Aviation

"Acoustic Altimeter"

Essentially philanthropic and generous, the Guggenheim Fund for the Promotion of Aeronautics seldom gives aid to undeserving people, institutions. Therefore to Leo P. Delsasso, inventor and professor of physics at the University of California at Los Angeles, came $2000 of the Guggenheim Fund for research. Also, to him came support from the Goodyear Tire and Rubber Company, the Western Air Express, the Naval Air Station at San Diego, and the Sirodrift Company of Los Angeles. For Delsasso, already successful inventor of an ocean depth-sounding device now in use in the United States Navy, desired to invent an "acoustic altimeter," a devise by which an aviator may determine the distance from his plane to the earth. Unknown to the general public, behind the closed doors of his laboratory workshop he has been at work for almost a year, making machinery, studing noises.

Altimeters now in use on airplanes are worked by air pressure, register altitude in relation to the sea level. Delsasso seeks to have his instrument worked by sounds, its readings indicating the distance of the plane from the earth's surface, regardless of whether the surface is flat and smooth, or mountainous. The presence of a mountain ahead would then be shown quickly and accurately as would the distance of the flat earth below.

Delsasso's chief difficulty in adapting such an instrument to an airplane has been due to the multiplicity of sounds and noises produced by an air machine, which interfere with his sounding devise. Therefore his first great task was to find a tone with a pitch foreign to anything given out by a plane in motion. To do this, Delsasso had to build a sound frequency analyzer of a weight light enough to allow it to be placed in a plane, or dirgible. With this machine he took stock of the entire tone range (sound "spectrum"), learned it, then studied and became acquainted with every different sound made by an airplane, then eliminated these sounds from the entire tone range. Obviously, what tones he had left were not made by an airplane, were suitable for use in his proposed altimeter.

"Of course," stated Delsasso last week to interviewers, "it will be always possible that some new airplane may be constructed which will throw off some vagrant noise, but this can be remedied easily, by making slight changes in the instrument."

But this is the only first phase of Delsasso's task. The second phase will be to find a source of sound of such pitch as can be satisfactorily filtered through the airplane engine noise with sufficient intensity to actuate a recording device. Delsasso is now engaged in this work.

The third phase of the work in completing this acoustic altimeter will be in the actual construction of the instrument, providing satisfactory results are obtained from the second phase.

Altitude Record

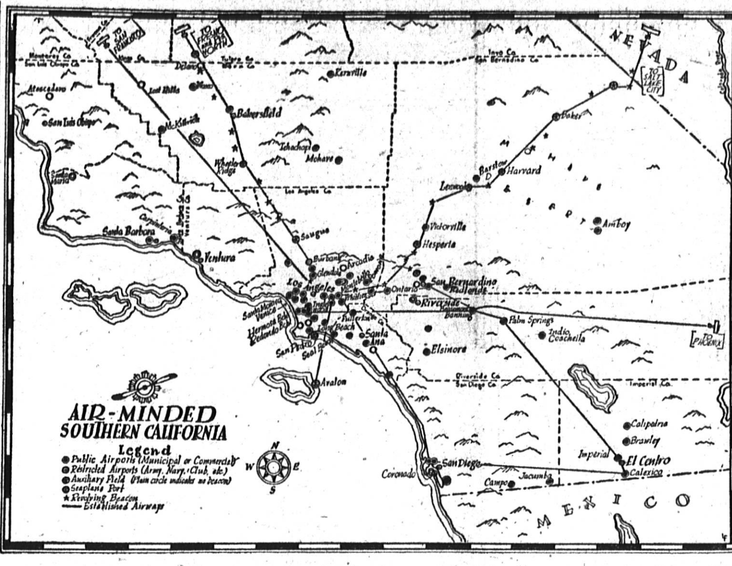
Last month two Army fliers in fully loaded Boeing P-12 pursuit planes flew to a height of 25,000 feet to test their machines under service conditions. Last week at San Diego also in a loaded Boeing P-12, Army Pilot Lieut. Norman Ives flew up into the blue sky until he had reached the dizzy height of 29,000 feet, an Army record.

When Ives had reached his "ceiling" he found the temperature 10 degrees below zero, found that the frost had frozen so densely on the surface of his glasses that he could not see, decided that he had best come down to lower levels. On his impaired vision Ives placed the blame for not being able to go higher.

* * *

Last week from the Bureau of Standards at Washington came news that the altitude mark of 23,-200 feet, assertedly set by Army Pilot Lieutenants Jack Frye and Paul E. Richter, Jr., in a flight on Sept. 15, (News Review, Sept. 23-29) was not officially allowed. The official communication received last week by Dudley Steele, chairman of the contest committee of the National Aeronautical Association, said that the calibration of the barograph used on the Fokker F-10 in the climb showed the two aviators [illegible] the alleged 23,200 feet.

Thus [illegible] World War [illegible] manager of [illegible] Metropolitan, and now undisputed holder of the American altitude record of 20,800 for stock-model commercial-type airplanes carrying a pay load of 2200 pounds.



Europe to Santa Maria

Already famous for a flight from Oakland to Australia in the airplane "Southern Cross", Capt. Charles Kingsford-Smith last week announced his intentions of attempting a trip from somewhere in Europe to Santa Maria, Southern California. This was his decision after a conference with Capt. G. Allen Hancock, owner of the Santa Maria airlines. Kingsford-Smith indicated that he would start when financial backing was available.

Aerial Graduation

Fifty-two cadets and one student officer last week completed aviation courses at Riverside's March Field, were awarded diplomas; departed immediately afterwards for Kelly Field, Texas, to receive more advanced instruction in aviation.

No ordinary graduation exercises preceded the presentation of diplomas by Commandant Major M. F. Harmon. The graduation students first presented a spectacular aerial show; thousands watched, applauded.

Formation flying, air maneouvers, parachute jumping had comprised the aerial exercises. Through the air had soared 53 fliers, circling the field in perfect formation, making perfect take-offs, landings.

The aerial exhibition over, graduating cadets assembled in No. 1 hangar, heard Captain C. F. Graeser's invocation, received congratulations and diplomas from Commandant Harmon.

Over the ceremonies hung a tragic note. Missing from the roll of graduates was Cadet George Peddicord; killed a fortnight ago while rehearsing for the aerial commencement ceremonies. (News Review, Oct. 7-13).

Glider Record

Since man first saw the kingly eagle soaring in the heavens it has been his dream to emulate him, to soar with him up in the clear pure airways, far from the sordidness of earth. In the invention of the airplane, man almost fulfilled the wish of all past generations of his kind. Man's first ship of the air (glider) had no engine, was smooth and silent in its flight, like the eagle, but would not go as fast. Man soon gave up that idea, built a noisesome engine, flew in the air fast but not in the majestic silence the eagle knows. Thus, now if man would truly imitate nature's winged birds he must of necessity go back to his primitive glider.

Last week, not of necessity but of his own volition, one Hawley Bowlus, of San Diego, took out his motorless sailplane air glider, in a trial glide, glided in the air for [illegible] minutes, 10 seconds, established a new American endurance record. Bowlus' flight was only intended as a preliminary test run in preparation for an attempt to break the American record this week. Bowlus started from the top of Point Loma at [illegible] p.m., [illegible]

Health Menace?

Many advantages has the airplane over slower means of locomotion. Transportation is more rapid, communication speedier, emergency transit fleeter. Few disadvantages of the air machine have been discovered; other than its noise, its occasional interruption of open air concerts, of sound motion pictures in the making.

LEO P. DELSASSO

. . . took stock of airplane noises.

Yet last week California's Director of Public Health Walter M. Dickie found the airplane to be a potential menace to public health; and not because of occasional accidents and loss of life. He pointed out that the airplane might transport from one country into another communicable diseases, rare, fatal, acute.

So rapid is aerial passage that symptoms of disease caught by air travelers could not be recognized before landing in another country. The incubation period varies from three days to three weeks, and no trace of susceptibility can usually be discerned before several days have elapsed.

Many diseases which the airplane might convey into the United States were listed by Health Director Dickie: Yellow fever, dengue, influenza, Asiatic cholera, rabies, plague, many parasitical, tropical diseases. All are contagious; possible forerunners of fatal epidemics.

Health Director Dickie recounted one instance, wherein a French aviator brought a dog into England, then devoid of rabies. The dog shortly afterwards developed rabies; many other cases were soon found, and only after rigid quarantining was the country again cleansed of the canine disease.

Now undergoing investigation by the Department of Public Health is the airplane as a germ carrier. It is expected that regulations to eliminate this possible menace to public health will soon be introduced.

Air Marked Highways

Aviators, soaring through the air, wonder where they are, look down below [illegible] communities, open prairies, grazing country, cultivated acreage, encircled and crossed by broad Federal and State highways. Discerning no distinguishing landmarks, they resort to maps, compasses, guess work.

Therefore the Aeronautics Branch of the Department of Commerce has suggested that highways be marked as a guide for air navigation; last month Chief Harry H. Blee discussed the completed specifications for the air marking.

Remarked Chief Blee: "A highway, when viewed from the air, stands out very clearly . . . is one of the pilot's best landmarks if he knows what highway it is . . . A standard system of air marking (of highways) . . . is today one of the most immediately needed aids to air navigation."

Simple markings were recommended by the Department of Commerce: The official route number preceded by the letters "U S" for Federal highways; preceded by State abbreviations for State highways. Lettered directly on the pavement should be the symbols; 10 to 30 feet in height. Colors: Chrome yellow or white on dark pavements, outlined in black on light roads. Marking should be not more than 20 miles apart; should also be placed at all intersections with other highways.

Transportation

Six Miles More

Now being planned is the construction of the next section of the Maricopa Highway (News Review, Sept. 16-23), to cross the summit of Pine Mountain for a distance of six miles. The Tricounty Highway Board last week met in Ventura, selected November 13 as the date for the opening of bids.

Plans and specifications have already been prepared and accepted. Blue prints have been sent to the State Highway Department at Sacramento for approval.

Traffic Count

Frightened, worried, disgruntled will be some several million autoists in California within the next few months. For each and every autoist will, at some time or other, be stopped by big, burly motorcycle officers, told to drive over to the side of the road. Motorists will obey, expecting to be confronted with a jail sentence or the alternative of buying tickets to a policemen's ball. Instead, they will be courteously requested to fill out a short written questionnaire.

Reason: A year's count of traffic was started last week by the State Division of Motor Vehicles in an effort to plan future road construction in such a way that greatest economy and convenience for autoists will result. On all heavily traveled routes will the officers submit the questionnaires. Consideration will be manifested to all those who are in a hurry; traffic will be held up as little as possible.

In cooperation with the United States Bureau of Public Roads is the count being made. That Bureau is operating forty eight California stations. The State's work increases the number to 120

Science

Seismologists

World-renowned seismologists—men versed in the science of earthquake phenomena—assembled a fortnight ago at the California Institute of Technology's seismological laboratory in Annandale; examined the seismological apparatus there, held round table discussions concerning causes, characteristics, results of earthquakes; talked over available instruments, criticized their defects, recommended possible improvements (News Review, Oct. 7-13).

Daily conferences were led by internationally - known scientists, assembled from all over the world for this two weeks' conclave. The geophysical laboratory of the Carnegie Institute of Washington, D. C., sponsored the meetings of the seismologists; presided over by Laboratory Director Dr. Arthur L. Day.

Engineer John R. Freeman, en route to the World Conference of Engineers in Japan, visited the seismological convention during its fortnight of discussion, attended one session, gave a talk; urged perfection of seismological instruments to insure greater safety in building. A Japanese instrument which continues its recording despite the greatness of strain, was described by Engineer Freeman, who believed its present inaccuracies could be remedied; that a perfected instrument based on this device would eliminate seismological problems.

This week the seismologists held their final meetings, summarized their discussions, made ready to return to their homes; planned to pattern other seismological laboratories after the Annandale institute, considered by scientists one of the world's most accurate seismological stations.

Pliant Memory

A kiss vs. an insult?

Which of these two is the average human being more prone to remember, University of California's Psychologist H. E. Jones wanted to know. Therefore he tested 114 university students to find out, decided in favor of the former, against the latter.

The average human being will remember emotion arousing subjects which are pleasant as contrasted with those which are unpleasant, Psychologist Jones' survey last week denoted. When such sensations as shame, embarrassment, injured pride, are implicated, an individual will much more readily forget the incident than had emotional pleasure or triumph been experienced, further indicated the test.

To test the effect of emotion on memory, a series of 16 words were flashed on a screen before 114 students, who were immediately asked to list as many of the words as they could recall. In the order of remembrance the 16 words were: Kiss, woman, carrot, dance, love, marry, swim, insult, work, pencil, money, flower, table, glass, white, afraid.

Psychologist Jones' survey confirmed the belief of psychoanalysts that forgetfulness is due to the influence of disagreeable associations, which eradicate the unpleasant incident from the subject's memory.

Inference: One remembers only what one wants to remember; only what one finds pleasant to recall.

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