

CONSERVATION

Kennedy Backs Efforts To Save Natural Beauty

► THAT AMERICA'S traditional beauty of purple mountain majesties, forests and fruited plains will remain for future generations is the hope of President Kennedy.

"We have inherited a beautiful country," President Kennedy has stated, "because of the foresight of our predecessors. It is an obligation to make sure that those who come after us—almost 300 million by the year 2000—will benefit from the same rich inheritance."

The year 2000 should see an 82-year-old John F. Kennedy deep-breathing along the shoreline of New England, with his 70-year-old wife. Caroline will be 42 years old, and John Jr., 39.

This century has brought a desperate clash between expanding populations and primeval tracts of American forests, streams, shorelines, mountains and deserts. There is grave danger that population pressures could win the battle over natural beauty, unless steps are taken to halt the thoughtless destruction and permanent damage.

In the rapid 11-state tour of conservation and natural resources, Sept. 24-28, the President focused attention on this vital part of American life to stimulate further efforts of the nation to conserve precious land and water areas.

Program for the whirlwind 10,000 mile journey included stops in the states of Pennsylvania, Wisconsin, Minnesota, North Dakota, Montana, Wyoming, Utah, Washington, Oregon, California and Nevada.

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CONSERVATION

Whooping Cranes Ready For Long Trip South

► THE STATELY whooping cranes, some of the nearly extinct birds of the United States, have started their yearly 2,500-mile journey south.

The tall white birds took off individually from their summer refuge on Great Slave Lake in Canada and are flying to their winter quarters, the Aransas National Wildlife Refuge on the Gulf Coast of Texas.

Three summer fledglings—including twins—have increased the numbers of this rare bird to at least 31, said Wilbur B. Stiles of the wildlife refuge section, Department of the Interior, Washington, D. C. Wildlife officials hope to find that more uncounted young have been added to the flock, he went on to say.

Special protection bulletins have been sent along the route the great birds fly—in the Alberta and Saskatchewan Provinces of Canada, and through parts of the Dakotas, Nebraska, Kansas, Missouri, Arkansas, Oklahoma and Texas.

Because they fly individually and stay so high in the sky, they are often hard to spot, said Mr. Stiles, who pointed out the one simple rule everyone can follow: "Don't shoot at any big white bird."

The whoopers are the tallest birds in the United States, standing about five feet

on their long stork-like legs. They have red-crowned heads and black-tipped wings that stretch to a span of seven feet.

Their autumn migration takes about two or three weeks, depending upon the weather, said Mr. Stiles. Like any human being taking a trip south, they hurry along if the weather is bad; but if they meet some pleasant sunny days, they are inclined to loiter.

They are expected to arrive in their Texas refuge about the first week of October.

These birds have caught the U.S. imagination by their low numbers, so dangerously close to extinction, and by the long journey they make twice a year.

They have been publicized and protected since the winter of 1938-39, when they were first counted. At that time their numbers were as low as 14. The winter of 1961-62 produced the greatest number of 38, according to the Department of the Interior.

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PSYCHOLOGY

Clue to Child's Future Found in IQ Scores

► A SUDDEN PLUNGE in a child's intelligence test score is a forewarning that the child is headed for serious emotional troubles when he grows up.

This is the indication of research on the childhood IQ tests of 153 severely disturbed adults. Between early and late childhood, Drs. Ellen A. Lane and George W. Albee of Western Reserve University, Cleveland, found, the troubled adults had backslid intellectually.

Their IQ scores dropped an average of 11.4 points. This was long before the children were suspected of being mentally ill, the investigators said.

It is normal for intelligence scores to stay the same or even to increase between ages 5-8 and 11-14.

Reporting in the *Journal of Abnormal and Social Psychology*, 67:186, 1963, Drs. Lane and Albee said they hope to get for comparison the test scores of former schoolmates of the mental patients.

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CHEMISTRY

Apatite's Blue Color Results From Ions

► THE BLUE COLOR found in apatites, a group of calcium phosphate minerals found in bones and teeth, results from ions, electrically charged atoms.

Permanganate ions cause the blue color of apatite obtained from a South Dakota mine, Drs. P. D. Johnson, J. S. Prener and J. D. Kingsley of the General Electric Research Laboratory, Schenectady, N. Y., have found.

Natural blue apatite can be bleached by heating in air for a few minutes at about 1,112 degrees Fahrenheit, the scientists reported in *Science*, 141:1179, 1963. The resulting material has a slightly pink color. ported in *Science*, 141:1179, 1963.

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IN SCIEN

ENTOMOLOGY

Crickets Chirp Indoors With Autumn's Arrival

► LET YOUR conscience be your guide in closing those cellar doors and screening your basement openings.

The common cricket, also known as Pinocchio's Jiminy, is setting up winter quarters in houses, now that cool weather is here.

Some people like the singing of a cricket—a song which actually is a fiddling made by rubbing one ridged wing against another, much as a violinist draws his bow across the violin strings. And tradition says that a cricket on the hearth is good luck.

But other people consider crickets as pests, for they cause damage in the house by chewing holes in various fabrics, with starched materials or heavily sized cottons their favorite menus.

Scientists list over 2,000 species of crickets, but there are only two troublesome kinds, according to the National Pest Control Association in Elizabeth, N. J.—the field cricket and the house cricket. They are rarely pests, however, until they move indoors.

Field crickets stay outdoors as long as there is a supply of natural food. House crickets usually breed around dumps or other refuse-filled areas and move indoors at dusk at this time of year.

For those who do not appreciate the fiddling under the cellar steps, the Pest Association suggests that precautions should be taken now to keep the insects outdoors—screen all openings to the house, particularly those leading to garages, areas under porches, basements and outbuildings.

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MEDICINE

Premature Babies in U. S. Born with Jaundice

► TEN PERCENT of premature babies in this country are likely to have too much bile pigment, which shows itself in jaundice. This means bilirubin, or bile pigment, levels greater than 20 milligrams percent. In England, a recent survey showed that only 0.9% of premature infants will have a bilirubin value greater than 20 milligrams percent.

Dr. Audrey K. Brown of Charlottesville, Va., said in answer to an inquiry in the questions and answers section of *Journal of the American Medical Association*, 185:680, 1963, that the occurrence of hyperbilirubinemia, the presence of bile pigment in the blood, in newborn babies varies from country to country and from nursery to nursery.

In Africa and Greece, he explained, there appears to be an increase in the occurrence of hyperbilirubinemia or jaundice that may be related to a red-cell deficiency.

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CE FIELDS

MEDICINE

More English Women Die of Cervical Cancer

➤ ONLY 42% OF WOMEN with cervical cancer studied in England and Wales survived the first five years after diagnosis. But in Connecticut 60% survived, and in Denmark, Finland and Norway, the percentage of survivors was more than 50%.

Dr. John C. Bailar III of the National Cancer Institute, Bethesda, Md., reported at an international meeting near Oslo, Norway, at Sandefjord, on studies of survival of patients with cancer of the uterine cervix, or neck of the uterus, and with cancer of the uterus.

The poor survival of these patients in England and Wales, Dr. Bailar said, is especially noteworthy because those with cancer of the uterus proper have survival rates near the average.

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MATHEMATICS

Probabilities Made Easy Using New Method

➤ THE FUTURE cannot be predicted, but through a new development by a Purdue University professor a good guess can be made.

By improving on a 50-year-old prediction technique known as "Markov chains," Prof. Marcel Neuts of Purdue's division of mathematical sciences, Lafayette, Ind., has devised a new way of calculating probabilities that is simpler than existing methods.

Prof. Neuts' method is useful in predicting events determined only by existing factors, rather than previous events. It can be applied to predicting the color of an unborn infant's eyes, the rise and fall of the stock market, and nuclear particle diffusion, as well as to purely theoretical mathematical problems.

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SURGERY

Kidney Transplants Fail If Cadavers Unrelated

➤ THE FAILURE of kidney transplants from cadavers is not always due to the fact that the organ is taken from a recently dead donor, but because that donor is nearly always unrelated.

Rejection of transplants is due to the body's immunity, or resistance, to the invasion of any foreign agent. Thus, identical twins often accept transplants and an individual accepts a transplant from his own body, but drugs or irradiation must be used when transplants of organs are attempted even between nonidentical twins.

A 33-year-old housewife who received a left kidney from an unrelated woman who

had died in the same hospital is still living a normal life at home after eight months, apparently because of drugs that overcame her immunity.

Although the transplant does not function normally, the patient's blood urea remains satisfactory. An excess of urea, a carbon compound in the blood and urine, could cause uremic poisoning.

Five scientists at Westminster Hospital London, reported in the British Medical Journal, Sept. 14, that the drugs actinomycin C, imuran and prednisone were used successfully with the surviving woman, although drugs failed to overcome the immunity problem with four other patients who received cadaver kidney transplants. They died from various causes after rejecting the transplanted organs.

J. B. MacGillivray, Joan F. Zilva and A. J. the study.

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SPACE

Water-Cooled Motors For Future Space Rockets

➤ THE ROCKETS now being designed for future space exploration may have water-cooled motors.

Of liquids tested as coolants, water did the best job for the least amount used, making it the most economical in terms of weight carried by a rocket.

This was reported at the National Heat Transfer Conference in Boston by Dr. C. F. Warner of Purdue University, Lafayette, Ind., and Dr. D. L. Emmons, a former Purdue graduate student now with Boeing Aircraft.

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ENTOMOLOGY

Mosquitoes Grow Organs When They Become Hot

➤ WHEN BABY MOSQUITOES are subjected to abnormally high temperatures, they grow an extra pair of male sex organs.

These growths appear in pairs from the eighth segment of their abdomen, Drs. William R. Horsfall and John F. Anderson of the University of Illinois have found.

When the babies, called larvae, were subjected to different combinations of temperatures from about 65 to 83 degrees Fahrenheit, wholly new genital growths consistently developed, the entomologists reported in Science, 141:1183, 1963. These appendages appear in addition to the usual pair, and are in no sense replacements.

The floodwater mosquito, *Aedes stimulans*, normally develops through four larva forms only in water at temperatures from 41 to 68 degrees Fahrenheit. Under these normal conditions, the adult population is sexually half female and half male.

In previous laboratory experiments scientists found that when the male babies were raised in temperatures about 82 degrees Fahrenheit, they became feminized in all degrees and grew up into female mosquitoes, instead of producing an extra pair of sex organs at somewhat lower temperatures.

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PSYCHOLOGY

Concern Over Health Found High for Jews

➤ WHEN JEWS GET SICK they seek out a doctor more often than do Protestants or Catholics, a sociologist has found.

It is not that health of Jews is any worse. They just worry about it more.

Jews' "near-compulsive" concern over their health is documented by Dr. David Mechanic of the University of Wisconsin's sociology department.

The study, based on tests of Midwestern and Western university students, was reported in Human Organization, 22:202, 1963.

What bothers Jews seems to be the symptoms of sickness, Dr. Mechanic told SCIENCE SERVICE. A temperature sends them scurrying to the pill-bottle or hopping to the doctor more often than Protestants or Catholics, he said.

Jewish children may learn to worry about sickness from their "anxious" mothers, Dr. Mechanic explained. Following their mothers' examples, they may become very sensitive to "abnormal symptoms" and may even imagine being sick when they are not.

Jews' complaints about health may also be "an expression of various tensions and dissatisfactions where other alternatives for ventilating are not easily available," he said.

As a possible result of this concern over health, Dr. Mechanic noted, Jewish populations have low infant and newborn mortality rates, as shown in other studies.

Dr. Mechanic said he is at a loss to explain why Protestants and Catholics have essentially the same level of concern about health.

But he pointed out that personal attitudes vary within all three religious groups, depending on such factors as social class, denomination and area. "Episcopalians in the Midwest are different from Episcopalians in the far West," he said.

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ENGINEERING

Storm-Threatened Beaches Can Be Saved

➤ LAST MINUTE, desperate efforts to keep the angry ocean from destroying beach property can do more harm than good, two University of Florida coastal engineers reported.

Haphazard sandbagging often opens the flood water gap, while dumping old cars and rubble before the sea wall only increases turbulence, Drs. Per Bruun and J. A. Purpura of the University's College of Engineering in Gainesville, Fla., said.

The engineers recommend sloping sea walls of interlocking concrete block or rubble instead of vertical walls that cannot take shock. Digging behind the wall releases pressure, and "filter" sheets of plastic or tarpaulin should cover the rear area in case the sea wall breaks down backward.

Covering the seaward side of sand dunes with vegetation helps the unprotected dunes to divert the ocean's course.

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