

## PUBLIC SAFETY

**Children With Toy Guns Potentially Dangerous**

► THE GOLDEN RULE of handling firearms is: Never point a gun at any person or living creature—unless you intend to shoot it—even if the gun is a toy.

Unless children are taught good gun handling techniques even with toy guns, they can easily become murderous, states an official of the National Rifle Association, Washington, D. C.

That six-year-old child may look "cute" running around "shooting" people with his toy cap pistol—but he's not so cute if he finds a real gun in the closet.

People should expect a child to treat a real gun in the same rough careless way he has been handling his toy gun. He has not been taught differently. One needs only to watch children playing "war" or "sniper" to realize how often the muzzles of their toy guns point directly at each other.

The parent should teach his child that guns, toy and real, never should be pointed at people. Basic gun safety codes can be taught easily to the small fry with his cap pistol, so that when the time comes for him to have his own rifle, he knows a few rules.

These basic rules and codes of ethics are stressed by the National Rifle Association in magazines, radio, posters, and personal contact.

Skill with guns, like any other skill, depends upon the habits and training of the persons who use them, says an NRA official. It is most important for the young shooter who has been playing cowboys and Indians with his toy gun to learn good handling rules and appreciation of the destructive force of all guns before he is handed a real weapon.

• Science News Letter, 85:24 Jan. 11, 1964

## MEDICINE

**New Method Measures Infant's Oxygen Supply**

► A PROCEDURE to measure an infant's oxygen supply before and just after birth has been developed by Dr. Nicholas Assali of the University of California, Los Angeles, Medical School.

The method may enable a physician to detect birth abnormalities and begin corrective measures immediately.

The technique provides direct measurement of the oxygen level of fetal and maternal blood as it circulates in the intact blood vessel. Measurements are made by a tiny, platinum-tipped electrode developed by Beckman Instruments.

The research has produced the first concrete proof of the role of oxygen in critical blood circulation changes involved in the switch from one type of respiration before birth to a radically different one after birth.

Before birth the baby depends on its mother for its oxygen, which it obtains from her blood. After birth the baby relies on its own lungs for oxygen, of course. But in order to make a successful switch to an air-breathing being, certain changes in circula-

tory pathways involving the lungs and heart must occur.

These changes are dependent on fairly precise levels of oxygen in the baby's blood. If because of certain disorders the oxygen level is down, death or abnormality can result.

Dr. Assali said the new procedure could serve as a clinical test in cases where the possibility of abnormal birth is suspected. Once an oxygen deficiency in the fetus is determined, corrective measures can be initiated.

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## ZOOLOGY

**Measly Weasel Wears Coat of Many Colors**

► THAT SLINKY, shy, intelligent creature, the weasel, has added an unsavory slang word to our vocabulary, and many lovely skins to our shoulders.

"To weasel out" means to sneak out of something in a sly, dishonorable manner.

Yet deck the word out with variations, and ladies will smile with joy: ermine, sable, and mink.

A new permanent exhibition of these elusive creatures has recently opened at the American Museum of Natural History in New York. Sixteen of the most interesting small mammals in North America are shown in lifelike positions surrounded by their natural habitats ranging from northern Canada to Texas. Members of the weasel family on display include the ermine, the small weasel that turns white in winter for snow camouflage; the agile marten whose fur is the American sable; the water-loving mink; and the wolverine.

In concerted efforts to modernize museum displays, the Natural History Museum sent teams of mammalogists, preparators and artists on expeditions to collect animals and plants and study each particular locale in painstaking detail. Each habitat group represents the scene of an exact geographic location at a particular time of year and day.

The exhibition, a gift of an honorary trustee, Robert D. Sterling and Mrs. Sterling, took six years for total preparation.

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## TECHNOLOGY

**Cloth Knit From Paper Among Future Textiles**

► LIVING ROOM DRAPES and cowboy hats of knit paper cloth are among the innovations in the textile world.

The cloth is knit from yarn made of fine strips of Kraft paper that have been twisted into a strong thread. Roy H. Millard, director of research and development at Enterprise Incorporated, Dallas, Texas, developers of this yarn, said the material resists stains and cigarette burns. The knit cloth is produced in various colors and designs. It looks like heavy cotton knit material.

The idea of knitting paper into a cloth originated from observing the cotton string bags in which ham is smoked.

• Science News Letter, 85:24 Jan. 11, 1964

**IN SCIEN**

## ENGINEERING

**First Prospecting Ship Sails for Diamonds**

► DIAMONDS are the goal of the first ship ever designed and built for underwater prospecting.

The extraordinary ship, the "Rockeater," which can twist, turn and even move sideways, is now underway for the Diamond Coast off southwest Africa. It is scheduled to reach that area around mid-January, and to start sampling the ocean depths in February.

Designed by the Ocean Science and Engineering, Inc., Washington, D. C., the specialized ship will determine the value and extent of diamond deposits under the sea along a 200-mile strip of African coast extending from the Orange River to Walvis Bay.

The ship is designed to take mineral samples under water as deep as 400 feet, stated Willard Bascom, president of the Ocean Science company. It could screen and sort these samples at rates as fast as 20 tons an hour, he said, although geologists do not intend to pick up samples that fast.

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## ASTRONOMY

**Source of Radio Waves Discovered in Cygnus**

► A NEWLY DISCOVERED patch in the sky that broadcasts radio waves instead of light is reported by Dr. H. C. Ko of the Ohio State University's Radio Observatory, Columbus, Ohio.

This highly complex region of radio radiation lies in the constellation of Cygnus, the swan. The radio source is between declination plus 49 degrees and 51 degrees and extends from right ascension 20 hours 30 minutes to 21 hours 50 minutes, only eight degrees northeast of the previously discovered radio "hot" spot in the sky called Cygnus X. The new radio region, called Cygnus Y, contains an unusual number of separate discrete radio sources of various sizes, he reported in *Nature*, 200:1193, 1963.

The discovery was made with the new Ohio State radio telescope that consists of a giant antenna 260 feet across receiving the radio radiation at 600 megacycles.

Radio astronomy consists of the detection and study of naturally produced radiation at the frequency of radio waves. Most such radio waves appear to come from matter in a state previously unfamiliar to scientists, making it difficult to associate the radio sources with visible objects. The radio universe was discovered about 30 years ago and has been extensively studied since World War II.

• Science News Letter, 85:24 Jan. 11, 1964

# CE FIELDS

## PSYCHOLOGY

### Birthday Affects IQ Psychologist Claims

➤ A PERSON'S BIRTH date has a lot to do with his brain power, a British psychologist believes.

Chances are that those born in the summer or fall will be brighter than those born in the winter or spring, his studies indicate.

This seasonal effect on intelligence was found for 188 adults with far-below average intelligence. The brightest of these subnormals were summer and fall babies. There was as much as a five-point difference between summer and winter-born persons.

Temperature changes in the weather are related to intelligence, Dr. J. E. Orme of Middlewood Hospital, Sheffield, England, believes. The smarter adults, he found, had more months of embryonic development in which the temperatures were above average for those months, while the duller adults developed during relatively colder times.

"It is not known how climatic temperature precisely affects the embryo," Dr. Orme reported in *Nature*, 200:1230, 1963.

He believes, however, that "75% of individual variations in ability are determined by inheritance" and that the rest is largely due to factors such as temperature operating during pregnancy.

Not all psychologists would go along with these views. A sizable group believes that the cultural climate, or environment, is as important as inheritance and more important than the physical climate, or weather, in spurring or stunting intellectual growth.

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## MICROBIOLOGY

### Viruses Found Expanding Before Infecting Cells

➤ STRONG EVIDENCE that some small viruses undergo a swelling and a partial breaking up just prior to infecting a cell has been found at the University of Wisconsin, Madison.

The findings suggest a possible mechanism that enables the genetic material inside a virus to free itself from its surrounding protein jacket and to enter susceptible cells.

Some viruses, particularly the large ones that infect bacterial cells, have a built-in, syringe-like injection apparatus that allows the reproductive nucleic acids to penetrate host cells, leaving the protein coat behind.

But smaller viruses, most of which are spherical, do not possess such elaborate equipment.

Studying brome grass mosaic virus, or BMV, which is both small and spherical,

Dr. Paul Kaesberg, professor of biochemistry, and his co-workers found that subtle changes in the acidity of a solution containing the virus caused it to expand and, when left for a day or so, apparently to come apart. The virus particles convert quite readily from a rather stable form to an open structure in which the nucleic acid can get out.

X-ray scattering, which gauges physical dimensions of a particle from deflection of X-rays passing through it, showed that the viruses had expanded by some 20%. These X-ray studies were conducted in the physics laboratory of Profs. William W. Beeman and John W. Anderegg.

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## GEOPHYSICS

### Auroras Like Icebergs: Almost Invisible to Eye

➤ AURORAS are like icebergs in that most of the glowing curtain of northern lights is invisible to the naked eye.

This was discovered when a polar orbiting satellite looked down on auroras over the Northern Hemisphere last May, Dr. Richard Sharp of Lockheed Missiles & Space Company, reported in Boulder, Colo. He told the American Geophysical Union meeting that the apparently thin sheets of shimmering light were actually several hundred miles thick.

Dr. Sharp said the satellite observations also confirmed that the auroral light is produced mainly by electrons and that protons play only a small part. Collaborating with Dr. Sharp in the study were Drs. J. E. Evans, R. G. Johnson and J. B. Reagan.

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## PSYCHOLOGY

### Poison Penmanship Continues to Thrive

➤ PERVERSELY DEMONSTRATING that the pen is mightier than the sword, the writers of poison pen letters continue to ruin reputations, careers and families.

In today's society, according to Martin and Pearl Tytell, examiners of questioned documents in New York, nameless letter writers are more active than ever.

Most poison penners are "quiet types," the investigators told a joint meeting of the American Society of Criminology and the American Association for the Advancement of Science in Cleveland.

The poison penners also are often middle-aged men and women who have failed to achieve their own expectations, who ascribe their failures to a widespread plot against themselves and who hate those of high rank in the community.

The only way poison penners can gain inner satisfaction, the investigators explained, is to destroy those whom they envy.

Nameless letter writers are not very clever at concealing their identities, they pointed out, and seem to invite discovery and punishment.

Legal action against the authors of poison pen letters is seldom taken.

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## ENGINEERING

### Oceanographic Data Gathered by Icebreaker

#### See Front Cover

➤ VALUABLE OCEANOGRAPHIC information on currents, water composition, marine plant and animal life, and bottom composition was gathered by the U.S. Coast Guard icebreaker *Northwind* during its three month polar voyage.

The 269-foot icebreaker is shown on the front cover, moored to hummocked ice in the East Siberian Sea. Often within sight of the Siberian mainland, it investigated the remote Chukchi, East Siberian and Laptev Seas.

Another oceanographic venture by the Coast Guard cutter *Evergreen* studied a seven-mile long island, blocking the Kennedy Channel, north of Baffin Bay. Because the Kennedy Channel is an important passage for water flowing from the Arctic to the Atlantic Ocean, scientists had a rare opportunity to study this natural dam which may have an important bearing on climate.

In other areas during the past year, the Coast Guard increased its program of coastal surveillance, continued to develop new electronic navigation aids and rescued 1,900 persons at sea.

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## MEDICINE

### Early Grafting Saves Lives of Severely Burned

➤ WHETHER A DEEPLY burned patient can live depends largely on how early the burned area can be covered by grafts to prevent infection.

Silicone is one of the most promising treatments to prepare the deeply burned patient for early grafting, the third international Congress of Plastic Surgery in Washington, D. C., was told.

The silicone fluid has the physical properties of a solid and can be thought of as an inert "solid wall" capable of circulation, a team of surgeons from Houston, Texas, reported.

The technique of silicone immersion they have used on humans, following their first attempts with burned pigs, could radically alter the expected deaths from all types of what are now considered "lethal" thermal burns, the investigators said.

What happens is that the burn "eschar," or crust covering the wounded area, can be separated after silicone immersion, leaving a clean granulating area suitable for grafting of skin from another part of the burned patient's body.

Drs. Frank J. Gerow, Melvin Spira, S. Baron Hardy and Sam W. Law of Baylor University College of Medicine and Veterans Administration Hospital, Houston, reported the findings.

Cadaver skin was reported successful in early temporary grafting by Dr. F. Coiffman of the University of Colombia, Bogota, Colombia.

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