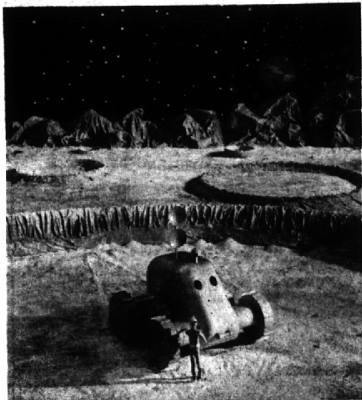


# Scientists Develop a 'Moon Car'



MOONVIEWING MAY not be the same for some time to come for many Birmingham residents who heard Dr. Werner von Braun's Town Hall lecture two weeks ago in which he outlined the U. S. plan for sending a man to the moon. Yet once the stamp "mission accomplished" is applied to the project, the task of further exploration remains. With this in mind, scientists at Chrysler Corp. have developed a "moon car"—an early model with six cleated wheels, two circular "windshields" and a periscope.

## Most College Students In Public Institutions

Eighty per cent of all college students in Michigan are in public institutions, according to Merritt Chambers, University of Michigan visiting professor of higher education.

"In Wisconsin, it's about 70 per cent; in Indiana, about 60 per cent; in Illinois, about 50 per cent; and in Ohio, about 48 per cent," he said.

"The nationwide panorama shows that some 2,000 universities, colleges and junior colleges, about 800 are public and about 1,200 are private," says Chambers.

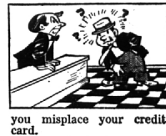
"THE BALANCE between public and private varies greatly among the 50 states, generally being heavy on the public side in the Western states," Chambers notes. "But there are substantial variations among the five states of the East North Central region. Observe the wide difference between Michigan and Ohio."

Chambers observes that "in Michigan, where eight students out of ten are in tax-supported institutions, the tax cost per citizen is necessarily higher than it is in another state where only four out of ten students are in public institutions."

## STRICTLY FRESH

Until they're married, bachelors never fully appreciate the high cost of living.

Money isn't everything—but it comes in handy when



you misplace your credit card.

An old-timer is a fellow who remembers when.

## DOWN TO EARTH

# New Tree Took 25 Years to Develop

Last week we alluded to a new miniature peach tree which will give you regular size peaches on a three-foot plant. Today you have pictures to show you its possible use.

This introduction comes to us from a research nursery in Ontario, Canada, after 25 years work. It is one thing to take a peach and come across an unusual plant and another thing to propagate enough cuttings of it so that the world of gardeners can enjoy your prize.

"THIS REVOLUTIONARY new plant with its free stone peaches is called 'Bonanza.' The flowers in the spring are semi-double pink blossoms.

In the beginning, a variety of dwarf peach was brought from China which had inedible greenish-white fleshed clinging fruit. From this point forward it was crossed with a peach called 'Uncle John.' (You know how human beings have 'throw backs' to look and act like somebody generations back in our history.)

"THIS PLANT" need not need a second tree nearby in order to pollinate the fruit. It can be a portable conversational plant which can be planted in a tub on a terrace so apartment dwellers can enjoy it when they have a roof garden or balcony.

This plant would be a natural for bonsai enthusiasts. Recently I called on W. J. Anderson, 1883 Long Lake Shore Drive, to see him enjoy his greenhouse

In unveiling a mobile model of a two passenger moon car, Chrysler Corporation scientists described what they termed a practical approach to surface exploration of the moon.

Their concept of a roving lunar vehicle and all its intricate details was presented at the national meeting of the Society of Automotive Engineers in Detroit recently. Their description included the propulsion system, power sources, protective measures, mobility and reliability.

Lovell Lawrence, Jr., director of Chrysler Corporation Defense Space Group's Advanced Projects Organization and Dr. Philip W. Lett, chief engineer-Defense Engineering, said a six wheeled vehicle, powered by liquid hydrogen and oxygen, would be able to climb across crevasses and travel effortlessly over the moon's powdery surface. The vehicle would contain a life-support system for two men for up to 24 hours — more than enough time to determine the conditions on the surface of the moon and obtain information needed for more lunar landings, they said.

The manned lunar roving vehicle has a rectangular cab for two astronauts as well as the power sources and climate conditioning to keep them alive and safe. The front of the cab has two circular openings for viewing the moon's surface. A periscope on top would turn 360 degrees for additional visibility. Two radar and radio antennas would be used for communication.

Four wide metal wheels jut from the four corners of the cab on simple axles. Two other wheels on movable arms at the sides are individually powered.

The proposed lunar vehicle would be approximately 12 feet long; 50 inches wide from wheel to wheel; 86 inches to the top of the cab and 11 feet to the top of the radar towers.

The capsule's room would provide comfort for two astronauts in space suits. Exit and entrance would be made through a large front doorway. The door contains two vision openings with controls to dim the intensity of light.

The 360 degree periscope is coupled to a camera and a spotlight. Control of the vehicle would be provided by a single center-mounted lever moved laterally for steering and forward and backward for acceleration and braking.

Navigational, communication and scientific equipment and other components to provide earth atmospheric conditions would be placed in the crew compartment for easy servicing.

Fuel, oxidizer and the powerplant would be placed in separate compartments. Safety shielding would account for a high percentage of the total weight. The moon car would weigh 3,800 pounds on earth but only about 650 pounds on the moon's surface because of the reduced gravitational forces on the moon.

In designing the wheel for moon travel, the scientists turned to a novel idea—wide cylinder-

type wheels with cleats. Four of them would operate over normal volcanic dust conditions. Each of the four corner wheels would be five feet in diameter.

The discs are silvered on the outside and black on the inside to dissipate heat generated in the wheel motor and in the reduction gearing. Wheel rims would be at least 10 inches wide to help the vehicle move along with little vibration.

The large diameter wheels working in an 80-inch wheel base and an 18-inch ground clearance would provide exceptional mobility, the scientists predicted.

The two smaller center wheels, mounted on arms, could be extended to raise the vehicle over obstacles as well as aid in crossing the crevasses.

THE ENGINE, known as a gyro-

genic engine and operated by liquid hydrogen and oxygen, would provide power to the wheels and accessories. Maximum speed would be ten miles per hour.

Lett said the power, heating and cooling systems would be designed to send the moon vehicle over the surface and keep its occupants cool or warm depending on the conditions of the moon at the moment.

At night the temperature outside the vehicle will drop to some 250 degrees below zero and during the day it will climb to 250 degrees above, he added.

"We found that vacuum conditions had marked effects on engineering materials," Lett said. "Friction was increased because of the lack of a lubricating layer of air. Tests are still continuing on the fatigue of materials as well as tests of self-lubricating non-metallic materials."

B-D THE BIRMINGHAM (MICH.) ECCENTRIC March 21, 1963

## The Birmingham Eccentric

### Feature

# NATURE NOW

## Spring Is Here

### For Those with Sharp Eyes, Ears

While yet our northern winds blow cold under grey skies, the earth moves surely along its parent sun, bringing us to 3:20 a.m. Mar. 21. It is the moment of this year's vernal equinox.

Vernal is for blossoming and for birth, and whether you feel it or not, we have come to another springtime.

Suddenly there is life where none appeared before. As early as late February the first shoots of skunk cabbage pierce the earth, generating enough heat by their metabolic life-force to melt a bit of the surrounding ice.

Now on any day you may hear the trill of the first frog, and a cloud of the female's eggs will shimmer in every wayside ditch and stagnant pool.

Skeptics sneered at Henry Ford when he entered his Model T in America's first coast-to-coast auto race in 1900. After 22 days of driving 4,100 miles over mud-covered roads, through snow storms, across streams and in heavy rain, the Model T was the first entry to cross the finish line.

In terms of making a cold frame (USDA), regarding winter protection for our choice plants. The conclusion seems to be (after reading over their findings) that the for the east or south side of your house. If you are a good dirt gardener. Polyethylene film affords a good barrier material for the covering. You can even use a flat, attaching two stakes at one end of the container and form a support for the "roof" of the polyethylene by nailing a heavy wire from corner to corner to keep the plastic above the plants.

Order your fertilizer so that you can begin to spread it over your lawn around April 1 or even before when you will have a light snow to guide the path of the spreader.

CREATURES of the woods, the lively little chipmunk and clumsy woodchuck, have finished their hibernating sleep. Squirrels live their bare oaks with their chattering. They have already given birth, their young safely hidden in the hollow of an old maple or beech.

Even the eyes of the great Aristotle who was among the first to formulate biology as a science, was blind to spring's earliest flowering. Of spore and sperm he was unaware; minus the magnifying magic of a microscope he knew nothing of bacteria, of cell structure, of the testimony of fossils, of protoplasm's astonishing versatility.

Now on any day man can adjust his magnifying tools to discover or affirm nature's minutest marvels or a scientist's Palomar can tune his telescope to probe the reaches of infinity.

IN SOME SUCH fashion our spring begins. It is life's assertion of itself; it is a demonstration of nature's vitality. Life comes only from life and spring is the moment when its secret could be discerned, yet no one ever finds it.

By ALICE WESSELS BURLINGAME  
Special Writer for The Birmingham Eccentric

SNOW PATCHES may linger in the hollows but the hardy grass is greening and the first bumble bees are abroad waiting for the first blossoms to open.

Already there is a slow flowering of the leaf. The naturalist abroad in these vernal days has his reward. For it is he who sees the rushing brooks filling up with the run-off of winter's melting snow, the gathering of grackles in the willows and the first song of sparrow perched on an empty head of Queen Anne's lace.

THIS IS a blossoming so primitive that it carries us back as much as 100 million years to a time when the world too was in its first springtime.

Soon the staminate blossoms of the red maple will be discarded, their mission fulfilled and already the twin buds of my lilac bush tap my window pane, promising a fragrant and unforgettable flowering.

Now on any day the inquisitive walker following a half-hidden path in the early spring woods, may glimpse a mourning cloak butterfly sailing overhead. Like the rest of its angle-winged tribe it hibernates as an adult instead of bridging the season as do most of its kind with their larval life sealed in some hidden crypts.

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