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Science in the News & Development Report

科学新知 · 发展动向

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王少如 高路 主编

科学新知

发展动向

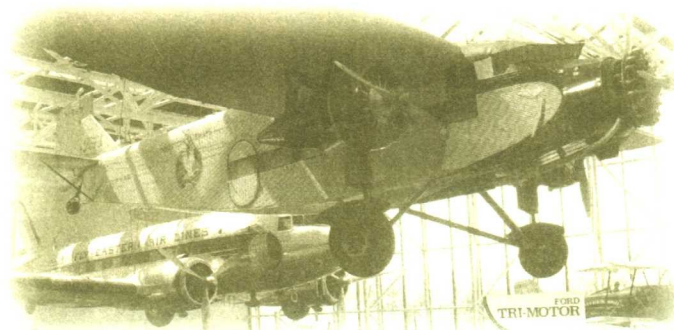
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藏书章

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前言

1620年11月,乘坐“五月花”号帆船远渡重洋的102个英国清教徒,历经66天的艰险漂泊,终于踏上了北美大陆。从此,来自欧洲的移民络绎不绝。他们在这块自由的土地上劳作生活,建立殖民地,后来又组成了独立的国家。星移斗转,沧海桑田,如今的美国已跃居世界列强之首。

作为一个移民国家,美国的语言就像它的人种一样,具有“大熔炉”的特点。美式英语兼收并蓄,除了继承原来英国英语的基本内容之外,又混杂了土著印第安人、非洲黑人和欧洲大陆国家的语言,且因地域辽阔而受到一些次文化社会阶层的影响。20世纪以来,随着现代美国的崛起,美式英语的应用已日益广泛。

美国之音(Voice of America, VOA)的英语教学节目,以其流行的美国语言、纯正的美式发音和丰富的教学内容,对中国广大的英语学习者、尤其是青年学生,产生着重要的影响,成为人们学习美式英语、练习听力和口语的有效途径。

奉献给读者的这套《VOA 英语教学节目丛书》,由 AA Culture & Publication Inc(美亚文化出版有限公司)特别策划,经 VOA 授权上海世界图书出版公司出版。

本丛书继《流行美语》和《美国习惯用语》之后,这次又推出 VOA 特别英语节目的学习用书和词汇手册共七种,以后还将陆续推出 VOA 的其他英语教学节目。

美国之音的特别英语节目(VOA Special English),以美国社会生活为题材,通过美国人的文化视野学习美式英语,不仅句子简练,基本词汇约1500余个,而且播送的语速约一分钟90个单词,比正常语速慢三分之

一,因此尤其适合中学生、大专院校低年级学生和广大英语初学者,既可用作英语泛读的课本,又可用作听力训练的教材。

目前,VOA 英语广播节目已是大学英语 4-6 级听力考试的重要内容之一。而这套 VOA 特别英语节目的学习用书,完全按照原节目的 12 个栏目分类,并选取今年最新播出的节目内容,配上 VOA 资深播音员朗读的 MP3 原声光盘,将成为广大 4-6 级应试者迅速提高 VOA 听力的阶梯。

为了便于中学英语程度的读者阅读和训练听力,这套 VOA 特别英语节目的学习用书除了配有《VOA 特别英语词汇手册》之外,又以 2003 年教育部制订的《普通高中英语课程标准(实验)》为依据,在其词汇表的基础上,适当地加注了一部分中文解释。各书所附 MP3 原声光盘,可以在电脑、MP3 和具有 MP3 功能的手机、DVD 等家用电器上播放学习。

本丛书在出版过程中,承蒙 VOA 台长 David Jackson 来函致贺,并得到 VOA 中文部主任 William Baum (彭慕仁)、中文部节目推广及因特网主任陈光、上海世界图书出版公司总经理冯国雄、副总编辑陆琦及何耀萍、王丹等诸位鼎力相助,在此一并致谢!

愿《VOA 英语教学节目丛书》成为读者学习美式英语的良师益友!

丛书编委会

2004 年 12 月

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SCIENCE IN THE NEWS

1. *Spirit* *Explores Mars*

This is *Science in the News*, in VOA Special English. I'm Sarah Long.

And I'm Bob Doughty. This week — the news from Mars¹ ... and a report on President Bush's plan for space exploration.

Plus a warning from scientists who study life, and its future, here on Earth.

Scientists are excited about the progress of Spirit, the American exploration vehicle on Mars. It landed January third to look for environmental conditions that could have supported life. Engineers and scientists cheered as the spacecraft sent its first pictures.

Spirit landed on target in the Gusev Crater, an area fifteen degrees south of the Martian equator². Scientists chose the Gusev Crater based on evidence that it may have been an ancient lake.

Hours after landing, the spacecraft began to send detailed pictures of the surrounding area.

Spirit traveled four-hundred-eighty-seven-million kilometers to reach Mars. It stayed in place on its lander for more than a week. NASA officials wanted to make sure all the equipment worked before they told the rover³

to drive onto the surface.

There was a delay. They had to turn the vehicle away from airbags that softened the landing but then blocked the desired path. Last Thursday the controllers again cheered as they declared that all six wheels of the rover were on Martian soil.

Special cameras and devices to identify minerals helped engineers and scientists decide which direction to send the rover first. Spirit has a robotic arm to collect rocks and soil to study them for evidence of water in the past.

Spirit was launched from Florida last June. NASA launched a second spacecraft in July, called Opportunity. Opportunity will land on Mars in a few days if all goes as planned. The landing area chosen is called the Meridiani Planum. It is on the other side of the planet from where Spirit landed. NASA officials say the two areas are very different.



The Spirit rover had reached its first target on Mars, a rock the size of a football, to examine it

Like Spirit, Opportunity weighs about one-hundred-eighty kilograms. The two rovers are expected to travel no more than forty meters each Martian day to search for evidence of water. A Martian day is about the same length as an Earth day. The exploration is supposed to continue for at least three months.

On Earth, almost everywhere liquid water exists, so does life. Today Mars is cold and dry, with huge dust storms.

Scientists say life cannot exist. But evidence from past landings suggest the

red planet was once warmer. Experts say water could have flowed in lakes or even oceans.

President Bush has proposed to send people to Mars. Before that, however, robotic spacecraft would go to the moon to prepare for the return of humans.

People would return to the moon sometime between two-thousand-fifteen and two-thousand-twenty. They would go on a new kind of spaceship to be developed, called the Crew Exploration Vehicle.



A NASA artist's version of
Spirit landing

Crews would establish a moon base for scientific research. Later, that base could be used to launch explorers farther into space.

Mister Bush visited NASA headquarters in Washington last week to announce the plan to explore what he called "worlds beyond our own".

The first goal is to complete the International Space Station by two-thousand-ten. Fifteen other nations are also involved in the program. Mister Bush says the station is needed to study the long-term effects of radiation and weightlessness on health. He says there is much to learn before human crews can travel through space for months at a time.

NASA will need its current space shuttles to complete the station. But Mister Bush says the three shuttles will be retired after that. NASA has not launched a shuttle since the Columbia broke apart on re-entry into the atmosphere last February first. Seven astronauts were killed.

Mister Bush said the United States will invite other nations to join his

plans in what he called a spirit of cooperation and friendship. Last October, China sent its first person into orbit around Earth in a test as the Chinese develop a space program.

Mister Bush says he wants Congress to add one-thousand-million dollars to the NASA budget over the next five years. In addition, NASA would move eleven-thousand-million dollars away from existing programs. The current five-year budget plan for the agency is eighty-six-thousand-million dollars.

Mister Bush's father, when he was president, also proposed setting up a moon base and sending people to Mars. The older President Bush announced his plan in nineteen-eighty-nine. He did so to mark twenty years since the first moon landing. But that plan called for a much bigger budget and did not succeed.

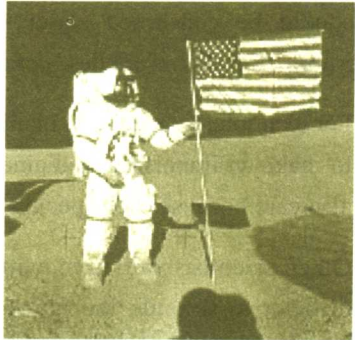
Critics call the new plan a political move in an election year. They say the money would be better spent at home. But President Bush said in his speech: "We chose to explore space because doing so improves our lives and lifts our national spirit. So let us continue the journey."

In the early nineteen-sixties, President John F. Kennedy declared the goal to put a man on the moon. The space program began as a race with the Soviet Union. The Soviets were the first to reach space. But the United States was the first — and so far only — country to land people on the moon. The last of six Apollo landings took place in December of nineteen-seventy-two.

International researchers say climate warming caused by human activity could lead to the destruction of hundreds of kinds of plants and animals in the next fifty years. Most scientists think climate change, or global warming, results from the release of carbon dioxide and other gases.

Industrial production and vehicles release these gases. The gases trap heat in the atmosphere.

The nineteen scientists studied more than one-thousand-one-hundred species⁴ of plants and animals in land areas around the world. They published their study in the magazine *Nature*.



The researchers gathered information from earlier studies. These included examinations of animals that live in deserts, wetlands, cool climates and

other habitats⁵ in five areas of the world. The scientists used several computer models on expected climate change. The models were divided into levels of possible severity, from moderate to extreme climate change.

The researchers joined these models with maps of the different kinds of environments in which the species lived. These maps provided information about what each species needed from its environment and how climate change would affect those needs. Then they studied where those species might have to move in cases where their needs could no longer be met.

The scientists found that between fifteen and thirty-seven percent of the species they studied will disappear in fifty years if climate change continues.

There are more than fourteen-million known species of plants and animals on Earth. Study leader Chris D. Thomas says it would be helpful to include more in the examination. But, he also said there is no reason to think the findings would change greatly if more species were included. Mister Thomas is a scientist at the University of Leeds in Britain.

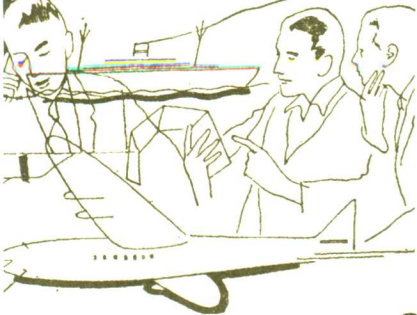
Townsend Peterson of the University of Kansas in the United States was another study team member. He says there are a number of reasons people should be concerned about the threatened extinction⁶. He says the information loss from destruction of a species is one concern.

For example, a threatened plant may contain a substance that could be used to make an important medicine. But, Mister Peterson says humans should also care because each species is a part of the natural history of the planet.

Other scientists criticized with the study. One scientist said it is too difficult to see into the future and predict results fifty years from now. Another scientist said the study did not recognize the ability of species to change or adapt in order to live in higher temperatures.

Note

1. Mars: 火星
2. equator: 赤道
3. rover: 漫游者
4. species: 种类
5. habitat: 生活环境
6. extinction: 消失



2. Pollutants in Salmon

This is *Science in the News*, in VOA Special English. I'm Sarah Long.

And, I'm Bob Doughty. This week ... a study examines health risks from salmon¹ raised in farms. Workers count India's big cats very carefully. And scientists discover the bones of an ancient lion in Egypt.

Coming up — lions and tigers and ... fish!

A study has found that salmon raised in sea farms contain higher levels of pollutants than wild salmon. But the levels are still well within legal limits. The magazine *Science* published the findings. A group of scientists from the United States and Canada tested salmon for chemicals linked to cancer. They studied seven-hundred-fifty salmon bought in North America, South America and Europe. They used guidelines established by the United States Environmental Protection Agency.

The study took two years. It found higher levels of PCB's, dioxin and other chemicals in farm-raised salmon. The levels were an average of ten times higher than in salmon caught in the open sea. The study found that salmon from European markets generally had the highest levels of pollutants. The study included the cities of Edinburgh, Frankfurt, London, Oslo and Paris. The researchers found the lowest levels in salmon bought in the American cities of New Orleans and Denver.

The researchers say people can safely eat four to eight servings of wild salmon a month. A serving is about two-hundred-thirty grams. But they say eating more than one serving of farmed salmon a month in most cases creates what they call an "unacceptable cancer risk".

The United States Food and Drug Administration, however, disagrees with this advice. Agency officials say they find no health concern. Their advice to people is not to change their eating of farmed or wild salmon. Federal and industry officials say the level of dangerous chemicals in salmon has decreased by ninety-percent since the nineteen-seventies. They say any threat is small compared to the good that eating salmon can do.

Salmon is high in omega-three fatty acids. These can help prevent heart disease. Salmon is also among fish that are lower in levels of mercury² pollution. Mercury is especially bad for the nervous systems of young children and the babies of pregnant women and nursing mothers.

The study tested uncooked salmon with the skin left on. Health officials say most pollutants are in the skin and the fat just below. They say removing the skin and cooking away fat removes many of the pollutants.

The study says the chemicals apparently entered the farm-raised salmon through the fish products they were fed. Salmon in the wild eat small fish and sea organisms³ that contain fewer PCB's and other chemicals.

The salmon industry notes that meat and milk products can also contain PCB's. But it says salmon farmers are reducing the levels in their food by using, for example, soybean oil in place of fish oil.

PCB's were used to make products like plastics and paint. The United States banned this group of chemicals in the nineteen-seventies. But they remain in the environment. Another chemical, dioxin, is released when

plastics and some other materials are burned. Dioxin has been linked to reproductive and developmental problems in addition to cancer.

Raising salmon in floating cages has become a major industry. In the United States, ninety percent of the fresh salmon that people buy is farm-raised. More than half comes from Chile. The study says chemical levels in farmed salmon from Chile are lower than in most other areas. But it says the levels are still higher than in wild salmon.

People do not always know if the salmon they eat was farmed or wild or where it came from. The study calls for stores and eating places to provide more information.

In December, the Food and Drug Administration advised people not to eat shark, swordfish, king mackerel or tilefish. These contain high levels of mercury. The agency says people can generally eat other fish and shellfish two to three times a week. But it says fish caught in local waterways may not be as safe. The FDA also says people should not eat the same kind of fish or shellfish more than once a week.

In the United States, tuna⁴ is one of the most popular kinds of fish. The Food and Drug Administration says tuna is safe for pregnant women. But it says tuna steaks and canned albacore tuna generally contain higher levels of mercury than canned light tuna.

Scientists from France have found the remains of a lion in an ancient burial⁵ place in Egypt. The researchers say it appears that the body had been specially treated after death to protect the remains of the big cat. Egyptians did this to the bodies of important people and animals.

Lions are described in the art and writings of ancient Egypt. But the researchers say no physical evidence had been found until now. They