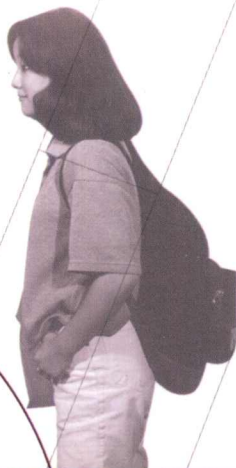




大学生英语俱乐部



# 人与自然

HUMAN AND NATURE

编●洪增流

安徽教育出版社

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# 人与自然

HUMAN AND NATURE

主编●洪增流 编者●卢志宏



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## 写在前面

英国学者培根(Bacon)曾说过:“阅读使人充实。”(Reading makes a perfect man.)对于中国的英语学习者来说,英语阅读尤为重要。英语已经是一种国际语言,不管你现在或将来从事何种职业,英语都是一门重要的工具。2001年我国成功加入WTO,各行各业与英语的关系更加密不可分。

学习英语的功用有四点:读、讲、译、写。对大多数学过英语的人来说,能够读懂英语书报杂志、相关资料,受益最大。阅读是一种技能,主要通过实践来掌握。要提高阅读速度和理解能力,获得最新的知识和信息,就需要进行大量循序渐进的阅读。

我们想以这套《大学生英语俱乐部》帮助广大具有中等英语水平的读者养成良好的学习习惯,为他们打开了解英语国家各方面知识的窗口,引导他们在愉快的阅读中增长知识,积累语言信息,更进一步提高驾驭语言的能力。

《大学生英语俱乐部》丛书此次推出3本,分别是——《美丽国度》、《人与自然》、《情暖人间》。《美丽国度》从历史、地理等方面介绍西方一些国家的风土人情;《人与自然》编选了一些科普作品;《情暖人间》讲述的是真情感人、富有情趣的小故事。丛书的选文均来源于最新的国外报刊杂志以及一些最新资料,语言纯正地道,文后还有适当的注释。

我们衷心希望《大学生英语俱乐部》能够为广大读者提供一个舒适的空间,在轻松愉快的气氛里,感受来自异域的文化和信息。

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# 1

## Where the Wild Pandas Roam

*By daring to speak out, zoologist  
Pan Wenshi is helping to save a species...*

*C*reeping through a bamboo forest in the Qin Ling mountains of China's Shaanxi province, Beijing University zoologist Pan Wenshi and his assistant Lu Zhi are about to witness a sight rarely seen in the wild: a giant panda mother and her newborn cub.

In a cave near a tributary<sup>①</sup> of the Youshui river, Pan discovers Jiao Jiao, an eight-year-old, 80-kilo panda, one of 30 he has been studying for up to six years. In her arms, tiny as a mouse, is her baby.

Squeezing towards the cave, his arm outstretched, Pan inches closer to Jiao Jiao. He has come to know her well, and now the panda, exhibiting amazing trust, allows him to gently stroke her. It is a joyous, unforgettable moment for the 55-year-old scientist who has devoted his life to saving these endangered creatures.

Pan named the female cub Xi Wang—Hope. Since her birth in August 1992, he has continued working on the Qin Ling study, China's most exciting panda research programme.

His findings have expanded our knowledge of these shy animals and their natural habitat<sup>②</sup>, overturning long-held beliefs about their behaviour and focusing the world's attention on their plight<sup>③</sup>.



“Pan has dedicated his life to pandas; he is remarkable,” says Stuart Chapman, World Wide Fund for Nature’s international conservation officer. In 1996 Prince Bernhard of the Netherlands awarded Pan the Order of the Golden Ark for his unrelenting<sup>①</sup> efforts in fighting for the panda.

Pan’s work with pandas is rooted in his boyhood dreams. Born in 1937 in Bangkok, he moved with his parents to Shantou in Guangdong province when he was three.

He loved hearing his father’s and grandfather’s animal stories. Later, he read Charles Darwin’s diaries and was riveted by the notion of travelling and making scientific discoveries.

As a biology student at Beijing University, Pan saw the world’s first captive-born panda during a visit to Beijing Zoo. Holding the lively infant, he was captivated. When he learned how close they were to extinction<sup>②</sup>, he knew he had to help these engaging creatures.

The giant panda once ranged from Burma through much of eastern China. During hundreds of thousands of years its range shifted from the tropical<sup>③</sup> and subtropical<sup>④</sup> climates to the more temperate forests of central and eastern China.

Over 2000 years panda fossils<sup>⑤</sup> had been discovered in at least 13 provinces, but by the latter half of this century, pandas existed in just three—Sichuan, Gansu and Shaanxi. Hunted by man, their habitat shrinking, pandas had declined to about 1200 in number.

In 1980, Pan, now a zoology lecturer, volunteered for a panda research programme conducted by the WWF and the Chinese Ministry of Forestry at the Wolong Nature Reserve in the Sichuan province. Fearing the extinction of the panda, the Chinese government had started establishing panda reserves in 1963. But even in these the panda were prey to poachers<sup>⑥</sup>.

Some conservationists<sup>⑦</sup> had concluded that the panda would per-



ish unless man came to its rescue through captive breeding programmes. Pan soon found himself in disagreement with some of his scientific colleagues.

Pandas were known to feed almost exclusively on bamboo, and researchers working in Sichuan had found that they favoured the leaves and young stems of the arrow bamboo. However, once every 45 to 50 years, the arrow bamboo flowers and dies off over wide areas. It takes a decade before new plants, spawned by the flowering, mature. When news came in of arrow bamboo flowering in 1983, the government made plans to "rescue" starving pandas and place them in specially constructed holding stations.

To fund the rescue, appeals were made worldwide. Touched by reports of bamboo dying and starving pandas, people sent donations. But Pan reasoned that pandas had survived countless flowering events and would not suffer unduly because they could eat other bamboo species. The rescue plan, he believed, would traumatise● the animals, posing a high risk of death. He openly spoke out against the rescues even though he was jeopardising● his career.

"If we don't say bamboo flowering is a very serious problem, we can't get international donations," a bureaucrat told him. But Pan persisted, feeling he owed it to the pandas and to the thousands of people sending money. He sent a lengthy report to the State Council. Eventually, the government halted the rescue operation. Even so, by then 108 pandas had been captured and, tragically, 33 died, Pan's argument that bamboo flowering and dying was not a determining factor in relation to the pandas' survival was later confirmed by field observations. Meanwhile, Pan had found his life's work—helping pandas survive in the wild.

In 1984, Pan left Wolong to conduct his own panda research in the Qin Ling mountains and later moved his study to a forest that







was managed by a timber unit. Pan and his team paid their expenses from their own pockets, augmented● by small donations from Pan's brother and sister in Hong Kong. They lived on rice and potatoes. Pan missed his wife and two small daughters terribly. Several hard years would pass before his work began to receive recognition and funding grants.

As visibility in bamboo forests is poor and pandas are shy, Pan initially got only rare glimpses into the lives of the creatures. It was not until 1987 that permission was given to put radio collars● on the pandas, making it easier to locate them.

Jiao Jiao (meaning "Double Charm") was among those collared by Pan's team. In the spring of 1989, Pan reckoned she was four-and-a-half years old: just mature enough to breed●. So when in August the same year Jiao Jiao entered a cave and stayed for several days, he suspected she had given birth.

Looking into the cave from the top, Pan glimpsed her with a baby. After nine days in the cave Jiao Jiao made a foray● to hunt for food. Pan and his team examined the infant. It was a male, and they called him Hu Zi-Little Tiger.

Jiao Jiao, who would become one of the world's most studied wild pandas, moved Hu Zi to a succession of caves. At five months and nine kilos, Hu Zi left the caves for the forest, where Pan often discovered him up a tree while Jiao Jiao fed nearby. Pan regularly weighed Hu Zi and monitored his health but kept a safe distance from Jiao Jiao, who'd once charged● at him and Lu Zhi.

Gradually Jiao Jiao became accustomed to the researchers. "Jiao Jiao, we've come to study you, not to harm you," Pan would say as he approached. Hu Zi followed her everywhere, eating the bamboo she ate. A loving mother, Jiao Jiao presented Hu Zi with toys, such as an old metal washbasin, and let him try to suckle even after he was

weaned● at 13 months.

Finally, in the spring of 1992, Jiao Jiao mated● again, became pregnant, and drove off her first born. Hu Zi took to following an older male. Jiao Jiao gave birth to Xi Wang that autumn.

As the study continued, Pan and his researchers gained and confirmed many insights into panda society. Most satisfying is the discovery that pandas are polygamous●. Researchers previously thought that a dominant male won breeding rights, but females in Pan's study group have mated with four or more males in a season.

Conservationists can feel especially buoyed by Pan's study of panda fertility. While pandas have proved notoriously hard to breed in captivity, Pan has corroborated● that they can reproduce well in the wild. After the gap of three years between Hu Zi and Xi Wang, Jiao Jiao has given birth every two years. Says Pan, "As captive pandas are known to be fertile at 20, a female panda could rear perhaps eight young." DNA tests on pandas in the wild have revealed a good genetic● diversity.

"The Qin Ling population is pretty stable," says Pan. "Among the 36 pandas we've studied closely, we've seen seven deaths and 13 births, with 11 surviving babies."

Pan has discovered a mutual accommodation between farmers and pandas. Pandas typically spend the summer months in the alpine● zone at 2400 to 3000 metres, dropping down to between 1350 and 2400 metres in the winter. "Permanent agriculture has proved impossible at these altitudes," says Pan. "So while the lower Qin Ling is mostly farmland, the area above 1350 metres is like a panda refuge●."

Can the panda be saved? Pan believes so. All it takes is bamboo forests, and peace and quiet. Threats to the panda's habitat are an ongoing concern. During 1993, timber cutting intensified in Pan's





study area. Once more daring to speak out, Pan wrote to President Jiang Zemin and then-Premier Li Peng, urging that the logging● be stopped. Not only was a halt to the timber cutting ordered, but in 1997 the Chinese government designated 305 square kilometres of Pan's mountainous domain a panda reserve—making it one of the prime sanctuaries● for the giant panda. About 170 of Qin Ling's 240 pandas are now in protected areas.

The Chinese government, in cooperation with the WWF, is also implementing a plan to boost protection of the 13 existing panda reserves and to create 14 new ones.

Poaching is also a threat. Seven pandas have been lost to poachers in the Qin Ling mountains in the past 14 years. About ten years ago, wildlife trade investigators found panda pelts● selling for up to \$10,000, allegedly to wealthy expatriate● Chinese as well as buyers in Taiwan and Japan. The Chinese government has since introduced legislation stipulating that poaching and dealing in pandas are criminal offences.

In August 1997, Pan visited the Qin Ling study area, expecting most pandas would be in their summer ranges on the high slopes. With him were 13 students who planned to study how the ecology had changed since logging ended.

During the night, Pan heard slow footsteps and breathing noises outside his room. *That's strange*, he thought. *Why has a panda come down from the mountains?* He found Xi Wang standing in front of his door, as if she'd come looking for her old friend. Several days later she went back into the hills and gave birth to her first cub.

*In August 1998, Pan received a message via a student at the study site: Jiao Jiao had been seen with her latest baby.*

## NOTES:

- ① tributary *n.* 支流
- ② habitat *n.* (动物的) 栖息地
- ③ plight *n.* 困境
- ④ unrelenting *adj.* 不屈不挠的
- ⑤ extinction *n.* 灭绝
- ⑥ tropical *adj.* 热带的
- ⑦ subtropical *adj.* 亚热带的
- ⑧ fossil *n.* 化石
- ⑨ poacher *n.* 偷猎者
- ⑩ conservationist *n.* 自然环境保护者
- ⑪ traumatise *v.* 使受创伤
- ⑫ jeopardise *v.* 危害
- ⑬ augment *v.* 增加, 扩大
- ⑭ collar *n.* 颈圈
- ⑮ breed *v.* 繁殖
- ⑯ foray *n.* 袭击
- ⑰ charge *v.* 袭击, 攻击
- ⑱ wean *v.* 使断奶
- ⑲ mate *v.* 交配
- ⑳ polygamous *adj.* 多配偶的, 一雄多雌的
- ㉑ corroborate *v.* 确证, 证实
- ㉒ genetic *adj.* 基因的
- ㉓ alpine *adj.* 高山的
- ㉔ refuge *n.* 避难所, 安全地带
- ㉕ logging *n.* 采伐木材
- ㉖ sanctuary *n.* 鸟兽禁猎区
- ㉗ pelt *n.* 毛皮
- ㉘ expatriate *n.* 移居国外的人



# 2

## Lord of the Fleas

*He finds insects easy to understand  
—but humans incomprehensible...*

*F*

rom behind a closed door came the frantic buzz of excited insects. Then something else came squeezing out—the nauseating stench of rotting flesh. Suddenly the door opened and in front of me stood a large cage covered in wire mesh. The buzz rose to a high-pitched, zinging whine, and inside the cage a cloud of blowflies rose into the air, leaving behind a lump of what appeared to be white meat. Then I saw the whiteness moving and realised the flesh was covered by a carpet of maggots<sup>①</sup>.

“It’s odd how easily you forget that most people find it disgusting,” observed John Maunder, the beaming, bespectacled director of the Medical Entomology Centre in Cambridge, England. “It doesn’t bother me at all, though personally I prefer fleas and lice.”

Maunder, 63, has made a speciality of studying the parasites that lurk in our houses, clothes and bodies. The centre, in the grounds of Cambridge’s Fulbourn Hospital, not only breeds blowflies, it keeps colonies of house dust mites, bedbugs, human lice and clothes moths, as well as spiders, cockroaches and beetles.

According to John Maunder, it is precisely because most of us prefer not to think about the existence of these tiny invaders that



they continue to flourish. "In our modern houses we offer them constant warmth, no draughts and lots of material for them to feed on."

Research carried out at the centre has confirmed the house dust mite, too small to be seen by the naked eye, as a major cause of asthmatic symptoms. Anti-asthma drugs now cost Britain's National Health Service more than \$ 700 million a year.

In the UK, head lice are proliferating to the point where, in some areas, up to one in eight primary-school children carry them. Cockroaches, once confined to warm kitchens, have begun infesting office machinery and other new sources of heat. A recent scabies epidemic was caused by a parasitic mite that lives in human skin.

Even the humble flea has flourished to such an extent that last year about 11 million of Britain's estimated 14 million cats and dogs were thought to be carrying them. "The ones that bite us are cat fleas," Maunder told me. "If it's any consolation, we taste so disgusting that they drop off almost at once. To them we're a very inferior cat."

Maunder cannot disguise his fascination with the pests he studies. He invited me to look at dust mites through a microscope. At 40 times magnification, the colony looked to me like jelly babies on pins eating crumbs. Magnified 4000 times, they looked like the creature in the huge blownup picture in the centre's window—a monster with enormous jaws, bulbous eyes and curling antennae. "To them we are a gigantic food package," says Maunder, as I watched them chomping through chunks of human skin.

As a child, John Maunder was a loner, overweight and too shy and clever to make friends easily in the working-class London neighbourhood where he grew up. Intellectual curiosity was his escape and he became the first in his family to go to secondary school. He then went on to gain a chemistry degree at Exeter University.





He was almost 30 when, working on pesticides at Queen Mary College, London, he discovered that what really interested him was the study of insects. "Most of them are beautiful, especially beetles," he declared. "The rose-wing beetle is one of the most beautiful things in nature."

Having gained a BSc in zoology and an MSc in entomology, he was offered a lectureship at the London School of Hygiene and Tropical Medicine. While there, he met his Japanese wife Fumiko, 22 years his junior, who had come to London to study English. "I caught her just at the right moment," he claims, "when she had been taught to say 'yes' but not 'no'."

He and Fumiko, now a business interpreter, share their home with eight cats mostly rescued from science laboratories. "Lots of men wonder if their wives love them," he said. "I'm privileged, because I know mine does. Why else would she marry someone who might bring fleas home at any moment?"

In 1983, he was invited to set up the centre in Cambridge. It is now recognised as one of Britain's leading authorities on medically important insects, and contracts with some of the world's top pharmaceutical companies, including the Swiss giant Novartis, help to fund its research into ways of controlling harmful bugs.

One of the centre's most ingenious campaigns has been waged against the cat flea, which also lives on dogs. It feeds off animal and human blood, but can survive for almost a year without food. It leaps more than 100 times its own height to sink its needlelike mouth parts into its prey.

To show me how quickly a hungry flea reacts, Maunder breathed through the muslin-covered top of a glass jar onto a stock of dormant fleas. Immediately a fountain of black specks began leaping ten or twelve centimetres into the air, trying to reach what they sensed was

a source of warm blood. "Wearing rubber boots is the way to defeat them," he joked. "They can only jump to ankle height."

Once on a cat or dog, fleas engage in an orgy of feeding and mating and egg-laying so intense that most die in less than two weeks. By then, the pet may have licked or scratched the skin raw, opening the way for skin infections. An estimated 80 per cent of skin disease in pets results from flea bites.

Until recently, the best treatment for fleas has been organophosphate sprays and collars. But now there is a new nontoxic<sup>①</sup> treatment called Program, which exploits a chink in the flea's armour.

A female flea can lay more than 300 eggs in a cat's fur, which turn into larvae that feed on moisture and dead skin. Most eggs fall off, usually into the pet's basket where each spins a tough cocoon. Then an extraordinary transformation takes place; the larva produces so many internal enzymes that it digests itself. "All that's left is a nutritious soup inside a bag of skin," Maunders explained with enthusiasm.

Gradually this mush forms itself into a brand new flea. It is at this stage that Program attacks. The pet is given pills containing a small amount of lufenuron, an insect growth regulator. This prevents the flea developing a jaw hard enough to bite through the cocoon. Unable to escape, it remains trapped inside until it dies.

In the Lilliputian world of insect pests, the most dangerous population explosion has occurred among house dust mites. Their main source of food is the dead skin we daily shed in minute particles. In its raw state, this is too tough and dry for the mites to eat, so they rely on a mould called *Aspergillus repens* to make the skin soft and moist. In order to grow, the mould needs a warm, humid atmosphere, precisely the conditions found in many modern houses.

Grabbing a piece of notepaper, Maunders quickly drew a map of







the world and shaded in the areas where the mould is found most frequently. One band of shading covered North America, Europe and Japan, while a second included South Africa, Australia and New Zealand—just those parts of the world where the weather becomes cold enough for people to want draught-proof homes. Then in red ink he showed where asthma attacks have reached their highest incidence. The red exactly covered the shaded bands.

“It’s not air pollution that’s to blame for asthma, or tobacco or car exhaust,” he claims. “Where you get this mould, you get house dust mites. And where you get house dust mites, you get asthma.”

His theory is endorsed by the British Lung Foundation, which estimates that most children and about 50 per cent of adult asthma sufferers are allergic to house dust mites.

The actual trigger for the allergic reaction are the mite’s faeces. These are so tiny they can float in the air and, when breathed in, stick to the lining of the nose or lungs. Minute traces of enzymes in the faeces then set off the reaction that can leave the sufferer gasping for air.

The centre’s research shows that the most effective way of combating the tiny enemy is to improve house ventilation. In a modern doubleglazed room barely a quarter of the air is changed every 24 hours, creating ideal breeding conditions for the mould.

Maunder looks approvingly to the Victorians, amongst whom asthma was much less common. In the nineteenth century, he estimates, the air in a draughty room with an open fireplace was changed four times every 24 hours. To test the theory, the centre is using heat exchange fans in the homes of 100 asthma sufferers. These replace stale air with warm, dry, fresh air. So far, 75 per cent have reported an improvement in their condition.

The war against other tiny invaders continues. The centre re-