# National Geographic News Bulletin 

prepared and issued by the
National Geographic Society
Washington 6, D. C.
Washington --
"Conterminous" now is the accepted term
to designate the 48 States, less Alaska and Hawaii, the National Geographic Society says. The word, which means having a common boundary, has been adopted by the State Department and other Government agencies. Conterminous is more precise than "contiguous," which formerly was used. "Continental" specifies the 49 States, including Alaska.

AIABAMA CAVE MAY
YIEID NEW SECRETS

Immediate Release

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Washington -- The National Geographic Society announced today that it is resuming excavation at Russell Cave near Bridgeport in northern Alabama where pre-Columbian man lived for some 9,000 years.

Earlier expeditions in the summers of 1956 and 1957 dug 32 feet into the floor of the cave and, layer by layer, collected two and a half tons of artifacts. But they did not reach bedrock.

This year, again under the leadership of Smithsonian archeologist Carl F. Miller, diggers will seek to plumb the ultimate depth of the big cave and thus throw additional light on the everyday lives of some of North America's earliest human inhabitants.

## Uncover New Cave

There is a possibility that the digging this season may open up an entirely new cave. Late last summer a small charge of dynamite precipitated a huge, rumbling rockslide deep within the mountain beneath and behind Russell Cave. No entrance has been found to the new cavern, but Mr. Miller believes further excavation will find or produce an opening to what might be "an archeological treasure trove of early man."

Fortunately for archeologists, Russell Cave's occupants were messy housekeepers. For thousands of years cave men and cave women cleaned up the floor by scattering fresh soil over the debris. Thus the stone points, bone tools, broken pottery, and fishhooks of each generation were preserved in chronological order. Charcoal taken from a hearth 23 feet down was radiocarbon-dated at 9,020 , plus or minus 350 years. 10,121

The stone-age occupants received little better treatment by their fellows than did the broken pots and tools. From the size and position of the bones and the angle of the lethal weapon, Expedition Leader Miller reconstructed for the March National Geographic Magazine what happened to one of the cave men:
"He was short, naked, and desperately afraid. He ran, bending over to make himself smaller, sensing not so much by sound as by a hunter's instinct that an enemy was close behind. Suddenly a stone-tipped shaft buried itself in the muscles of his back.
"The warrior stumbled ong hid, and somehow escaped. Then he dragged himself, half paralyzed, back to the sanctuary of his dark, vaulted cave home and there he died.
"No grave was dug for him. His body, with the stone spear point still in his back, was simply laid on the cave floor and covered with earth and refuse. Life went on around his resting place, as it had for thousands of years and would for thousands more."

King David's Era
"This Stone Age Americang" said Archeologist Miller, "lived and died about 1000 B.C.g when David was bringing the Kingdom of Israel to greatness. Yet the slain hunter was a comparative latecomer to the great limestone cavern where his family laid its campfire, ate, and slept。 For at least 6,000 years before his lifetime, that opening in a wooded ridge near the present Tennessee border had sheltered primitive men, women and children."

Earlier this year, Dr. Melville Bell Grosvenor, president and editor of the National Geographic Society, announced that Russell Cave and the extensive lands around it had been presented to the Federal Government for the education and enjoyment of future generations.

In accepting the gift for the National Park System, Secretary of the Interior Fred A. Seaton thanked Dr. Grosvenor for the "generous and farsighted offer" and said, "The continuous and unique record of human occupation of Russell Cave for over 9,000 years makes this site one of the most important scientific archeological areas east of the Mississippi River."

Further exploration of the cave this summer is a joint project of the Society and the Smithsonian Institution.

## ASTEROIDS REMAIN

SCIENTIFIC MYSTERY

Immediate Release
Washington -- When first observed 162 years ago, the solar system's smallest members were called "asteroids" because they resemble mite-sized stars in the night sky.

The tiny planets have been the object of considerable interest ever since, but astronomers have never determined their precise origin and relation to other members of the sun's family.

There are about l, 600 known asteroids, the National Geographic Society says. They speed around the sun more or less between the orbits of Mars and Jupiter, although many have highly eccentric orbits that sometimes bring them close to the earth.

## Observed in March

Celestial calendars for March, 1963, include the appearance of the four largest asteroids--Ceres, Pallas, Vesta; and Juno--in the sky near the constellation Leo. Of these only Vesta is visible to the naked eye. The others are too dim to be seen without a telescope.

On March 4, the tiny asteroid Betula came within 46 million miles of the earth--fairly close as astronomical distances go. Other asteroids have edged as close as 400,000 miles to our planet.

The first asteroid seen by man was discovered on January 2, 1801, by the astronomer Piazzi at Palermo, Italy. He named it Ceres. With a diameter of about 427 miles, Ceres is the largest of the minor planets. Most are only a few miles across.

## ASTEROIDS (PAGE TWO)

Many other asteroids have been given names from ancient mythology. Some are named after their discoverers, or designated by numbers. One was christened Geographos, in honor of the National Geographic Society. How to Use Them

Space Age scientists, though they still don't know as much about asteroids as they would like, have imagined a variety of startling ways in which the little planets might be used by man.

One scientist theorizes that the platinum-rich asteroid Ivar could be snared from its path and brought to earth, where its precious content could be extracted.

Another suggests putting a. snared asteroid into orbit around the earth "as a lasting mark of human achievement."

Still others envision the use of asteroids as space bases and converting them into vehicles for space travel. The asteroid would first have to be hollowed out, leaving a thick shell that would be able to withstand radiation from atomic particles.

A superbomb with a force greater than any known nuclear explosive could be fashioned from an asteroid purposely deflected from its path and aimed at an enemy on the earth, one space scientist has said.

Actually, geologists believe the earth has been hit by such asteroid bombs. An asteroid is thought to have struck western Texas 50 million years ago, leaving a jumble of shattered rock known as the Sierra Madera. A 26-mile-wide crater in South Africa is attributed to another earth-asteroid collision.
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TIRES WENT FLAT, ROADS DISAPPEARED, BUT PIONEER MOTORISTS PUSHED ONWARD

Immediate Release
Washington -United States in an automobile was warned of highwaymen. But the only robber he met was a gasoline vendor who charged him $\$ 1.05$ a gallon.

Expensive fuel was just one of Col. H. Nelson Jackson's problems as he drove from San Francisco to New York in a two-cylinder, chain-drive Winton in May-July, 1903. The trip took 63 days.

Roads were rutted wagon trails that turned into morasses after rain, the National Geographic Society says. The stout little car jounced over dry stream beds and splashed across rivers--bridges were a luxury. Down the Road a Piece

Road maps and signs were unknown. One woman misdirected the traveler 50 miles down a road that came to a dead end at an isolated farmhouse, where an elderly couple gaped at the strange machine. The indignant Jackson retraced his route and asked the woman why she had sent him there.
"I wanted maw and paw to see you," she explained. "They've never seen an automobile."

In the pioneer days of motor touring, even a little spin in the country was almost as adventurous as a cross-country trip. Some towns banned the "devil wagons" from their streets. Farmers buried saws and rakes in the dusty roads to sabotage the city fellers who were frightening their horses and killing their chickens.

Even without booby traps, early motorists averaged at least one flat per trip. The flimsy tires leaked, collected nails, and exploded on the slightest provocation. 11,522-PS, R-W

## EARLY MOTOR TOURS (PAGE TWO)

Three or four spare tires and a portable vulcanizer were standard equipment. Every man was his own mechanic (cars invariably broke down miles from nowhere), and the foresighted carried a block-and-tackle, towing cable, hatchet, grease gun, assorted wrenches and screw drivers, several feet of insulated wire, spark plugs, gaskets, tire valves, and so on.

Another vital item was a food hamper. Pioneer motorists didn't stint themselves. "A wicker basket the size of a small steamer trunk will do," one writer suggested.

Many times all precautions were useless. In an early motoring magazine, a doctor related in dismal detail how he failed to repair his disabled steamer and was "again towed home in disgrace." To novices the physician prescribed: "Never wear a silk hat, frock coat, and white linen on an auto trip; they don't look well after an accident."

Dusters and Kangaroo Skin
Ieather jacket and breeches comprised a more practical motoring outfit. Kangaroo skin was favored because it was pliable and shed water. Cloth dusters warded off the huge clouds of dust the open cars stirred up.

Convoys of cars often banded together for long-distance tours. New Hampshire police were not impressed by an elite auto caravan that invaded their state in 1905. Officers disguised as workmen were posted on both sides of the principal road. They held a rope to stop any car (or garrote the driver) exceeding the 8 -mile-an-hour speed limit.

In Urbana, Illinois, an ordinance limited speed to 4 miles an hour and required drivers to sound a bell within 50 feet of a crossing and to continue ringing it until after the intersection had been passed.

Motoring grew in spite of bad roads, mechanical failures, accidents, legal restrictions, and other obstacles. But there were forebodings.

A Newport dowager pungently expressed an early attitude toward motor cars when she said, after a pedestrian was run down, "The automobile is dividing the United States into two classes: the quick and the dead."

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## National Geographic Society

Immediate Release

Washington, D. C. 20036

Spring is here, connoisseurs of wild plants say, when the first fiddleheads appear.

Fiddleheads are the tender green sprouts of several species of fern. The tightly rolled young fronds resemble the scroll of a violin, and they taste delicious.

Devotees find it difficult, however, to describe exactly the odd, woodsy flavor of fiddleheads. They have been compared to artichokes, pumpkin seeds, and a cross between asparagus and mushrooms.

Indians and American colonists boiled fiddleheads as potherbs, the National Geographic Society says. Country boys long have chewed the raw sprouts of common pasture brake, or bracken. Gourmets prefer ostrich-fern fiddleheads cooked and served with a cream sauce.

## Prehistoric Giants

Fiddleheads first sprouted some 300 million years ago. The leaves of some early species grew three feet long. In the Carboniferous age, 250 million years ago, ferns became enormous--100 feet tall with diameters of several feet. These giant ferns helped form the earth's coal deposits.

Today, there are 10,000 species of fern ranging from delicate, filmy plants less than an inch high to 80-foot tropical giants with palmlike fronds.

Ferns grow wild almost everywhere. They flourish in Greenland and tropical rain forests, in moist crevices and sunny, open fields. One species has been found at 18,700 feet in the Himalayas; others thrive in lowland swamps. The floating staghorn fern that lives on water is kept bouyant by air-filled leaf stalks.

The fern family's method of reproduction accounts largely for its worldwide distribution. The plants develop not from seeds but spores--single cells wrapped in a tough, weatherproof case.

Spores are so tiny that hundreds could rest easily on the head of a pin, so light that winds carry them across oceans, so tough that they can withstand unfavorable conditions for years, then germinate when moisture and temperature are right.

## Millions of Spores

The spore cases develop on the underside of fern leaves. When the spores ripen and the case becomes dry, the cover snaps open, catapulting the minute particles into the air. A single fern leaf may produce 50 million spores. Only a fraction germinate.

Centuries ago, people thought that ferns developed from invisible seeds since they were never seen. People believed that if they spread white sheets under ferns on St. John's Eve, they could gather some of the seeds. Anyone who ate the seeds would be made invisible, too.

In the past ferns have served a variety of medicinal purposes. The royal fern healed wounds and broken bones; polypody prevented "fearsome and troublesome dreams and nightmares"; maidenhair spleenwort was supposed to prevent baldness.

Nobody expects ferns to grow hair these days, but many people dine on them for pure pleasure. "A supper of fiddleheads on hot buttered toast sets just right," said one satisfied fern fancier.

## ADMIRE BUT DON'T EAT

THE SPRING NOSEGAYS

Immediate Release
Washington --
lilies of the valley. Or the oleander.
The absentminded gardener who nibbles on a flower, a seed, or a root is courting danger. Many beautiful and innocent-looking common plants are poisonous, the National Geographic Society says.

The lily of the valley's fragrance and delicacy are misleading. This herb with bell-shaped flowers contains a dangerous drug similar to digitalis, the powerful heart stimulant. As a safety precaution, the lilies of the valley on Luci Johnson's wedding cake were plastic-coated to prevent shedding.

Barbecue Fells Hunters
Two of the world's handsomest shrubs--the oleander and rhodo-dendron--are deadly. Hunters have been hospitalized after eating steaks cooked over a fire fueled with oleander branches. Contact with the smoke alone can make the meat highly toxic.

The castor bean, a large ornamental plant with broad, darkgreen leaves, aids man by producing castor oil and substances useful in industry--protective coatings, lubricants, and plastics. But the seeds contain a poison so lethal that three have been known to kill an adult.

A specialist on toxic plants warns: "Children tend to be attracted to berries and fleshy plant parts. Every child should be taught never to eat any part of a plant or berry not commonly used as food."

The warning applies to adults, too. People shouldn't eat any nonfood plants or flowers, including daisies.

Mushrooms offer perhaps the greatest temptation--and danger-to people. Only an expert can distinguish between an edible fungus and one containing deadly poison.

Before sautéing a wild mushroom in butter, the gourmet might remember a bit of Roman history. When the matriarch Agrippina decided to replace the Emperor Claudius with her son Nero, she supposedly poisoned the ruler with a toadstool to hasten the inheritance. Double Trouble

The Greeks dispatched enemies with water hemlock. This plant-common in the United States--poses a double threat. The leaves resemble parsley and the roots suggest parsnips, but both parts are lethal.

Even rhubarb, the succulent pie plant, can be dangerous. Only the fleshy stalks are edible. The root and leaves contain harmful substances that can cause serious illness.

Mistaken identity occasionally works in reverse to condemn innocent plants. The tomato, a plant of New World origin, was long shunned here, probably because it belongs to the nightshade family with some deadly species. The tomato had to make a round trip to Europe, where it came to be eaten commonly, before it returned to add color and taste to American salad bowls.

GALAPAGOS ISLES, AFTER 132 YEARS,
STILL YIELD SURPRISES TO SCIENCE

Immediate Release
Washington --

## National Geographic News Bulletin

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The Galapagos Islands still hold surprises for science. Two are birds-a tool-using finch and a feathered vampire.

The woodpecker finch, a member of nature's small group of tool users, carefully selects twigs to probe into holes in tree bark for meaty grubs. The bird will retain an efficient twig and carry it from tree to tree.

Only three years ago, an American scientist made the startling discovery that the tiny ground finch feeds by nipping the soft skin of a much larger bird and sipping the blood. It was the first time that blood-eating as a primary feeding method had ever been found among birds.

Dr. Roger Tory Peterson, the distinguished ornithologist, bird painter, and photographer, writes about the islands' remarkable finch family and other unique creatures there in the April National Geographic.

## Animals Are Fearless

His article, "The Galapagos, Eerie Cradle of New Species," is illustrated with 58 color photographs. The fearlessness of Galapagos wildife enabled photographers Alan and Joan Root to make extraordinary close-ups of the finches, gigantic tortoises, flightless cormorants, sea-diving iguanas, penguins, lava lizards, sea lions, and their fellow inhabitants on the isolated isles 600 miles west of South America.

Galapagos wildife has fascinated scientists since Charles Darwin made his historic visit 132 years ago. Study of the small finches helped him to arrive at one of the basic concepts of all time--the evolutionary design of life.

The isles, owned by Ecuador and declared a national park in 1965, remain a paradise for animal watching. Writes Dr. Peterson: "Scientists regard the Galapagos as perhaps the world's best laboratory for studying how species become differentiated. Evolutionary forces, of course, are busy everywhere, but the detective work of biologists is easiest on the islands. On continents, the clues are not as evident, the story not as clean-cut."

In the Galapagos archipelago, with 13 main islands, evolution has been fast. Most of the stark, nearth volcanic isles are less than a million years old, and none is much older than two million.

Thirteen species of finch have evolved from common stock to fill various niches, scientists believe. Some finches developed larger beaks to crack large seeds. Others with longer beaks probe the deep cactus blossoms. Those with smaller bills eat insects. One species with an especially sturdy beak flips over rocks to search for food.

## Tortoise Population Declines

Darwin's finches thrill visiting scientists, but touriṣts want most to see the giant tortoises, or galápagos, that gave the islands their name. Over the years, the tortoises have been hunted relentlessly by sailors for the meat, and only 8,000 or so survive on two islands.

While camping in a tortoise reserve, Dr. Peterson wrote: "Truly, this is the Garden of Eden, I thought, as I walked through the green groves hung with bearded moss and ferns. The sensation was heightened at night, when I left my tent and stole through the silent, moonlit glades. Here and there glistening in the moonlight, slept a great tortoise, half-immersed in a muddy pool."

Some old tortoises weigh 500 pounds and have perhaps reached 200 years of age. Ecuadorian conservationists are marking the great reptiles to keep track of their growth, age, and travels.


ETERNAL FLAMES HONOR
HEROES AROUND WORLD

Immediate Release
Washington -- The eternal flame flickering over the grave of President John F. Kennedy in Arlington National Cemetery is one of perhaps a dozen such lights that honor heroes around the world.

At least four eternal flames burn in the United States, and two of these are devoted to the assassinated President. In addition to the blue gas flame that flickers on the Potomac hillside overlooking the Nation's Capital, a Kennedy memorial flame burns in Miami's Bayfront Park.

## Patriotic Symbol

Some eternal flames pay tribute to unknown soldiers symbolizing a nation's war dead, the National Geographic Society says.

At Gettysburg National Park, Pennsylvania, an Eternal Light Peace Memorial glorifies the Civil War dead--both Union and Confederate.

A United States Senate bill is pending to establish an eternal flame at Arlington National Cemetery for the Tomb of the Unknown Soldiers. The flame would serve as "a continuing symbol of the fire of courage, patriotism, and self-sacrifice which burns in the hearts of all Americans who are willing to fight for their country." Outside the United States, eternal flames honor war dead in Paris, the Egyptian port of Alexandria, and most recently Moscow.

## ETERNAL FLAMES (PAGE TWO)

Ever-burning fires sometimes perpetuate the memory of an event or an ideal. A tiny gas flame glimmering beside a little white schoolhouse in Ripon, Wisconsin, honors the supposed birthplace of the Republican Party 113 years ago. Local Republicans vow the fire--and the Party--will endure forever.

One of the world's oldest eternal flames enshrines the ideal of intelligence; it burns appropriately in Greece. The "fire of wisdom" glows on the sacred rock atop Athen's Acropolis.

At least one perpetual flame recalls cataclysmic events of nature. Volcano House, a hotel perched on the rim of a crater in Hawaii Volcanoes National Park, keeps a fire going in the fireplace to remind visitors of the ever-present possibility of eruptions by Mauna Loa and Kilauea.

## Fire Worshipers

Since the time when Vestal Virgins guarded the undying fire of Rome, the ancient "element" has been revered by mankind. A torch passing from "falling hands" to other strong hands has become a popular symbol of the continuation of civilization and immortality.

Holy altar fires still play an important part in the rituals of India's Parsi sect. Some 100,000 descendants of ancient Persian fire worshipers tend perpetual fires in their temples. Priests cover their mouths lest their breath contaminate the sacred element, and they feed the fires with offerings of aromatic sandalwood.

WATER FROM SALTY SEAS:
DI:EAM NEARING REALITY

Immediate Release
Washington --

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Since ancient times, man has dreamed
of using the virtually inexhaustible water of the sea to slake the thirst of the land.

The dream now stands on the threshold of realization, the National Geographic Society says. Desalting plants are being built around the world, and a bill signed by President Lyndon Johnson in May, 1967, provides for a huge installation off the coast of California.

By the early 1970's, the plant will produce 150 million gallons of fresh water a day--twice the amount that the entire world currently converts from salt water.

To Use Nuclear Power
The California plant will rise on a man-made island off Bolsa Chica State Beach in Orange County. The desalting apparatus will use heat from nuclear reactors that will produce electric power for southern California.

The cost of removing salt from seawater has plunged dramatically in recent years. When Congress set up the Office of Saline Water in 1952, it cost about $\$ 5$ to take the salt from 1,000 gallons of water. Now, the cost is down to about $\$ 1$ or so for small desalinating plants, and to 50 cents or less in proposed installations that would convert 10 million gallons or more per day.

## DESALINATION (PAGE TWO)

Most communities now pay only 30 to 40 cents per thousand gallons for fresh water. But natural fresh water is in such short supply in some parts of the world that desalting plants already are commercially sound projects. Coalinga, California, once brought in fresh water from 45 miles away at $\$ 7$ per thousand gallons. The community saved money when a small desalting plant began producing water at $\$ 1.40$ per thousand.

On the Caribbean islands of Curaçao, Aruba, and Bonaire, subnormal rainfall and porous soil result in so little natural fresh water that practically all supplies must now come from the sea. These islands have some of the largest seawater distillation plants--and some of the purest drinking water--to be found anywhere in the world. Water Distributed UnevenIy

The problem elsewhere is the highly uneven distribution of water in relation to population. In California, for instance, threequarters of the people live in the southern part of the state, but southern California has only a quarter of the State's water.

The United States is currently sharing its desalting experience and technology with other nations. The Office of Saline Water is contributing the design for a five-million-gallon desalting plant to be constructed by the Saudi Arabian Government at Jidda. The plant will also produce 50 megawatts of electric power.

The United States and Greece recently completed a joint study to explore the feasibility of a desalting plant for the Athens area. If a plant should be built at Athens, it would mark the ultimate success of an idea the Greeks tried to realize at least 350 years before Christ.

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Immediate Release
Washington --
Visitors fled the first national park
in the 1870's when Indian warriors unceremoniously routed all outsiders from Yellowstone.

Since then, every year has been a record year for the national parks, and 1967 will be no exception.

The National Park Service's rangers are bracing themselves to greet more than 145 million visitors in 1967. Last year about 133 million persons admired the world's most extensive and varied public estate.

## Beaches and Fiery Volcanoes

The National Park System stretches from majestic Mount McKinley in Alaska to the powder-white beaches of Virgin Islands National Park in the Caribbean, and from the fiery volcanoes of Hawaii to the foaming rock coast of Maine. This vast public domain includes 33 national parks and 225 other areas totaling 27,500,000 acres, the National Geographic Society says.

The largest single unit in the system--Katmai National Monument in Alaska--covers 2,697,590 acres; it encompasses the Valley of 10,000 Smokes. The smallest unit is the modest brick dwelling where President Lincoln died in Washington, D. C.

The Park Service's 12 national recreation areas have added an exciting new dimension to the system. Most of the areas are on withdrawn public lands administered by the Bureau of Reclamation for dam projects.

## NATIONAL PARKS (PAGE TWO)

Activity in nearly all the recreation areas centers on and in the water. For instance, at Glen Canyon National Recreation Area in Arizona and Utah, swimmers splash in a man-made lake that will cover 250 square miles when it fills to capacity. Water skiers skim across it, and motorboats explore canyons once difficult to reach even by horseback.

## Mystery Indians

The national parks, monuments, and recreation areas tell an infinite variety of stories. Tourists at Wetherill Mesa, one of many canyon-scarred hills in Coloradors Mesa Verde National Park, may examine the cliff dwellings and ceremonial kivas of Pueblo Indians who reached a high degree of culture before mysteriously vanishing 700 years ago.

An underground display trench at Russell Cave, Alabama, enables visitors to see how Stone Age Americans lived 9,000 years ago. Russell Cave and a surrounding 310-acre site were given to the Park Service by the National Geographic Society in 1961.

Dr. Melville Bell Grosvenor, president and editor of the National Geographic, dedicated the Russell Cave National Monument in May, 1967. The presentation carried on the Society's long tradition of preserving America's scenic and historic heritage.

Enterprising army engineers inspired the first national
park. In 1870 an army surveying party explored the Montana Territory for five weeks. Awed by steaming geysers, waterfalls, and canyons, the men determined to preserve the natural wonders. Their efforts paid off when Congress established Yellowstone two years later as the first national park in the world.

