes of destruction had accounted for another 20 per cent. of loss, so that of all the nests that started the season with hopeful batches of eggs, only 49 per cent. turned out live ducklings.

It is possible, however, Mr. Kalmbach notes, that part of the egg destruction by crows might have been wreaked after the parent ducks had abandoned the nests for other causes.

Furthermore, he cautions, this survey was made in a part of the nesting area where the crow concentration is unusually high, and where a large duck population offers unusually great temptation to raid for eggs. The overlap of crow range and duck-nesting area does not represent more than about a sixth of the whole productive waterfowl nesting area in Alaska and Canada. So crows cannot be counted universal enemies of ducks.

For practical control purposes, Mr. Kalmbach recommends: "Crow-control operations on duck-breeding grounds should by all means be entrusted only to those who fully recognize the hazards associated with human intrusion on waterfowl nesting grounds. The work should not be carried out haphazard or by mass action devoid of careful supervision. There should, in fact, be solicitude for the privacy of every nesting duck.

"At winter crow roosts, where control is possible at a lower cost per bird, the benefits with respect to waterfowl are, in turn, less direct, since only a part of the birds present at these roosts (number at present unknown) actually enter the problem of crow-waterfowl relationships on the breeding grounds.

"For the present, and probably for years to come, such control may wisely be restricted to those Federal, State, or privately managed areas to which crows have been attracted in unduly large numbers by the presence of nesting waterfowl and on which the consequently delicate problem of control may be kept in experienced hands."

Science News Letter, August 28, 1937

CHEMISTRY

Texts Need Revision to List Elements Beyond No. 92

IF YOU look in any chemistry text book that is not just fresh off the presses, you will find a table of the chemical elements that ends at uranium, number 92. That is the way the chemical elements, building stones of everything around us, were first arranged back in 1871 by Mendeleeff, the Russian, and Meyer, the German, to form the periodic table.

There was no place for elements heavier than uranium, the 92nd. Yet science has discovered not one but at least four such "trans-uranic" elements. Little wonder they were not discovered earlier, for the discovery was dependent upon creating them first and this was done only through the use of the neutrons, discovered 1932, to produce artificial or induced radioactivity, a possibility first realized only as recently as 1934.

Prof. Enrico Fermi of Rome was the first to make one of these super-heavy elements by bombarding uranium with neutrons. Uranium is the radioactive parent of a whole family of lesser elements and its fame comes from its natural and constant disintegration. But under neutron bombardment, occasionally one or more of the neutrons sticks, in effect, in the heart of the uranium atom. The uranium is transmuted into a heavier element.

All of the newly-made elements are very short-lived. They break down radioactively, but they disintegrate much faster than radium. Half of the quantity is changed (what the physicist calls the half-life period) in 16 minutes for the most fleeting to 3 days for the most stable.

With such short lives it is little wonder that the elements beyond 92 do not exist naturally. When the earth was very young and freshly carved from the sun, it may have had these elements which have long since disintegrated.

Science News Letter, August 28, 1937

GEOGRAPHY

Fresh-Water "River" Flows Past Camp at North Pole

A LITTLE river of fresh water, flowing over the floe in front of their tent, is the latest geographic novelty which the Soviet scientists now at the North Pole have reported to Tass, news agency of the USSR. This strange phenomenon of a river where there is no land, flowing with fresh water in the midst of the salt Arctic Ocean, is due to continued warm weather at the Pole, melting snow and ice.

Although the "river" is only a yard and a half wide and a couple of feet deep in most places, it must be classified as a navigable stream, for it has actually been navigated. The scientists have tested their "fleet"—canoes, and a larger inflatable rubber boat capable of carrying a ton of cargo—and report that although they found the going rough they made a successful voyage.

The abundant supply of fresh water from the melting of the ice has resulted in a considerable fuel saving, for until the thaw occurred the party had to get fresh water by melting snow. Among other things, it has made housekeeping much easier. Nevertheless, the scientists report, they are very tired of the "flood" and are eager to see the first frosts, that will make things solid again.

Science News Letter, August 28, 1937