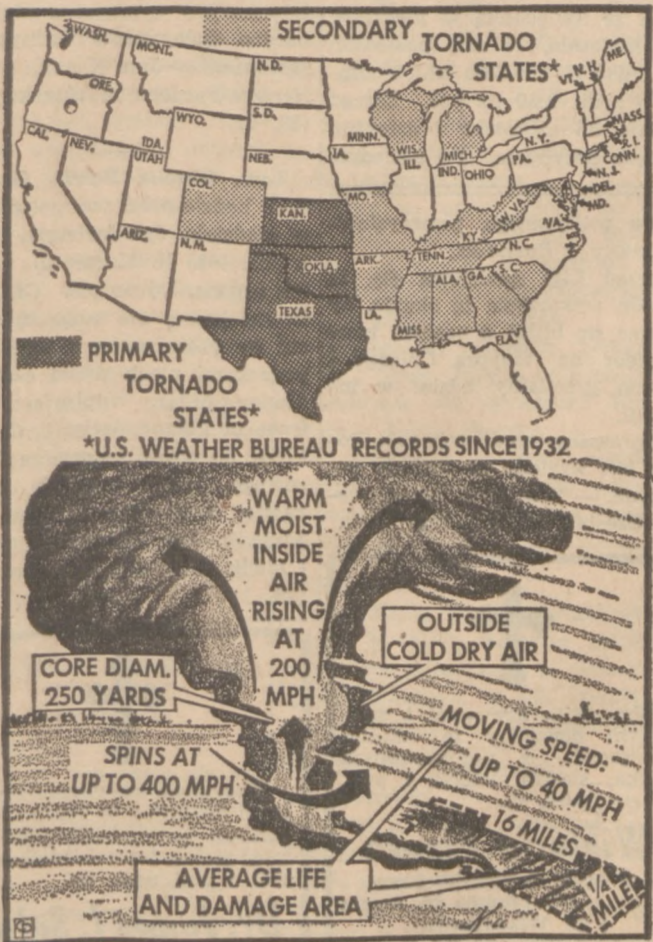


CHICAGO, ILL. WEDNESDAY, MARCH 29, 1967

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THE TORNADO SEASON IS UPON US—The tornado season is with us again. It will reach its peak in May, and subside by the end of the summer. The United States witnesses about 600 tornadoes every year. About half of them occur in April, May and June. The map in the illustration shows the states usually visited; the drawing by Central Press staff artist John Kraner explains how tornadoes are born, where they go and what they do.

Observatory Lists Dates

Seems Phases Of Moon Can Influence Weather

By FRANCIS K. CZYZEWSKI

When the Polish November insurrection against Russia began Nov. 29, 1830, the moon was just a day before the full phase. On the night of the ill-fated insurrection against the Tsarist yoke, Jan. 22, 1863, the full moon of Jan. 19 rose later, being three full days past the full phase.

Napoleon Bonaparte never took too much interest in the weather except that it annoyed him. He lost an empire because he thought a light drizzle on the day of the great Battle of Waterloo would dissipate, and he had impatiently waited for the rain to start. The drizzle turned into a heavy rain. His artillery, on which he chiefly depended for victories, was mired in mud and the wait for the drizzle to stop had permitted the British and Prussian armies to join to defeat him.

WHEN NAPOLEON was defeated at Waterloo, June 18, 1815, the moon was between the first quarter (June 14) and the full moon (June 21), but all he saw was a drizzle constantly increasing to a heavy rain as a low pressure cell came out of the Atlantic.

On April 14, 1861, when Fort Sumter was attacked and the Civil War started, the new moon was four days old. Gen. Robert E. Lee surrendered the remnants of his Confederate Army to Gen. Ulysses S. Grant at Appomattox, Va., April 9, 1865, just two days before the full moon.

THIS IS TO SHOW that the phases of the moon have been backtracked by the day, hour and minute from 1800 to 1850 in the recently published 43-page booklet, Circular No. 112, of the U.S. Naval Observatory in Washington, D.C. The booklet lists the time of every new moon, first quarter, full moon and last quarter for more than a century and a half. For each phase, the Ephemeris time, is given to the nearest minute. This differs by more than two minutes from the Greenwich civil time, known by astronomers as the Universal time, adopted generally in 1960.

The intricate tabulations by Berenice L. Morrison, are a handy source of information for many purposes, both astronomical and historical. For example, during the most intense Leonid shower that startled the world on Nov. 13 1833 — probably the richest meteor display of the century — did moonlight interfere? The Morrison book tells us that the new moon occurred on the 11th, so that there was only a very slender crescent that had set soon after the sun the previous evening, leaving the sky dark all evening for perfect viewing of the great shower.

PRESIDENT ABRAHAM Lincoln was shot at Ford's Theater, Washington, D.C., on the evening of April 14, 1865. Was there moonlight when John Wilkes Booth

escaped on horseback? Full phase was on April 10, at 11 p.m. local time. Hence moonrise four days later came roughly four hours after sunset, so the first part of the assassin's flight into Maryland was in darkness.

The phases of the moon in Circular No. 112 have been computed using an abridged form of F. W. Brown's Lunar Theory (Astronomical Papers, Vol. XV, Part 1, 1953), and Newcomb's Theory of the Sun (Astronomical Paper, Vol. VI, Part 1, 1895).

Teen-age Pilot Numbers Soar

New York (UPI) — Thousands of teen-agers are getting high school credit for being flighty.

In Crescent City, Calif., school board officials approved purchase of a training plane for the high-flying youths.

In Chenute, Kans., another place where aviation training occurs for credit, 15 students meet one hour daily for 18 weeks of classroom aviation study. They earn a credit in science.

Logene magazine, reporting on the trend, says 13,000 teen-agers hold pilot licenses. In Arizona, California, Florida, Georgia, Illinois, Kansas, Michigan, Texas and Wyoming, teen-agers are sprouting wings in the classroom.

The publication says that educators hold varying opinions on the value of aviation training but agree on one point: by its very nature, aviation requires that students get their facts straight.

A Federal Aviation Agency (FAA) official feels that the training teaches discipline, and, in some cases, where student are bored with school, the challenge of aviation training stimulates improvement in the overall school performance.

Some educators believe that 20 years from now flight training will be as common in the schools as driver education is today.

New Twist

STERLING, Colo. — (UPI) — Nearly 80 Northeastern Junior College students added a new twist to picketing. They picketed a pack of picketing pickets.

Double Discount

Washington (UPI) — Poland has doubled its discount for visitors during the off-season, the American Automobile Association reports. The former discount was 10 per cent; the new is 20 per cent. Off-season is defined as Oct. 1 through July 31.

Our Boys In Service

Lt. Bonk

Ft. Benning, Ga. — Second Lieutenant Thomas J. Bonk, 24, son of Mr. and Mrs. Theodore J. Bonk, 2136 N. Oakley Ave., completed a combat platoon leader course at the Army Infantry School, Ft. Benning, Ga.

Lt. Fabian

Ft. Benning, Ga. — Second Lieutenant Peter J. Fabian, 23, son of Mr. and Mrs. Frank E. Siudzinski, 6739 N. Dowagiac Ave., completed a combat platoon leader course at the Army Infantry School, Ft. Benning, Ga.

Kwiatkowski

Pleiku, Vietnam — Army Private First Class Allen J. Kwiatkowski, 18, son of Mr. and Mrs. Jerome J. Kwiatkowski, 2057 W. 51st St., was assigned as a military policeman in Company B, 504th Military Police Battalion near Pleiku, Vietnam.

Kowall

U.S. Army, Vietnam — Donald J. Kowall, 21, son of Mr. and Mrs. Joseph Kowall, 2309 N. Ridgeway, was promoted to Army specialist four while serving with the 459th Signal Battalion in Vietnam.

Gajda

Pleiku, Vietnam — Army Private George Gajda, 19, son of Mr. and Mrs. Stanley J. Gajda, 4533 S. Honore St., arrived at the Pleiku, Vietnam, base camp of the 4th Infantry Division.

Quirks In News

On The Second Thought... Fenimore, Wis. (UPI) — Mrs. Bessie Parnell, 87, and her husband, John, 90, will celebrate their 70th wedding anniversary Thursday. Monday she gave her recipe for marital bliss:

"Just be honest with one another in everything." As an afterthought she said, "Oh, and you have to have good health and finances."

Overpaid Cops

St. Louis, Mo. (UPI) — At least 60 St. Louis policemen are bemoaning the fact they were overpaid — up to \$255 each last year. A police department spokesman said the money paid out due to a clerical error would have to be paid back.

Eager Beavers

Valparaiso, Ind. (UPI) — Officials at the Dunes State Park had asked for volunteers to help clean up the Lake Michigan beach playground and went to the Boy Scouts.

tion, civil affairs, mine and booby trap familiarization, reconnaissance, and ambush patrolling.

Raica

Fort Knox, Ky.—Private Russell A. Raica, 20, son of Mr. and Mrs. Tony S. Raica, 1239 North Pulaski, completed a 13-week field radio repair course at the Army Armor School, Ft. Knox, Ky.

Bednar

Saigon, Vietnam — Army Private First Class Theodore H. Bednar, 24, son of Mr. and Mrs. Theodore W. Bednar, 5216 W. Giddings St., was assigned to the 3rd Field Hospital in Saigon, Vietnam.

Furgala

Ft. Gordon, Ga. — Private Alan J. Furgala, 20, son of Mr. and Mrs. Michael Furgala, 407 S. Brighon Place, completed a radio teletype operation course at the Army Southeastern Signal School.

Fete Will Mark Purchase Of Virgin Islands

St. Croix (UPI) — Units of the armed forces will take part in a peaceful invasion of the U.S. Virgin Islands in celebration of the 50th Anniversary March 31 of the purchase of the territory by the United States from Denmark.

The "Transfer Day" program will be part of an American-Danish Friendship Festival which starts March 27 and ends April 7.

Presence of Navy ships and personnel will recall the administration of the Islands by that branch of the service from 1917 to 1931 when they were placed under the jurisdiction of the Department of Interior.

The aircraft carriers Wasp and Guam will anchor off the Islands, with destroyer, mine sweeper and Coast Guard cutters escorts. They will be joined by the full-rigged Danish training frigate, the Denmark. All vessels will stand by for receptions and visits, and officers and crews will have shore leave to enjoy the festivities of Semi-Centennial year 1967.

One of the highlights of the celebration will be exhibition baseball games between the New York Yankees and he Boston Red Sox on St. Croix, March 31, and on St. Thomas, April 1.



DUCK!—Ducks parading down Viewcrest Road in West Falmouth, Mass., are shooed to safety by one of two motorists who stopped their cars to block traffic.

Dearborn Alliance Dancers Will Present Annual Show

Dearborn, Mich. (Sp.) — The Alliance Dancers of Dearborn hall, Calhoun at Colson, or may be purchased before the performance at one dollar each.

Krakow Univ. Seeks Memos of Paderewski

The Jagiellonian University in Krakow addresses hereby a kind request to all those who own any correspondence (also in form of copies, photocopies or transcripts) of Ignacy Jan Paderewski, the great pianist, composer and statesman, to be so generous as to offer or lend it to the University.

Button-pushing Changes House

Rome (UPI) — Need a bigger house? Just press a button.

The architect recently showed colleagues around one house he has built with expanding rooms and presented a scale model of an apartment house using the same system.

TIMELY TOPICS

Electric Autos: Fast Recharge Problems Remain Difficult

New York (UPI) — Much of the talk about electric automobiles seems to miss the point — that producing a practical electric car is more a marketing than an engineering problem.

A recent suggestion that cars be equipped with both gasoline and electric motors — to run on gas on the highways and on electricity in the cities — shows how wide of the mark much of the thinking is.

A SILVER ZINC battery that will drive a car 50 to 60 mph with a reasonably good mileage range already is available. Within two to three years there is an excellent chance that a zinc air battery that is 50 per cent more efficient than the silver zinc battery and vastly cheaper will be available.

THE REAL PROBLEM is to make efficient batteries widely available so the rundown battery can be removed from the car and a recharged one substituted in about the time it takes to buy a tank full of gasoline.

That means the electric car will depend on rental batteries — and on a rental system that pays.

There's another reason why an instantly changeable rental battery makes sense. The prime need for electric cars is in big cities — for taxicabs, buses, delivery vans and salesman's cars. Many of these must be operated on long shifts, double shifts or even around the clock.

MAKING A RENTAL system pay would not be easy with the silver zinc battery. Not long ago, I drove a little Renault powered by silver zinc batteries made by Yardney Electric Co. of New York. The car performed perfectly, accelerating quickly to 50 mph.

But at that time, silver zinc batteries were good for only perhaps two score recharges. Since then, Yardney engineers have made breakthroughs in the laboratories and claim they soon will be able to make silver zinc batteries that will last three years or 40,000 miles.

Batteries of this type big enough for an automobile cost \$1,500 to \$2,700. Therefore, even though 80 per cent of their value is in silver, which is 100 per cent recoverable, the depreciation and resulting rental cost still would be high — and the batteries would present a constant risk of pilferage.

THE ZINC AIR battery, on the other hand, would use only cheap materials and would be seven times as efficient per pound as the common lead acid battery.

At least four American zinc air battery projects are well advanced. One is that of Yardney Electric and Ford Motor Co. Another is a joint venture of the Edison Electric Institute, General Dynamics Corp.

and Joseph Lucas Industries, Ltd., of Britain. General Electric has the third while Leosona Moos Laboratories of Great Neck, N.Y., has made successful high energy, small zinc air primary batteries for experimental use in aerospace projects.

The four groups are engaged in mechanically different versions of the same basic principle — liberating electricity stored in a zinc electrode by oxidizing the zinc in the presence of a stream of air and electrolytic bath, generally potassium hydroxide.

