

equal to giving a second pint of blood long before this. So unless the amount of hemoglobin in the donor's blood is determined regularly, the longer interval of three months between blood donations is advised.

Women need a little longer time than men to rebuild their hemoglobin stores, so the intervals between blood donations should be a little longer for them.

Hemoglobin stores are replenished at about the same rate after the fifth donation as after the first.

Small doses of iron increase the daily hemoglobin regeneration by nearly 50% and shorten the recovery time to 35.2 days, but the iron has progressively less effect after subsequent blood donations than after the first one.

Science News Letter, February 14, 1942

From cutting vertically into refuse heap accumulations, layer on layer, it is possible to learn more about the time sequences of Indian cultures that Pachacamac knew. Below the Incan debris, Dr. Strong found no less than 33 feet more debris of pre-Incan times, dumped there perhaps by temple attendants and pilgrims.

Dr. Strong's address before the Federation is one of the first revelations of what is being achieved by the ten archaeological expeditions launched in the Americas by the Institute of Andean Research last summer. Financed by about \$100,000 from the Office of the Coordinator of Commercial and Cultural Relations between the American Republics, the expeditions are bringing together archaeologists in the republics to work on the difficult problem of establishing a clearer chronology for the high Indian cultures.

A framework of arranging events in order is needed, Dr. Strong explained, if we are to understand how the high civilizations of the Indians were inter-related, and how they have influenced modern history, geography, botany, and trends in our economics and sociology.

Science News Letter, February 14, 1942

ARCHAEOLOGY

Finds Prehistoric Rag Is a Good Sterile Bandage

Cooperating Peruvian and U. S. Archaeologists Make Unusual Find Among the Debris in Ancient Trash Pile

COOPERATING with Peruvian scientists, United States archaeologists have been digging into a 10-foot-high trash pile of the Incas, which accumulated centuries ago beside the lofty Temple of the Sun at the holy Incan city of Pachacamac, in Peru.

In a first report of discoveries to the Eastern States Archaeological Federation, Philadelphia, Dr. William D. Strong of Columbia University said that masses of textiles, plant material and pottery recovered from the debris are expected to provide a long list of plants and animals that were used by this Indian civilization.

Heretofore, archaeologists have known the Incan Empire's cultural record mainly from what the Indians chose to place in graves.

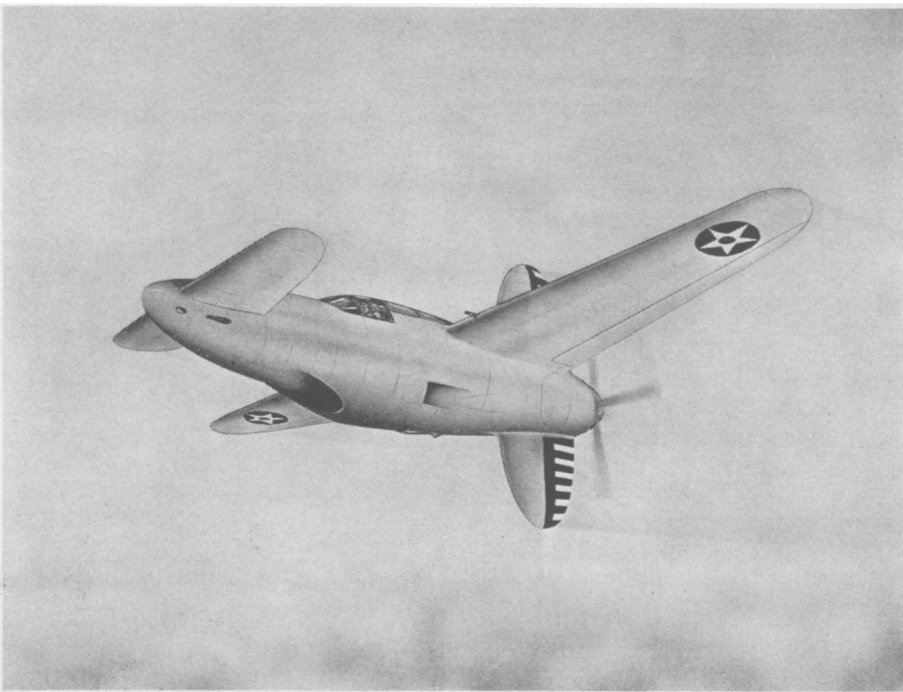
Despite winter fog over Pachacamac, which is close to the Pacific Ocean, the temple debris was found amazingly preserved.

"I was astounded," said Dr. Strong, "to see a workman whose foot had been slightly injured reach into the wall of the cut we were digging, pull out and shake off an Incan rag and tie it around his foot with a piece of Incan cord. He went right on working before we could fetch the first aid kit.

"Since no Spanish objects occurred in the midden (refuse heap), it is obvious that this improvised bandage was made long previous to 1532, and, I may add, it proved to be quite sterile!"

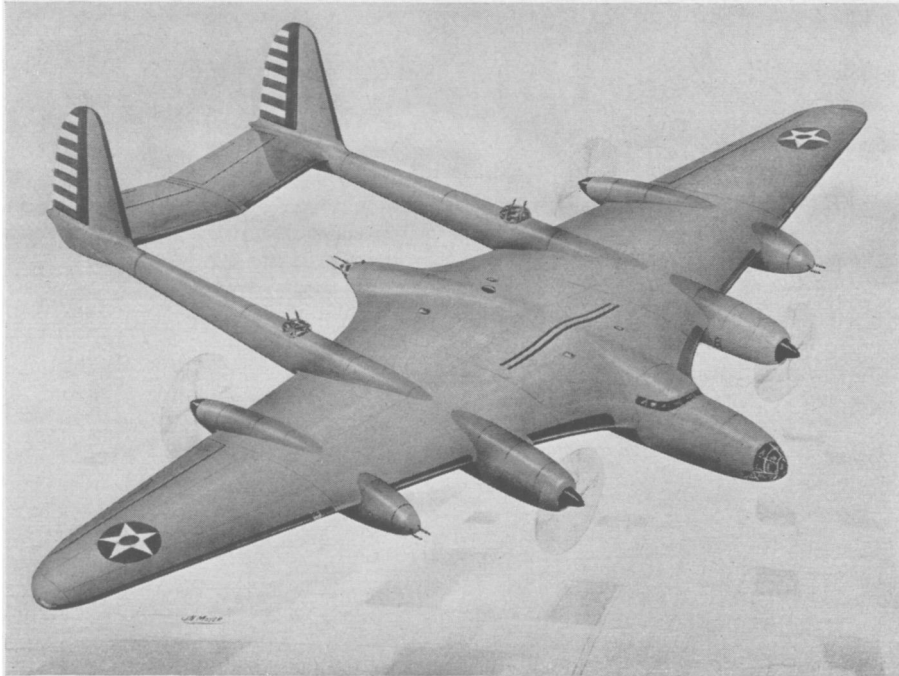
Pachacamac, a Mecca for Indian pilgrims from distant places throughout centuries before the Incas formed their Indian empire, is a ruined site of tremendous interest for South American

prehistory. It has been estimated that at least 60,000 Indians were buried there, and many graves have been examined. Recently, Dr. Julio Tello, one of Peru's outstanding archaeologists, has been making extensive and important excavations of the architecture, Dr. Strong reported.



THE "CANARD"

Don't be startled by the design of this airplane of the future from the drawing board at the Army Air Corps' Wright Field. "To the impartial physicist," one of the officers explains, "a propeller on the tail is no more odd than a propeller on the nose." Perhaps a tail on the nose should be no more surprising. Vision in this plane would be excellent, it is claimed. And having the propeller at the rear eliminates rough air over the airplane.



WHALE OF A PLANE

This 4-engine bomber of the future designed at Wright Field has two pusher propellers and two tractors. The arrangement makes for an advantageous placing of the fire power. The Air Corps suggests that this design might be called the "Air Whale." Perhaps "Shark" might be appropriate.

ASTRONOMY

Whipple Comet and Eclipse To Provide Astronomical Show

Extra Attraction Will Be an Occultation of Bright Star, 59 Leonis; Comet Won't Be Seen By Naked Eye

WHEN the moon is totally eclipsed on March 2, a splendid view of the new comet recently discovered by Prof. Fred L. Whipple will be possible through even a small telescope.

Computations at Harvard Observatory, where the comet was discovered, showed that the comet is headed for the place in the sky where the moon will rise on the early evening of Monday, March 2, eclipsed by the sun. With the moon's light thus shielded, a good look at the Whipple comet, a little west of the moon, will be possible although the moonlight a few days before and afterwards will blot it out.

As an extra attraction there will be an occultation, or a covering of a bright star, the 5th magnitude object called

59 Leonis, which is much brighter than the comet (which will be about 8th magnitude).

This triple attraction is expected to cause almost all amateur astronomers with small telescopes, many of them made by themselves, to go into action that evening.

On February 19 Whipple comet will pass close over or just north of second magnitude star Denebola in the tail of Leo the Lion. Denebola rises about 9 p.m. EWT, February 15, fifteen degrees north of east. Astronomers cannot predict whether or not the comet will reach naked-eye visibility, but the chances are against its doing so.

At present the comet is between eighth and ninth magnitude, visible only in

two-inch refractor or six-inch reflector. An amateur would probably need a chart to find it.

On February 19 the comet will be of the eighth magnitude and about March 15 it will be seventh magnitude which is still far below naked-eye visibility for comets.

For amateur astronomers, its position at midnight on February 13-14 will be right ascension 12 hours 10 minutes, declination north 18 degrees 31 minutes. This region of the sky is full of nebulae (the celebrated Coma-Virgo region) so amateurs should watch for motion of comet to be sure they have it and not a nebula. The orbit calculated by R. N. Thomas is a parabola, which means that the comet has come in from outermost space far beyond the sun's whole family of planets, and after swinging around the sun, will return there and never be seen again.

The comet will pass closest to the sun April 30 at a distance of 135,000,000 miles. It is coming down into our system at a high angle, nearly 80 degrees, which means that it will plunge through the plane of the ecliptic then shoot up and out again.

Science News Letter, February 14, 1942

MEDICINE

New Agency To Help Ration Nation's Doctors

PAS (officially the Procurement and Assignment Service under the Office of Defense Health and Welfare Services) has just been given the job of helping the Selective Service System ration the nation's supply of medical doctors, dentists and doctors of veterinary medicine.

"Since war was declared, the shortage of these professional men has become acute," Brig. Gen. Lewis B. Hershey, director of Selective Service, points out in a memorandum to state directors (*Journal, American Medical Association, Feb. 7.*)

Each of them, consequently, must serve "where he can render the greatest professional service to the nation."

Local Selective Service boards when classifying doctors, dentists and veterinary doctors are therefore expected to consult PAS committees of the corps areas on the availability of such professional men in the community. The authority of the Selective Service System to classify registrants is not affected but the information from PAS will help in making the "most effective allocation of medical manpower."

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