

The 'Silent Service'

In a small room of an aircraft plant in Inglewood, Calif., soldiers of science, dressed in heavy leather suits and insulated helmets, endure a temperature of 98 degrees below zero as they keep America ahead of her enemies in aviation development. This room is an indoor "cold front" where men are fighting the mysteries of the stratosphere.

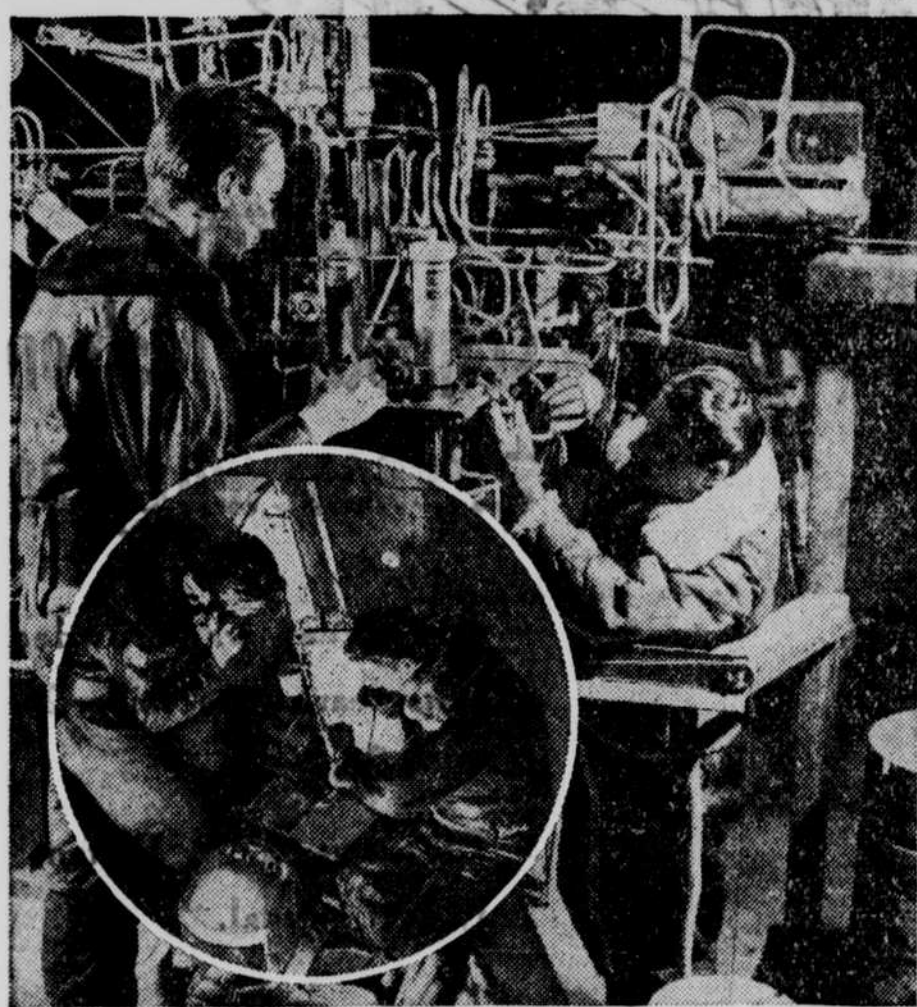


In aerial combat, height is as important as firepower and speed. Fighters that can climb higher than their opponents have the advantage. Bombers with the highest ceiling can operate far above anti-aircraft range. But high altitudes with their extremely low temperatures do strange things to planes and passengers. These temperatures are brought to earth in the indoor "cold front."

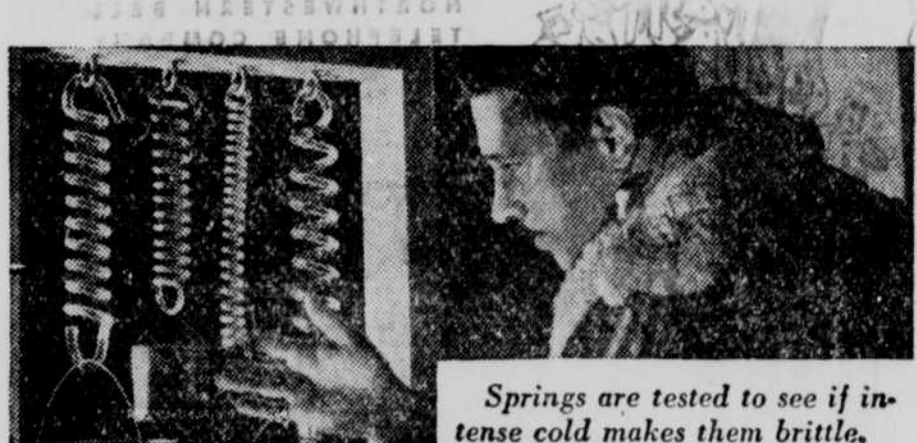
Top: Engineers walk to the cold chamber. Left: At work in the chamber.



Above: Oil is tested after removal from the cold room. At temperatures lower than 40 degrees below zero lubricating oil congeals. If charged with oxygen it can be kept flowing. Right: The air inside these helmets is warmed in tubes before it is inhaled. But workers can stay in the chamber only 10 minutes.



Engineers check the hydraulic system of a plane before putting it into the cold chamber. Inset: They communicate with cold chamber workers by telephone to check on a test.



Springs are tested to see if intense cold makes them brittle.

The Star That Shone O'er Bethlehem Will Forever Be a Mystery to Science

Could It Have Been A Comet, a Group of Planets, or a Nova?

By ELLIOTT PINE

Now when Jesus was born in Bethlehem of Judea in the days of Herod the king, behold there came wise men from the East to Jerusalem.

Saying, Where is he that is born King of the Jews? For we have seen his star in the east, and are come to worship him.

When Herod the king had heard these things, he was troubled, and all Jerusalem with him.

Then Herod, when he had privily called the wise men, inquired of them diligently what time the star appeared.

When they had heard the king, they departed; and lo, the star, which they saw in the east, went before them, till it stood over the spot where the young child was.

When they saw the star, they rejoiced with exceeding great joy.

—Matthew 2: 2-10

THE Star! Matthew calmly records the appearance of this marvelous heavenly portent as a historical fact. For 1900 years many millions have believed that the majestic and unimaginably beautiful herald of the Messiah actually shone over Bethlehem, casting a beam of effulgent glory on that stable "where the young child was."

It has seemed entirely fitting that the birthplace of Christ should be pointed out in so magnificent a manner. Few laymen ever thought of questioning the reality of that star, although nothing like it ever was known before or after the momentous event. But astronomers, being exact scientists, have tried to reconcile the evangelist's words with the known facts on the nature and motions of heavenly bodies. The other three Gospels, by the way, do not mention the star.

In the 17th century, Johann Kepler, one of the greatest of the early astronomers, while calculating the orbits of the planets Jupiter, Saturn and Mars, extended his figures back to the time of Christ. He discovered that these three planets were in conjunction in the year 7 B. C., according to the calendar. Making allowance for the well known error in dating the year of Christ's birth, it was possible to call the year 7 of our era as actually the year in which Christ was born. Now if, as Kepler calculated, the three planets were very close together in that year, they would form a brilliant glow in the sky, during the month of December. So, Kepler reasoned, the conjunction of these planets was the Star of Bethlehem.

In Sign of Pisces. This conjunction appears in the sign of Pisces, or the Fishes, every 800 years. Since the sign of Pisces had a special meaning to the Jews, it was entirely logical for the Magi to interpret an apparently new star within this sign as the long awaited

messenger from heaven, and to start on the long journey.

Kepler's theory satisfied pretty well until 1826, when Professor Ideler of Berlin pointed out that at no time are the three planets in absolute conjunction so that they would appear as a single star, even to the naked eye.

Another piece of evidence tending to cast doubt on the Kepler theory was brought in by the geographers. They showed that there were no roads or trails through the mountainous regions that the wise men had to traverse on which they could keep the planets in sight for any length of time. So this attractive explanation gradually faded out. It will not be until early in the 25th century, however, that scientists can test the full possibilities of Kepler's conjecture. It is not entirely ruled out until this time comes.

Perhaps a Comet. In the last century came a new attempt to explain the Star. Prof. R. A. Proctor propounded the theory



WAS IT A COMET?—Theory that the Star of Bethlehem might have been a comet was advanced in the 19th century. This photo, taken in 1940, shows Cunningham's Comet.

that the mystic sign was really a comet. These celestial travelers of space, flaring up suddenly, moving across the sky often for days or weeks, and then disappearing, always impressed the ancients as mighty portents.

There are a few flaws in this theory, too, as several historians quickly declared. First, a comet was a fearful thing to all peoples of antiquity, a harbinger of evil to come, a warning of retribution for sin. The Magi, being learned in astrology, would know this, of course, and would not likely consider a comet an announcement of the Saviour's arrival. It is possible that these wise men did not follow the prevailing superstition. They might have called some comet his star. It is objected, however, that any comet bright enough to attract the wise men's attention would be noted down in some secular history—Josephus, in particular. There is no such confirmatory account.

The Nova Theory. Lately, a plausible and poetic theory has been presented. The Star of Bethlehem may have been a "nova" or suddenly blazing star. For a brief time a nova may outshine every star in the sky. The most brilliant on record flared up in 1572. Another was observed by the aforementioned Kepler, and by Galileo, in 1604. Novae that can be seen by the human eye are rare. It is only since photography has been applied to astronomy that much is known about them. What causes the flaming phenomenon is not known, but possibly it is occasioned by the collision of two "dead" stars. The impact liberates the fiery interiors of the two bodies, and the seething gases swirl and shoot in a glorious display of light. The nova may burn for some time, but eventually it cools and fades, and generally disappears.

appears from sight. Seldom do they last more than a few days.

So if a nova of extraordinary brilliance did burst forth a few days or weeks before the birth of Christ, this could be the Star toward which the wise men hurried, so long ago. It must be remembered, however, that the nova, if such it was, actually had burned out long before the first Christmas eve, because most of the stars are so distant that light takes many years to travel from them to the earth. Only lately the Nova Hercules has been seen, but its light has been traveling through space for 1300 years, at 186,000 miles a second.

Learned Guesses. But these conjectures and scientific guesses are simply that—guesses. No one knows just what the Christmas Star was, or how it directed the wise men from the east to the little town of Bethlehem. It may be that, since there were prophecies to guide the Magi to that village in Judea, the Star did not exactly point the way, as some fanciful legends have put it, but merely indicated to the wise men the glorious day was near at hand.

The director of the Adler Planetarium in Chicago comments that no star could "stand still" in the heavens while the three Magi plodded wearily onward. It would swing with the other stars in the daily round, as the earth turns on its axis. And again, a star could not remain fixed over the stable on that night of nights, casting down a great broad beam of purest light. That is, no "natural" star could. It would move onward with the procession of the heavens, until it set below the horizon.

A Miracle. But the world has believed in that Star for 19 centuries. Scientists do not deny that it could have been a miracle—that "Star of Wonder, Star of Hope" that shone over the crib of the Saviour. It is no more difficult to believe that a star could send its beams down on that sacred spot than that angels sang to the shepherds, "Glory to God in the highest." It is one more marvel among many marvels.

From the Scriptures and from tradition it is known that the three wise men or Magi ("Magi" was the term for astrologer in the East) saw a great light in the sky, and took it for the Star that heralded the birth of the King of the Jews, who would deliver mankind from bondage. The three learned men, called kings by tradition, mounted their camels, and came together, one from Chaldaea, one from Persia, and one from Arabia. Their names, according to Bede, were Kaspar, Melchior, and Balthasar.

When they came to the stable in Bethlehem, they knelt in reverent wonder, like the simple shepherds gathered about the Babe, and offered their rich gifts of "gold, frankincense and myrrh." Today, although scientific knowledge has advanced a thousand-fold since the time of Christ, the mystery attached to all that sacred story remains.

The Star of Bethlehem is still a mystery to science. It will always remain so, for there is no way to recreate the physical conditions of that night, so long ago, and to investigate the phenomena with precise instruments. But millions of Christians will continue to believe that the glorious symbol of hope, the Star, shone over the little stable on that first Christmas, while celestial music floated over the countryside, and all the world was hushed in wonder.

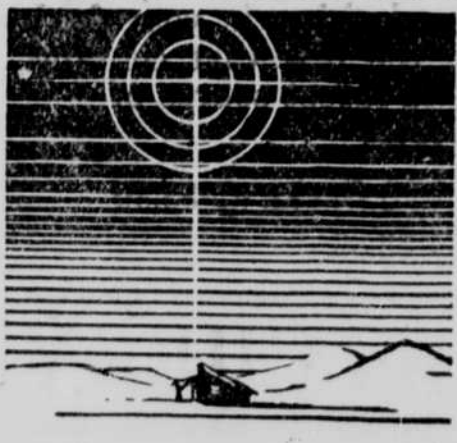


WE THREE KINGS OF ORIENT ARE—An 18th century "presepio" by many authorities considered the finest example of this sort of art, presents the well-known Nativity scene. The perfection of the painted figures is remarkable. In the background, through the end of the gable, can be seen the miraculous Star.

A CHRISTMAS CAROL

There's a song in the air!
There's a star in the sky!
There's a mother's deep prayer
And a baby's low cry!
And the star rains its fire while the
Beautiful sing,
For the manger of Bethlehem cradles a king.

In the light of that star
Lies the ages imperiled;
And that song from afar
Has swept over the world.



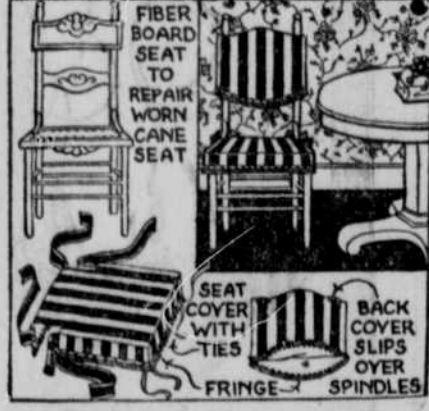
Every hearth is aflame, and the Beautiful sing
In the homes of the nations that Jesus is King.

We rejoice in the light,
And we echo the song
That comes down through the night

From the heavenly throng.
Ay! we shout to the lovely evangel
They bring,
And we greet in his cradle our
Saviour and King!

—JOSIAH GILBERT HOLLAND.

ON THE HOME FRONT with RUTH WYETH SPEARS



That was the treatment given a set of old chairs like the one shown here. A two-piece frock was planned to repeat tones in the wall paper of the room in which the chairs were to be used. The bold stripes of the putty tan, green and wine red material gave just the right contrast with the flowered pattern on the wall. Narrow green fringe was used for edging and the sketch shows how the two pieces of the slip cover were made.

IF A chair is all legs, angles and curves in the wrong places, a slip cover in the right colors and cut to bring out graceful lines and cover defects, will give any dining room chair set a new personality.

NOTE—Readers who want to make tailored slip covers for living room chairs will find detailed directions in SEWING BOOK 10. Price, 15 cents. Send your order to

MRS. RUTH WYETH SPEARS Bedford Hills New York Drawer 10 Enclose 15 cents for Sewing Book No. 10. Name Address

First Choice in the Service

If you've ever noticed the top of a Marine Officer's visor cap, you've seen on it something you won't find on any other cap worn in Uncle Sam's service—a neat "X" of looped braid.

There's a story back of that braided "X", and it goes back more than 150 years, to a time shortly after the U. S. Marines were first organized.

In those days of sailing ships, naval battles often ended in close hand-to-hand fighting, as the crew of one ship tried to board the other—and Marines, of course, were in the thick of the fight. Some were in the boarding party, and some were posted in the rigging to fire down on the enemy. It was because of those men firing from high on the masts that Marine officers—whose uniforms from above resembled the enemy's—fixed "X'S" on their hats.

In other words, that braid meant to the Marines in the rigging, "X marks the spot—not to shoot at!" Since those days, the "X" on the cap has become a standard part of the Marines' uniform. Another piece of "standard equipment" you'll notice among Marines these days—whether they're wearing dress uniform or combat dungarees—is the American cigarette they carry with them wherever they go. In all those news pictures you've seen of Uncle Sam's fighting men, snapped as they are relaxing while "off duty," you'll find that in most cases they will be smoking a cigarette. And what brand do they prefer? Well, actual sales records show that the favorite with men in the Marines—as in the Navy—is Camel. Likewise, according to the sales records, Camels are first choice with men in the Army.

Fighting men who have come back from jungles, deserts, and mountains—wherever Uncle Sam's forces are stationed—give one pretty good reason for this choice. They say that Camels stay fresh—that out in the jungles of Guadalcanal, for instance, the Camels they get are actually just as fresh-tasting and full-flavored as the ones they used to get back home.

Of course, the millions of men in training camps here at home want their cigarettes just as much as soldiers. Your dealer now has Camels in special Christmas cartons, gay and colorful—and he will be glad to wrap them for you for mailing.—Adv.

ASK ME ANOTHER? A General Quiz

The Questions

- 1. Gold alloy with nickel and zinc is called what?
2. What island was settled in 1790 by mutineers from the British ship Bounty?
3. A Hibernian is a native of what land?
4. Penelope waited ten years for the return of her husband. What was his name?
5. What city in Italy is known as "the Bride of the Sea"?
6. What chief justice presided over the trial for impeachment of President Andrew Johnson?
7. Where did the Aztecs have an empire?
8. Who patented the saxophone and when?
9. What is the name of the gland which supplies the body with iodine compounds?
10. Why is it advisable for any one going into very low temperature areas to have their dentistry checked?

The Answers

- 1. White gold.
2. Pitcairn.
3. Ireland.
4. Odysseus (Ulysses).
5. Venice.
6. Salmon P. Chase.
7. Mexico.
8. Adolphe Sax in 1846.
9. The thyroid gland, without which we would all be idiots.
10. Because the extreme cold tends to contract metal fillings, sometimes causing them to drop out.

Acid Indigestion

Relieved in 5 minutes or double money back. When excess stomach acid causes painful indigestion, gas, sour stomach and heartburn, doctors usually prescribe the fastest-acting medicine known for symptomatic relief—medicine like those in Bell-sine Tablets. No laxative. Bell-sine brings comfort in a fifth or double your money back on return of bottle to us. Be at all drug stores.

Rear Propulsion

Alligators do not swim with their feet, but with their tails.



Gifts sure to please!

A gay gift package—the Camel Holiday House (right), containing 200 slow-burning, cool-smoking Camels in four boxes of "flat fifties." (Note: Dealer's supplies may be limited, so shop early for this special gift package.)



The Camel Christmas cartoon (right), with its special holiday design, is more popular than ever! Contains ten packages of 20's—in all, 200 extra-flavorful, extra-mild Camels.

CAMELS

