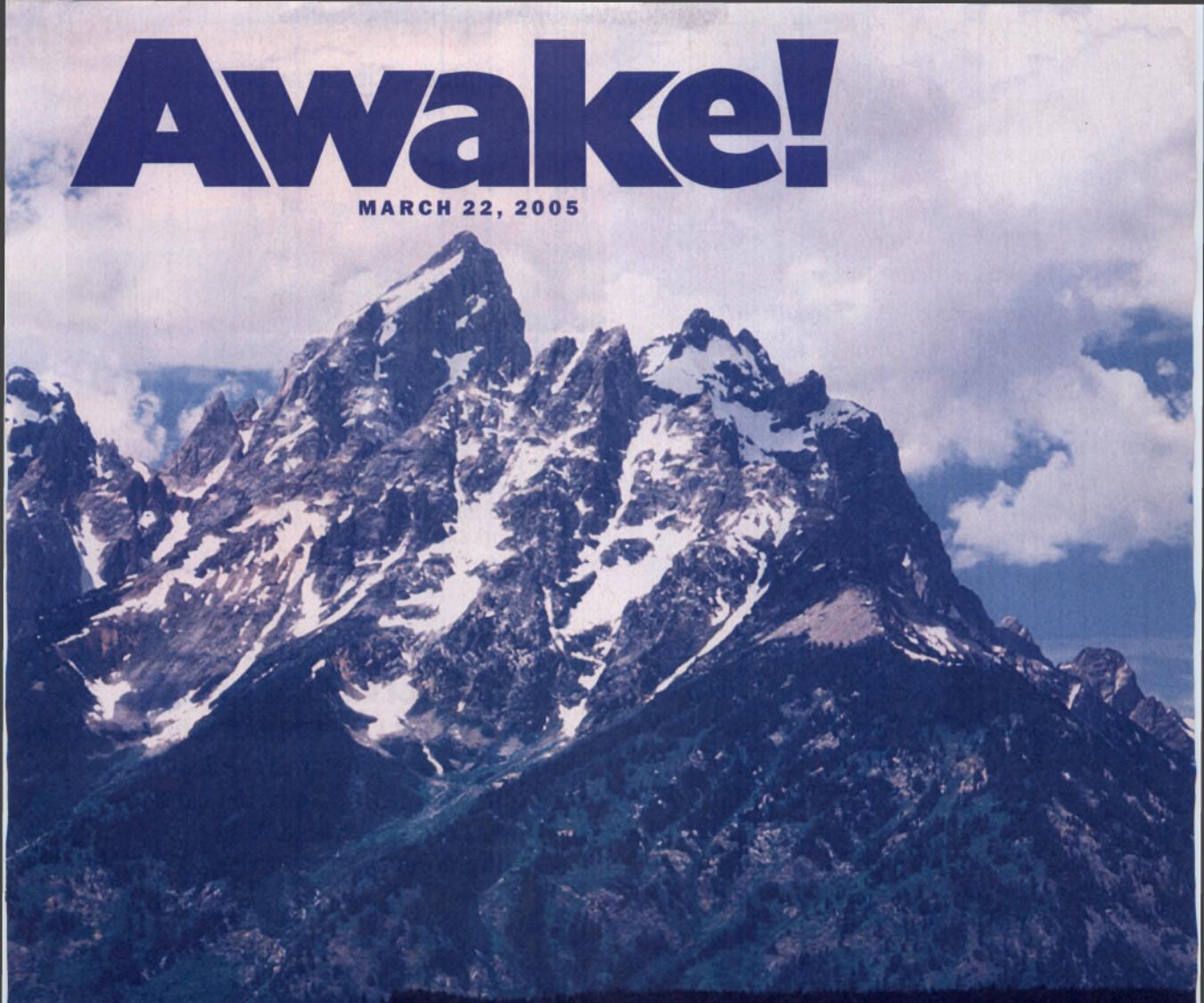


# Awake!

MARCH 22, 2005



## Mountains VITAL FOR LIFE ON EARTH



# Awake!

AVERAGE PRINTING 22,842,000  
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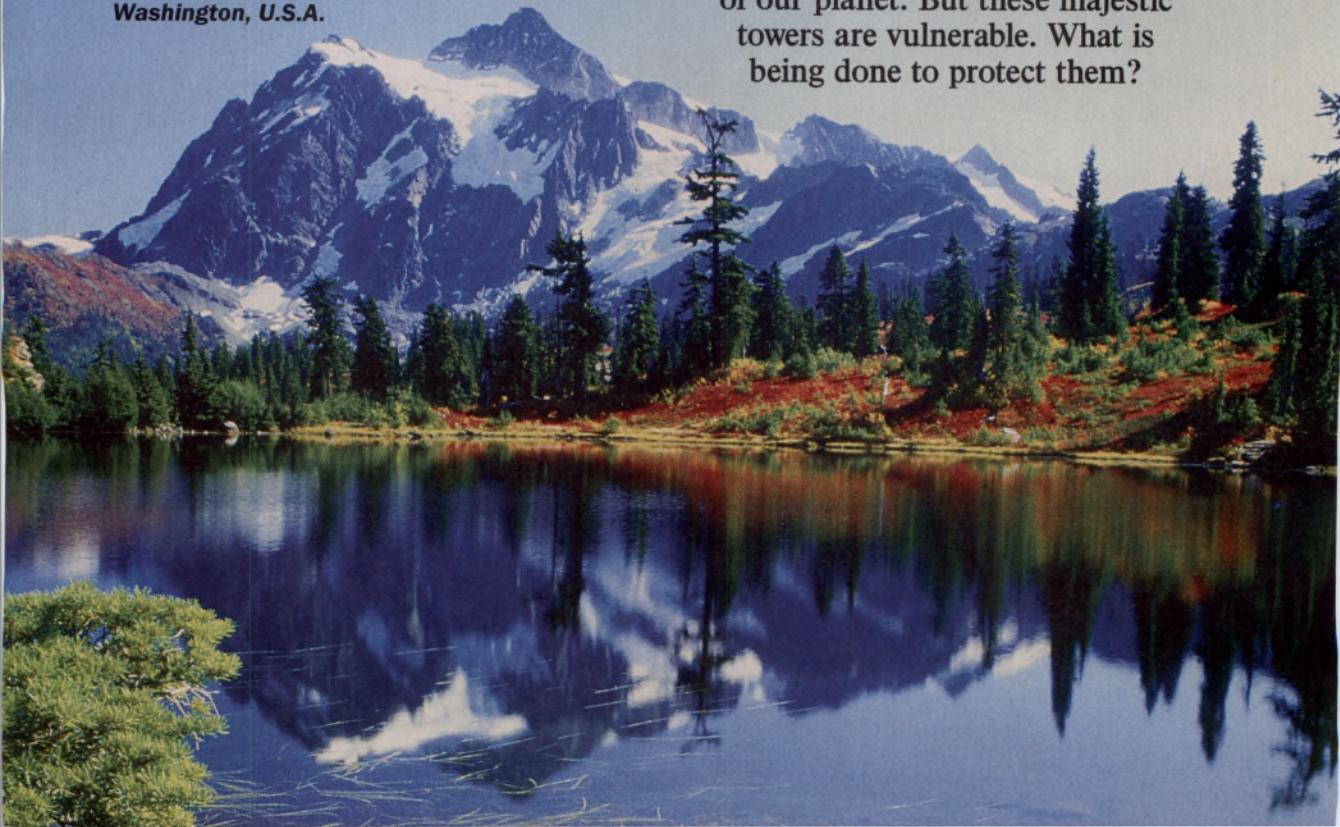


# Mountains

**VITAL FOR LIFE ON EARTH**

3-11

Mountains are crucial to the health of our planet. But these majestic towers are vulnerable. What is being done to protect them?



# Mountains

## WHY WE NEED THEM

"Climb the mountains and get their good tidings.

Nature's peace will flow into you as sunshine flows into trees.

The winds will blow their own freshness into you, and the storms  
their energy, while cares will drop off like autumn leaves."

—JOHN MUIR, AMERICAN WRITER AND NATURALIST.

**A**S John Muir discovered over a century ago, mountains have the power to move us. Their majesty impresses us, their wildlife entrails us, and their peace relaxes us. Millions visit the mountains every year to enjoy the scenery and to uplift their spirits. "Mountains have been a source of wonder and inspiration for human societies and cultures since time immemorial," notes Klaus Toepfer, executive director of the United Nations Environment Programme.

But all is not well in the mountains. For generations their remoteness has largely protected them from excessive human exploitation. Now, however, they are under threat. "Some of these last wild areas are fast disappearing in the face of agriculture, infrastructure development and other creeping impacts," explains a recent United Nations press release.

Mountain environments cover a large portion of the world's land surface. Half the population of the world depends on their resources. And the mountains are also home to millions of people. Mountains are much more than breathtaking backdrops to a peaceful pastoral setting.

Let us consider some of the contributions they make to the welfare of humankind.

### Why the Mountains Matter

■ **WATER STORAGE.** The mountains are the source of our largest rivers as well as the water for most of our water reservoirs. In North America the mighty Colorado River and the Rio Grande derive practically all their water from the Rocky Mountains. About half the population of the world lives in southern and eastern Asia. And most of these people depend on precipitation that falls on the huge mountain chains of the Himalaya-Karakoram-Pamirs-Tibet regions.

"Mountains, the water towers of the world, are vital to all life on earth and to the well-being of people everywhere," explains Toepfer, adding: "What happens on the highest mountain peak affects life in the lowlands, in freshwaters and even in the seas." In many lands, mountains conserve winter snow, slowly releasing its vital moisture during the spring and summer. In arid parts of the world, irrigation often depends on water provided by melting snows in faraway mountains. Many mountains have forested



slopes that absorb the rain like a sponge, allowing it to run downhill gently to the rivers, rather than cause devastating floods.

#### ■ WILDLIFE HABITATS AND BIODIVERSITY.

The remoteness of mountainous regions, together with their limited agricultural potential, has meant less human encroachment. As a result, mountains have become a sanctuary for fauna and flora that may have already disappeared in the lowlands. For example, Kinabalu National Park in Malaysia, a mountainous area smaller than New York City, is home to 4,500 species of plants—more than a quarter of the number of plant species found in the entire United States. The giant pandas of China, the condors of the Andes, and the snow leopards of central Asia all depend on mountain habitats, as do countless other species threatened with extinction.

According to *National Geographic* magazine, some ecologists have calculated that “over a third of known land plants and vertebrates are confined to less than 2 percent of the planet.” Large numbers of species are clustered in rich, unspoiled areas that scientists call biological hot spots. These hot spots—many of which are mountainous areas—contain biodiversity from which we have all benefited. Some of the most important food crops in the world come from wild plants that still grow in the mountains—corn in the highlands of Mexico, potatoes and tomatoes in the Peruvian Andes, and wheat in the Caucasus, to mention just a few.

■ **RECREATION AND BEAUTY.** Mountains also conserve natural beauty. They boast impressive waterfalls, beautiful lakes, and much of the world’s most dramatic scenery. Not surprisingly, a third of all the world’s protected areas are found in mountainous regions. And they have become a favorite destination for tourists.

Even remote national parks receive millions of visitors from all over the world. People travel across the planet to Denali National Park in Alaska to see Mount McKinley, North America’s highest mountain. Many visit the Great Rift Valley to marvel at imposing Mounts Kilimanjaro and Meru or to observe the vast herds of wild animals that reside between these two majestic peaks. Many mountain communities benefit from this influx of tourists, although uncontrolled tourism can threaten the fragile ecosystems.

#### Knowledge Stored in the Mountains

Over the centuries, the people who live in the mountains have learned how to prosper in a harsh environment. Mountain people have carved out terraces that still support viable agriculture after two millennia. They have domesticated local animals, such as the llama and the yak, which can cope with the rigors of high altitudes. And the traditional knowledge accumulated by mountain inhabitants may prove invaluable for protecting the mountains on which we all depend.

“Indigenous peoples are the sole guardians

## Awake!®

**THIS JOURNAL IS PUBLISHED** for the enlightenment of the entire family. It shows how to cope with today's problems. It reports the news, tells about people in many lands, examines religion and science. But it does more. It probes beneath the surface and points to the real meaning behind current events, yet it always stays politically neutral and does not exalt one race above another. Most important, this magazine builds confidence in the Creator's promise of a peaceful and secure new world that is about to replace the present wicked, lawless system of things.

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of vast, little-disturbed habitats in remote parts of every continent," explains Alan Thein Durning of the Worldwatch Institute. "They possess a body of ecological knowledge . . . that rivals the libraries of modern science." This storehouse of knowledge needs just as much protection as do other mountain assets.

The United Nations Environment Programme sponsored the International Year of Mountains 2002. To emphasize mankind's dependence on the mountains, organizers coined the phrase "We Are All Mountain People." They aimed to increase awareness

of the problems facing the world's mountains and seek solutions to protect them.

This concern certainly is a valid one. "Far too frequently, mountains are seen as providers of abundant natural resources, with insufficient attention paid to the plight of their inhabitants as well as the sustainability of their ecosystems," stated a keynote speaker at the 2002 Bishkek Global Mountain Summit, organized in Kyrgyzstan.

What are some of the problems facing the mountains of the world and the people who dwell there? How do these problems affect all of us?

**"Everyone has a stake in ensuring that the world's mountain regions continue to provide their riches for many generations to come."**

—KOFI ANNAN, UNITED NATIONS SECRETARY-GENERAL.



# Mountains UNDER THREAT

MAJESTY, stability, and strength come to mind when you think of mountains. What could threaten these giants of nature? Some may find it hard to believe that earth's mountains could be in danger. The reality, though, is that our mountains are under threat. Conservationists cite several specific problems that undermine the bulwarks of the mountains' ecosystems. All are serious, and they are getting worse. Consider some of the problems threatening mountains.

**Semimonthly Languages:** Afrikaans, Albanian, Arabic, Cebuano, Chinese, Chinese (Simplified), Croatian, Czech,<sup>#</sup> Danish,<sup>#</sup> Dutch, English,<sup>①</sup> Estonian, Finnish,<sup>#</sup> French,<sup>#</sup> German,<sup>#</sup> Greek, Hungarian, Iloko, Indonesian, Italian,<sup>#</sup> Japanese,<sup>#</sup> Korean,<sup>#</sup> Latvian, Lithuanian, Norwegian, Polish, Portuguese,<sup>#</sup> Romanian, Russian, Serbian, Slovak, Slovenian, Spanish,<sup>#</sup> Swahili, Swedish,<sup>#</sup> Tagalog, Ukrainian

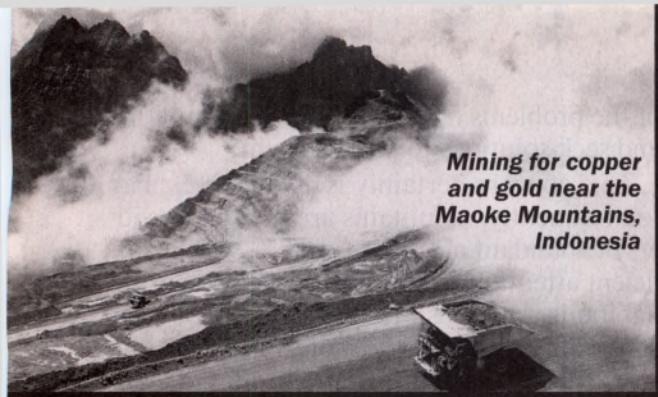
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**Mining for copper and gold near the Maoke Mountains, Indonesia**

© Rob Hrubec/Paris Pictures

■ **DEVELOPMENT PROJECTS.** About 25 percent of the world's mountainous regions are under threat from roads, mining, pipelines, dams, and other development projects planned for the next 30 years. The construction of roads can cause erosion on steep slopes, and the roads provide access for loggers, who may do much more damage. Mining operations extract some ten thousand million tons of ore every year, much of it from mountains, and produce an even greater amount of waste.\*

■ **GLOBAL WARMING.** "The nine warmest years on record have occurred since 1990," notes the Worldwatch Institute. And mountain habitats are particularly affected. Glaciers have been melting, and snowcaps are receding—a process that, according to some scientists, will affect water reserves and provoke serious landslides. Dozens of glacial lakes in the Himalayas now threaten to burst their natural barriers and cause catastrophic floods, a phenomenon that has already occurred repeatedly in the last few decades.

\* On average, the production of just one gold ring generates three tons of waste.

## In Our Next Issue

- **Helping Teens in Trouble**
- **Does God Approve of Same-Sex Marriage?**
- **Meet "The Old Lady of Threadneedle Street"**

■ **SUBSISTENCE FARMING.** Population pressure is driving people to farm unproductive areas. According to one study, almost half of Africa's mountainous regions are now used for cultivation or livestock—10 percent for crops and 34 percent for grazing. Often this farming brings only marginal benefits, since these highlands are not ideal for growing crops.\* And overgrazing by cattle easily destroys the fragile vegetation. A recent study indicates that only 3 percent of all mountain land is ideal for sustainable agriculture.

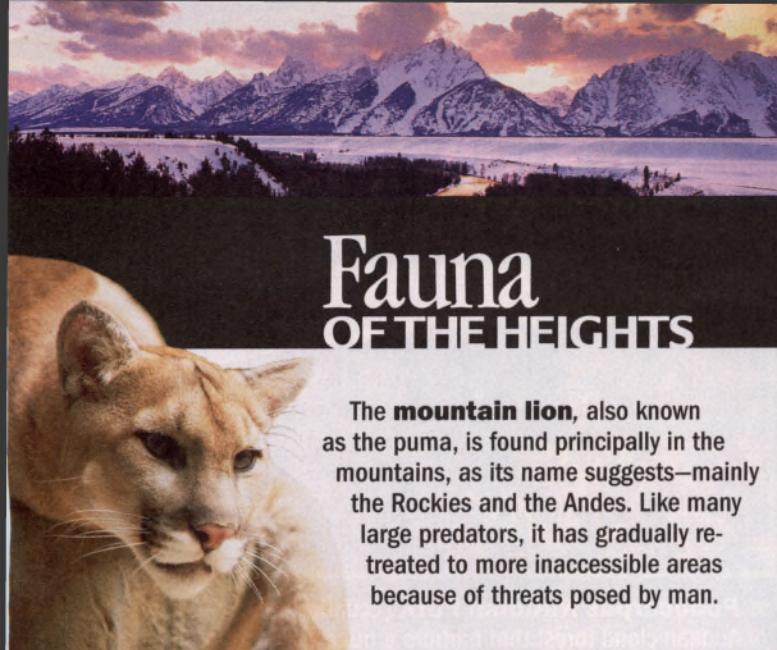
■ **WAR.** The upsurge in civil wars has devastated many mountain environments. Insurgents use mountain sanctuaries as the base of their operations. A United Nations report calculates that 67 percent of Africa's mountainous regions have been affected by "violent human conflict." Furthermore, some highlands have become centers of narcotic production, which often leads to armed conflicts as well as degradation of the environment.

### Is More Action Needed?

The consequences of man's assault on the mountains are already being felt. Floods, landslides, and water shortages are just some of the signs that all is not well. Governments have begun to take notice. Forests are being replanted, and logging is banned in some areas. National parks have been created to safeguard the most spectacular scenery and the most endangered wildlife habitats.

Even protected areas, however, suffer from environmental pressure. (See the box "Some Strongholds of Nature.") The accelerating rate at which species are becoming extinct is a sign that the battle to protect the mountain strongholds is not being won. Experts know the problems, but wholesale action to preserve unspoiled wilderness has not been forthcoming. "I feel encouraged by our scientific knowledge," says renowned biologist

\* On the other hand, over the centuries indigenous mountain people have learned to farm mountainous terrain without damaging the environment.



## Fauna OF THE HEIGHTS

The **mountain lion**, also known as the puma, is found principally in the mountains, as its name suggests—mainly the Rockies and the Andes. Like many large predators, it has gradually retreated to more inaccessible areas because of threats posed by man.



The **red panda** lives exclusively in the Himalayan mountain chain (even on the lower slopes of Mount Everest). Despite its remote habitat, however, the red panda is struggling to survive because of destruction of the bamboo forests on which it feeds.

Cortesía del Zoo de la Casa de Campo, Madrid



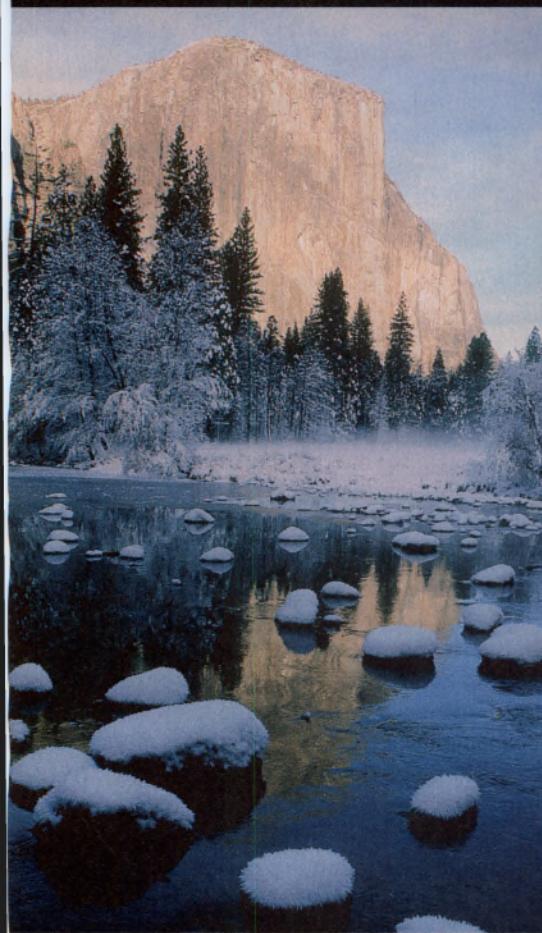
The **brown bear** once roamed across most of Europe, Asia, and North America. In Europe it is now restricted to a few isolated mountainous areas, although it is more common in the Canadian Rockies, Alaska, and Siberia. Its numbers in the United States have been reduced by 99 percent during the past century.



The **giant panda's** "very existence depends on three essentials," notes Chinese naturalist Tang Xiyang. These are "high mountains and deep valleys, thick bamboo forests, and rippling streams." According to one estimate, fewer than 1,600 pandas survive in the wild.

The **golden eagle** is the lord of the mountain skies throughout most of the Northern Hemisphere. Sadly, in Europe its numbers have been reduced to fewer than 5,000 pairs as a result of its former status as 'a hated bird.'

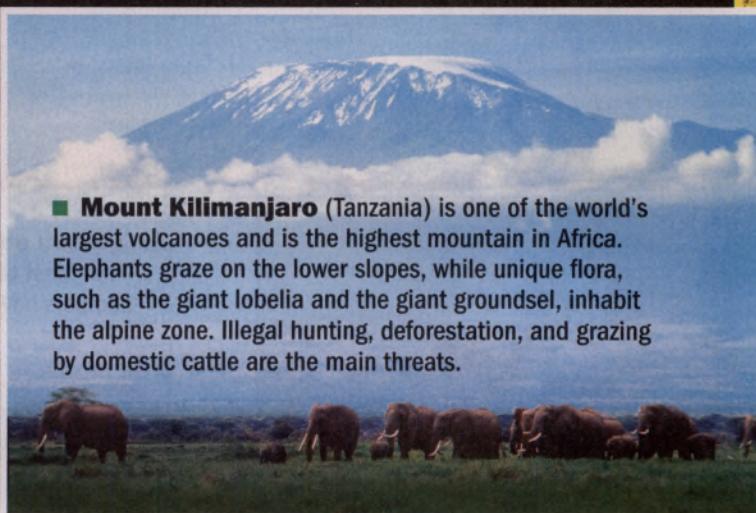




# SOME Strongholds OF NATURE



■ **Yosemite National Park** (California, U.S.A.) was founded in 1890, thanks to the untiring work of naturalist John Muir. Its impressive scenery attracts four million visitors every year. Park authorities, however, struggle to find a balance between protecting the wilderness and providing facilities for nature lovers.



■ **Podocarpus National Park** (Ecuador) preserves a region of Andean cloud forest that harbors a huge variety of fauna and flora—over 600 different birds and some 4,000 species of plants. Quinine, a drug that has saved countless human lives, was discovered in this area. Like many parks, it suffers from uncontrolled logging and poaching.

■ **Yosemite National Park**

(California, U.S.A.) was founded in 1890, thanks to the untiring work of naturalist John Muir. Its impressive scenery attracts four million visitors every year. Park authorities, however, struggle to find a balance between protecting the wilderness and providing facilities for nature lovers.

(Continued from page 6)

E. O. Wilson, “and discouraged by the destruction of the principal reservoirs of biodiversity.”

Does the loss of biodiversity really matter so much? According to many biologists, humankind benefits greatly from the conservation of earth’s

biodiversity. As an example, they point to the rosy periwinkle from the highlands of Madagascar, an area with a rich store of biodiversity. This plant has provided an important drug in the fight against leukemia. In addition, for many decades the cinchona tree, a native of the Andes Moun-



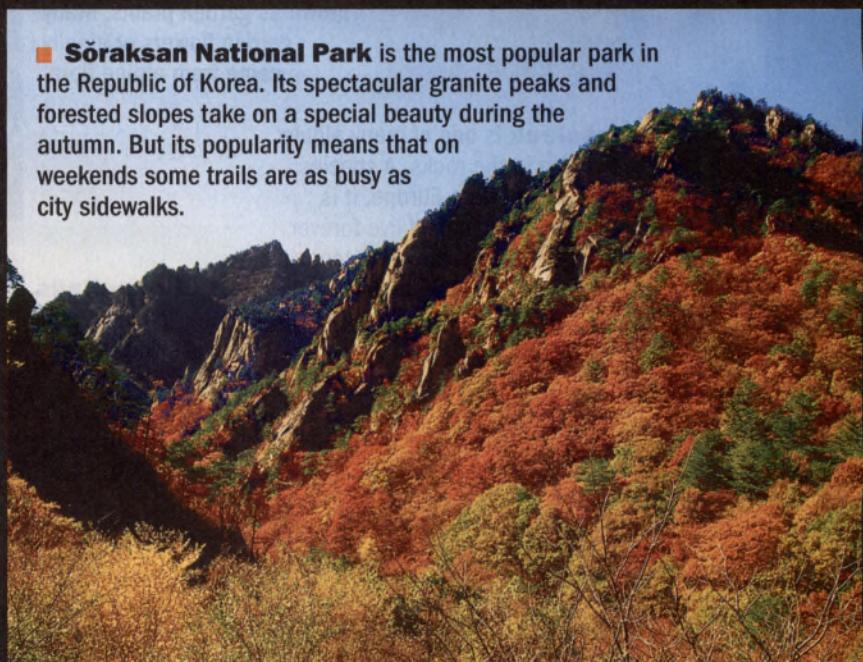
Rosy periwinkle



■ **Teide National Park** (Canary Islands) protects unique flora that enlivens the stark volcanic scenery. Mountainous volcanic islands invariably have fragile ecosystems, susceptible to introduced species.

■ **The Pyrenees and Ordesa national parks** (France and Spain) conserve majestic alpine scenery along with its flora and fauna. Like other mountain chains in Europe, the Pyrenees suffer from a proliferation of ski slopes and other tourist amenities. The abandonment of traditional agriculture has also had a negative impact on the environment.

■ **Sōraksan National Park** is the most popular park in the Republic of Korea. Its spectacular granite peaks and forested slopes take on a special beauty during the autumn. But its popularity means that on weekends some trails are as busy as city sidewalks.



tains, has been the source of quinine and other medications used to treat malaria. Many other plants that grow in mountainous regions have helped save the lives of millions. Granted, some of these mountain plants are successfully cultivated in nonmountainous areas. However, the concern is that in the large-scale de-

struction of mountain vegetation, man may inadvertently lose undiscovered resources with potential medical and nutritional value.

Can the current destructive forces somehow be stemmed? Can the damage be undone? Will the mountains continue to be bastions of beauty and biodiversity?

# MOUNTAIN Flora

**Tower of jewels.** During a few weeks in the spring, this magnificent flower grows to the height of a man. It can be found at an altitude of about 6,000 feet on just two volcanic peaks in the Canary Islands. Many mountain species have a similar restricted range.

**Carline thistles** grow in the Alps and the Pyrenees. Their sunny appearance brightens up the high meadows in late summer, and the blooms provide a feast for insects.

**English iris.** Hybrids of this attractive wildflower are grown as garden plants. Many garden flowers originally came from alpine flora.

The **mountain houseleek** is one of many alpine plants that cling to fissures in the rocks. A species native to the mountains of southern Europe, it is also called live-everlasting because of its tenacity and durability.

**Bromeliads.** Many types of bromeliads and orchids thrive in the cloud forests of the Tropics. They grow at elevations of up to 14,500 feet.



The **Algerian iris** grows in the Er Rif and Atlas mountains of northern Africa, an area designated as a hot spot of Mediterranean flora.



# Mountains

## WHO WILL SAVE THEM?

FOR four days in 2002, Bishkek in Kyrgyzstan (central Asia) hosted the Global Mountain Summit. It was the first international meeting dedicated to mountain issues. The sponsors hoped that 2002 would mark “the beginning of a new era, one that recognizes the true value of mountains.”

The summit unanimously adopted the “Bishkek Mountain Platform,” containing guidelines for everyone concerned with mountain conservation. Its stated goal was to “improve the livelihoods of mountain people, to protect mountain ecosystems and to use mountain resources more wisely.”

Some progress has been made. A worldwide network of national parks protects areas of outstanding beauty and biodiversity. In many parts of the globe, conservation groups have had some success in holding back the tide of environmental devastation. One initiative stemming from the Mountain Summit in Bishkek was a firm commitment to clean up nuclear waste dumped in the mountains of Kyrgyzstan. This highly toxic material threatened the water supply of 20 percent of the people in central Asia.

Still, the difficulties involved in protecting the world’s mountains remain formidable. For example, in 1995, Canadian authorities introduced a “Forest Practices Code” to protect the remaining rain forest of British Columbia. Yet, a subsequent investigation revealed that logging companies generally disregarded the code and continued to clear-cut the trees of even the steepest slopes. The code was relaxed in 1997, since the timber industry claimed it was too burdensome.

Commercial interests are not the only obstacle. The final declaration of the Bishkek

Summit recognized that war, poverty, and hunger all contribute to the implacable erosion of mountain ecosystems. The mountains, along with the rest of the planet, will keep on suffering until all these underlying causes of habitat destruction come to an end.

### God’s Concern for His Creation

Despite this depressing picture, we have reason for optimism. Almighty God is not oblivious to what happens to his creation. The Bible describes him as the One “to whom the peaks of the mountains belong.” (Psalm 95:4) He also cares about the fauna of the mountains. According to Psalm 50:10, 11, Jehovah says: “To me belongs every wild animal of the forest, the beasts upon a thousand mountains. I well know every winged creature of the mountains, and the animal throngs of the open field are with me.”

Does God have a way to save the world’s beleaguered environment? Yes, he does! The Bible says that he has “set up a kingdom that will never be brought to ruin.” (Daniel 2: 44) Jesus Christ, the appointed Ruler of this heavenly government, has a special interest in the earth and the people who live on it. (Proverbs 8:31) His rule will establish peace on the earth, will end all exploitation, and will repair the damage that has been done to the planet. —Revelation 11:18.

If you long for such a solution, you will doubtless continue to pray that ‘God’s kingdom come.’ (Matthew 6:9, 10) Such prayers will not go unanswered. God’s Kingdom will soon bring an end to injustice and correct the damage to the planet. When this happens, figuratively the very mountains will “cry out joyfully.”—Psalm 98:8.

# On Which Side of the Road Do You Drive?

By Awake! writer in Britain

**I meet my American visitor at the airport and walk with him to my waiting car. "Sit in the front," I suggest, and he immediately tries to get in on the driver's side. "Oh, I forgot," he remarks. "You drive on the wrong side of the road here."**

Of course, I would probably say the same thing to him if I visited the United States. But during our ride home, I decided to find out why people in some countries drive on the left side of the road, while most of the world drives on the right.

## Early Driving Customs

Let's go back in history some two thousand years to the time when the Romans occupied Britain. Archaeologists have unearthed a clue about driving habits back then. In 1998 they found a well-preserved track leading to a Roman quarry near Swindon, England. The ruts in the road on one side are much deeper than those on the other side, as would be the case with carts going in empty and coming out laden with stone. The ruts suggest that, at least at this location, the Romans drove on the left.

In fact, some believe that ancient travelers on horseback generally rode on the left side of the road. As more people are right-handed, horsemen would thus be able to hold the reins with their left hand and keep their right hand free—to offer in friendship to a passing rider or to defend themselves with a sword, if necessary.

## A Change to the Right

In the late 1700's, a shift from left to right took place in countries such as the United States, when teamsters started using large freight wagons pulled by several pairs of horses. The wagons had no driver's seat, so the driver sat on the left rear horse and held his whip in his right hand. Seated on the left, the driver naturally preferred that other wagons pass him on the left so that he could be sure to keep clear of the wheels of oncoming wagons. He did that by driving on the right side of the road.



The English, however, kept to the left. They had smaller wagons, and the driver sat on the wagon, usually on the right side of the front seat. From there he could use his long whip in his right hand without entangling it in the cargo behind him. In that position, on the right side of the wagon, the driver could judge the safety margin of passing traffic by keeping to the left side of the road. Countries that became part of the British Empire adopted the keep-left rule too, although there were some exceptions. Canada, for example, eventually changed to the right in order to make border crossings to and from the United States easier.

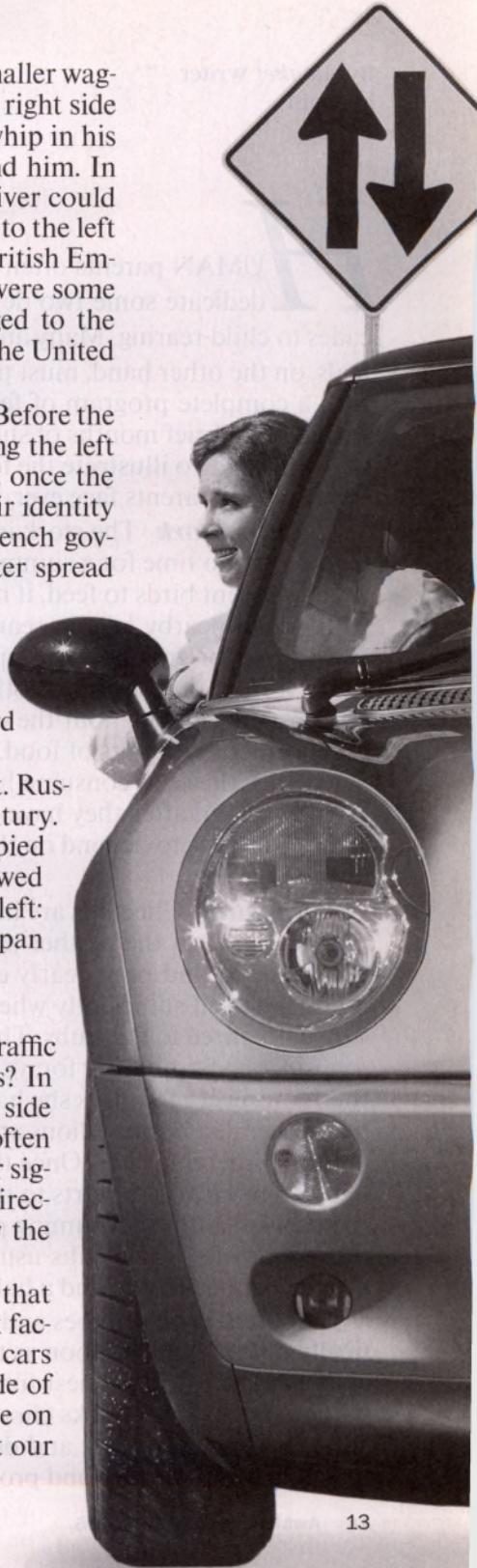
Political events in France had a big effect on driving habits. Before the Revolution of 1789, the aristocracy drove their carriages along the left side of the roads, forcing the peasants to the other side. But once the Revolution started, these nobles desperately tried to hide their identity by joining the peasant travelers on the right. By 1794 the French government had introduced a keep-right rule in Paris, which later spread to other regions as the conquering armies of Napoléon I marched through much of continental Europe. It is not surprising that Napoléon favored keeping to the right. One reference work explains that because he was left-handed, "his armies had to march on the right so he could keep his sword arm between him and any opponent."

In Europe, countries that resisted Napoléon kept to the left. Russia and Portugal switched to the right early in the 20th century. Austria and Czechoslovakia changed to the right when occupied by Nazi Germany at the end of the 1930's, and Hungary followed suit. Today just four European countries still drive on the left: Britain, Ireland, Cyprus, and Malta. Interestingly, although Japan never was a British colony, it too drives on the left.

#### **Boats, Planes, Trains, and You**

What about boats and planes? Generally speaking, water traffic keeps to the right. Aircraft too keep to the right. And trains? In some countries the signaling equipment determines on which side a double-track railway operates. Modern main-line railways often let trains run in either direction on either track, but with older signaling equipment, the track runs in one direction only. What direction that was likely determined, at least in some cases, by the country that originally designed and built the railroad.

And what about pedestrians? It is generally recommended that if there is no separate footpath or sidewalk, it is safest to walk facing oncoming traffic, no matter which side the cars are on. If cars keep right, then pedestrians are advised to walk on the left side of the road facing oncoming vehicles. In Britain, where we drive on the left, we try to remember to walk on the right. What about our American friend? Why, he does the opposite!



# Nourishing and Nurturing in the Animal World

**H**UMAN parents often dedicate some two decades to child-rearing. Many animals, on the other hand, must provide their offspring with a complete program of feeding and training within a few brief months of summer. A few examples will serve to illustrate the formidable task that some animal parents face every year.

**1. White Stork** The stork in the accompanying picture has no time for a summer break. With hungry adolescent birds to feed, it must make constant trips to the nearby lake in search of frogs, small fish, lizards, or grasshoppers, apart from repairing the nest from time to time. Both parents come and go constantly throughout the day. The young birds eat enormous amounts of food. Why, during the first few weeks, they can consume half their body weight each day! Even after they have learned to fly, young storks continue to depend on their parents for several more weeks.

**2. Cheetah** Cheetahs are invariably single-parent families, and it is the mother who cares for the cubs. She needs to find prey nearly every day in order to nourish herself sufficiently when suckling her young—usually three to five cubs. This in itself is no easy job, since most hunting forays end in failure. Furthermore, every few days she has to move her family to another den because lions are always on the lookout for vulnerable cubs. Once the cubs reach the age of seven months, she starts to train them to hunt for themselves, a time-consuming process that takes another year or so. The cubs usually stay with their mother for one to one and a half years.

**3. Little Grebe** Grebes and their young are practically inseparable. As soon as the chicks hatch, they abandon their floating nest for the comfort of their parents' backs. The chicks climb onto the back of the adult, between the wing and dorsal feathers. There the chicks find warmth and protection while mother

or father swims around. The parents take turns diving for food and carrying the young. Although the chicks soon learn to dive and to feed themselves, the bond with their parents continues for some time.

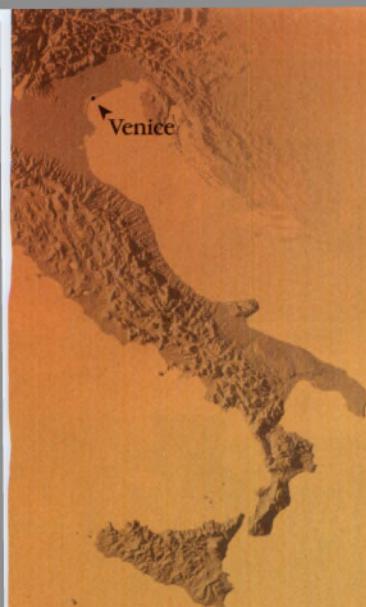
**4. Giraffe** Giraffes rarely have more than one offspring at a time, and it is not difficult to understand why. A newly born giraffe, like the one seen in the accompanying photograph, may weigh up to 130 pounds and stand six feet tall! An hour after birth, the young giraffe is on its feet and is soon sucking its mother's milk. It will nurse for nine months, although it starts to graze not long after birth. When danger threatens the young giraffe, it positions itself between its mother's legs, since her powerful kicks provide excellent protection from most predators.

**5. Common Kingfisher** Kingfishers have to be both efficient and selective when catching fish for their young chicks. Ornithologists have discovered that both parents feed the newly hatched chicks with small fish that measure less than an inch in length. The parent carefully carries

the fish in its bill with the head facing out. That makes it easier for the hungry chicks, as they can more readily swallow their food head first. As the chicks grow, the parents bring in slightly larger fish. The parents also gradually increase the feeding rate. At first, each chick is fed about every 45 minutes. But when the chicks are about 18 days old, they have quite an appetite, receiving a fish meal every 15 minutes! The young bird seen in the picture has already left the nest and will soon be fishing for itself. At this point you might assume that the parents would take a welcome break from child-rearing. But not kingfishers! They often start the whole process again with a second brood during the same summer.

Of course, many details about the way different animals care for their young are still unknown. Yet, the more naturalists discover, the clearer it becomes that parental instinct is a powerful force in the animal world. If God thus endowed his animal creation, surely he likewise wishes human parents to provide their children with the nourishment and nurture they deserve.





Venice

By Awake! writer in Italy

# VENICE “City in the Sea”

*“There is a glorious City in the Sea.  
The Sea is in the broad, the narrow streets,  
ebbing and flowing; and the salt sea-weed clings  
to the marble of her palaces.”*

—Samuel Rogers, English poet, 1822.

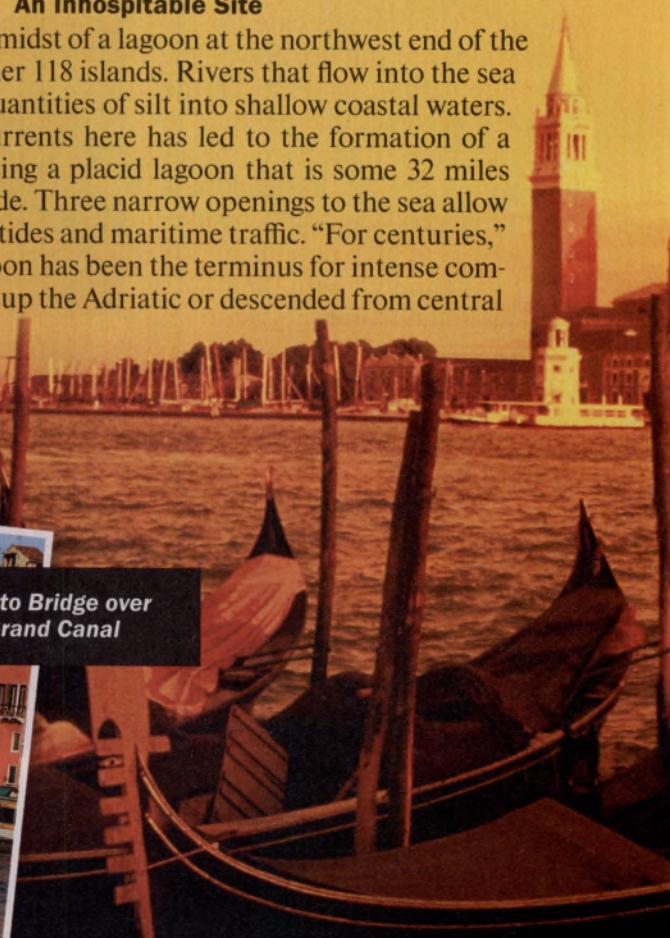
**T**HE “glorious City” is Venice. Onetime capital of a great republic, Venice could boast a centuries-long dominion over a great land and sea empire. How and why was this city built “in the sea”? Upon what was its glory based? How did its empire collapse, and what today remains of the magnificence of Venice?

#### An inhospitable Site

Venice, situated in the midst of a lagoon at the northwest end of the Adriatic Sea, links together 118 islands. Rivers that flow into the sea nearby discharge large quantities of silt into shallow coastal waters. The play of tides and currents here has led to the formation of a chain of sandbars enclosing a placid lagoon that is some 32 miles long and up to 9 miles wide. Three narrow openings to the sea allow the passage of three-foot tides and maritime traffic. “For centuries,” says one source, “the lagoon has been the terminus for intense commercial traffic that sailed up the Adriatic or descended from central



The Rialto Bridge over  
the Grand Canal

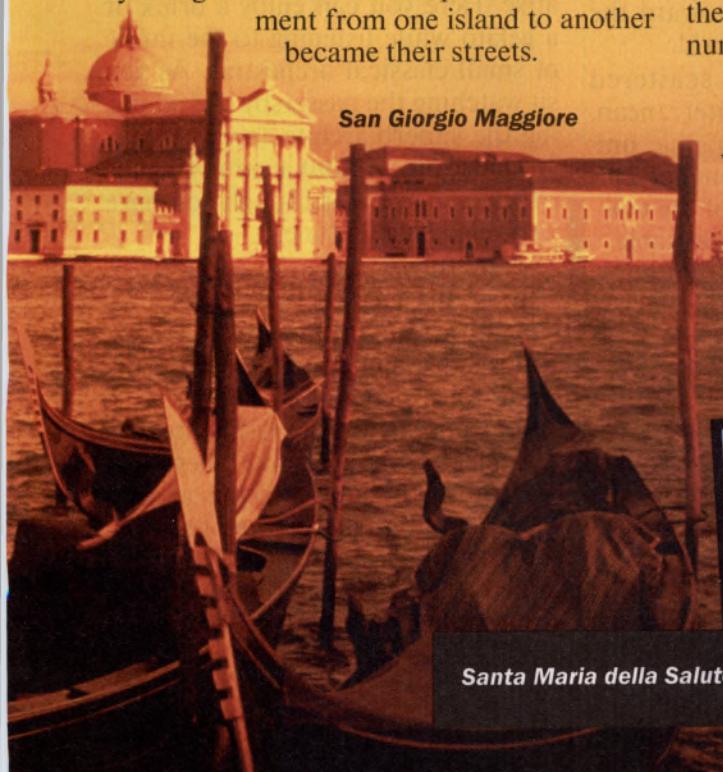


or northern Europe along rivers or caravan routes."

Scholars trace the origin of the city proper to sometime between the fifth and the seventh centuries C.E., when successive waves of barbarians swept down from the north, burning and pillaging the communities on the mainland. The people fled before the pillagers, many taking refuge in the less-accessible but safer lagoon islands.

Ancient documents indicate that the first constructions here were built on a foundation of poles sunk into the mud and interwoven with slender branches or reeds. In later times the Venetians built in stone on a foundation of thousands of wooden piles. Meanwhile, the lagoon islands of Rialto, which were to become the city center, were often waterlogged and were neither firm enough nor big enough to accommodate a large influx of settlers. The islands had to be drained and enlarged by primitive systems of land reclamation. Thus, the inhabitants dug out channels for their boats and shored up the islands to prepare better building sites. Canals traversed by bridges that facilitated pedestrian movement from one island to another became their streets.

*San Giorgio Maggiore*



*Santa Maria della Salute*

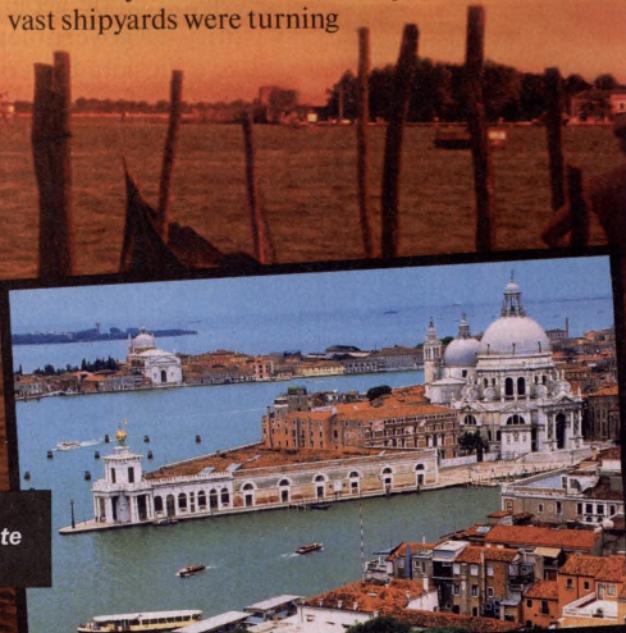
### The Birth and Rise of a Republic

After the fall of the Roman Empire in the West, the lagoon islands came under the influence of the Byzantine Empire, which had its capital at Constantinople, now Istanbul. The lagoon communities, however, rebelled and claimed their independence. As a result, Venice was left in what has been described as the unusual "position of [a] small independent . . . duchy, situated in territorial isolation between two great empires," the Franks and the Byzantines. That unique situation enabled the city to develop and flourish as a great "trading intermediary."

In the centuries that followed, Venice went on to measure itself militarily against a number of powers that contended with it in the Mediterranean, including the Saracens, Normans, and Byzantines. Venice finally emerged more powerful than any of these but not before diverting the fourth crusade, in 1204, to destroy the most formidable of her rivals, Constantinople. Venice had established many trading posts —on the Black Sea and the Aegean as well as in Greece, Constantinople, Syria, Palestine, Cyprus, and Crete. Now it took advantage of the fall of the Byzantine Empire to transform a number of them into territorial colonies.

### "Mistress of the Mediterranean"

As early as the 12th century, Venice's vast shipyards were turning





**Restaurants  
on the  
Grand Canal**

out fully equipped galleys at the rate of one every few hours. Local industry produced glass and luxury fabrics—lace, brocade, damask, and velvet. From the West, Venetian and foreign merchants brought arms, horses, amber, furs, timber, wool, honey, wax, and slaves. Imported from the Muslim Levant, on the other hand, were gold, silver, silk, spices, cotton, dyes, ivory, perfumes, and a host of other goods. The city officials ensured that duties were exacted on all the goods that entered and left its markets.

Beautified by famous architects and artists—such as Palladio, Titian, and Tintoretto—Venice was styled *la serenissima*, “the most serene” or “sublime.” The city could then rightly be called “mistress of the Mediterranean, . . . the richest and most prosperous commercial centre of the civilized world.” It remained such for centuries, and its power began to wane only during the 16th century, when the main trading axis shifted toward the Atlantic and the New World.

Venice’s colonies, scattered throughout the Mediterranean, never did enjoy geographic unity, unity of government, or effective cohesion. Loss of the colonies therefore was inevitable.

Neighboring powers wrested possessions from Venice

one by one until finally Napoléon I conquered the lagoon city in 1797 and ceded it to Austria. In 1866, Venice became part of Italy.

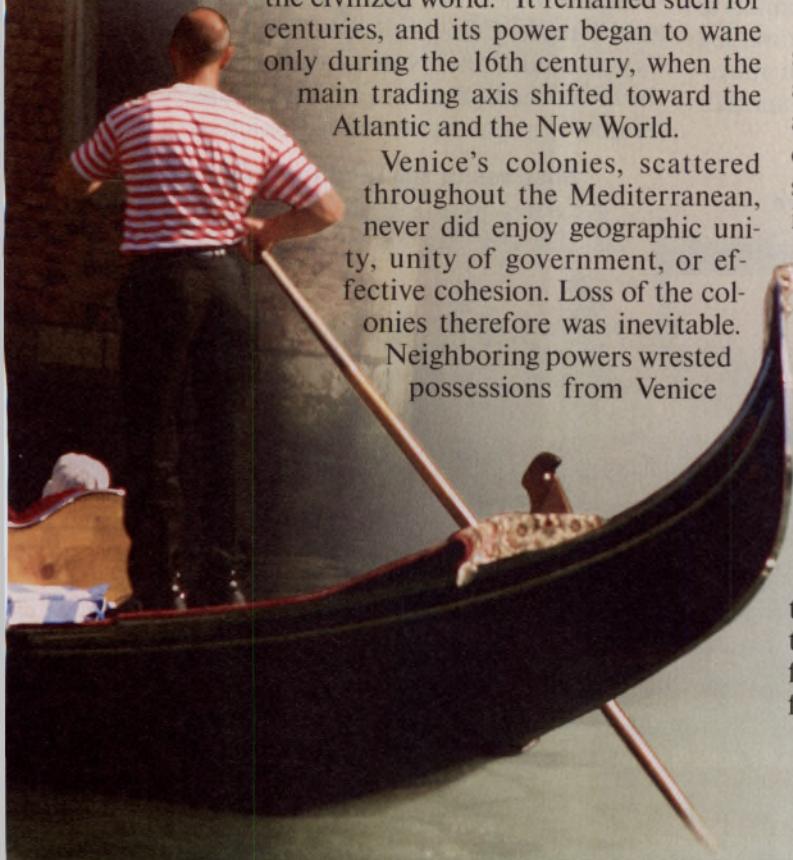
### **A Surreal City**

For many, a visit to Venice is like stepping back in time two or three hundred years. The city has an atmosphere all its own.

One feature is the quiet. For the most part, pedestrian traffic in narrow alleyways is separated from waterborne traffic, except where paths flank canals or cross them on characteristic arched stone bridges. The only motor vehicles are boats, as streets are “paved” with water. The city is extraordinarily rich in picturesque views. St. Mark’s Square with its basilica, bell tower, and magnificent waterfront, where the sun sparkles on the green lagoon, is inspiring to artists.

Busy open-air cafés in the main square attract tourists and residents alike. Here you can enjoy a drink or a gelato while listening to the music of small classical orchestras. As you sit watching the passersby and admiring the superb architecture that surrounds you, without a car in sight, it truly can seem as though you have traveled back in time.

For those in search of art treasures, the city exerts a special attraction. Its numerous palaces, museums, and churches house the paintings of many famous artists. But some visitors are just content to wander through narrow alleys and gaze at the unfamiliar sights around them. An abundance of stores offer tourists goods for which the city is famed—lace and embroidered work from the lagoon island of Burano and



splendid crystal and glassware from Murano. A short ride on a vaporetto, or motorboat, which is an experience in itself, will take you to either of these islands, where you may see how their products are made.

Monumental palaces with pointed narrow arches testify to Oriental influences of by-gone days. The famous Rialto Bridge over the Grand Canal—the city's main thoroughfare—and the sleek black gondolas that glide silently beneath it vie for visitors' attention.

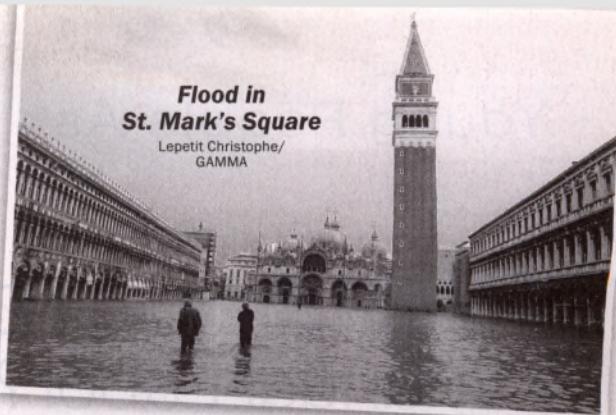
### Still Fighting for Survival

Two centuries after the fall of the "sublime Republic," Venice is still fighting to survive but in battles of a different sort. The number of residents in the historic center fell from 175,000 in 1951 to a mere 64,000 in 2003 because of inflated property prices, lack of work, and few modern facilities. Complex social and economic problems need to be solved, such as how—and if—the decaying city ought to be renewed.

In the 1920's, a new industrial area was developed on the mainland in the hope that it would boost the local economy, and a deep channel was dredged across the lagoon to enable oil tankers to reach the refineries. Industry offered work opportunities, but it has also been blamed for pollution and the destructive high tides called *acqua alta* (high water), which submerge much of the historic center more and more frequently.

That the lagoon environment and its hydraulics form a delicate natural mechanism crucial to the city's survival is nothing new. As early as 1324, the Venetians undertook colossal engineering works to divert rivers that threatened to choke the lagoon with silt. In the 18th century, they built seawalls to prevent the Adriatic from bursting destructively into the lagoon.

Now the situation appears more critical than ever. It is hoped that the problem of subsidence resulting from the depletion of underground aquifers for industrial uses has been



Flood in  
St. Mark's Square

Lepetit Christophe/  
GAMMA

definitively halted, but sea levels worldwide continue to rise. The lagoon area, moreover, has been reduced by land reclamation, and its equilibrium has been tampered with. High water has long posed a threat but never like it does now. At the start of the 20th century, St. Mark's Square was flooded some five to seven times a year. A century later, it was flooded 80 times in one year alone.

Venice's exceptional historic and artistic heritage along with the problems it faces have aroused international concern. Special legislation has been passed with the aim of defending the city from high water and respecting the environment, without damaging the function of its port or the everyday life of its population. How best to do that is still an unresolved question.

Work is being done to raise canal banks, render paved areas impermeable to upward filtration of water from the subsoil, and prevent sewer regurgitation in conditions of *acqua alta*. The most controversial measure is the planned construction of a system of mobile barriers across the entrances to the lagoon, which would be raised when high water threatens.

The objective is demanding. The "glorious City in the Sea" bears witness to a fascinating past, but as different writers have observed, it risks being reduced to "a museum by outsiders at the expense or expulsion of the local population." Venice has long had to contend with a difficult natural environment, but now "physical defense alone would be futile unless it were provided for a city reinvigorated socially and economically, inhabited, alive, and vital."

## Young People Ask . . .

### Why Should I Do Manual Labor?

***"I never really imagined myself doing much physical labor. I found it more enjoyable to play with my computer."***—Nathan.

***"Some of the kids looked down on those of us who did physical work, as if we were not smart enough to do anything else."***—Sarah.



**M**ANUAL LABOR—many view it as boring, dirty, and undesirable. A professor of economics says regarding blue-collar jobs: “Those occupations don’t have a lot of status in this status-conscious world.” Little wonder, then, that many youths turn up their nose at the very idea of doing physical work.

The Bible, however, promotes quite a different view of hard work. King Solomon said: “With a man there is nothing better than that he should eat and indeed drink and cause his soul to see good because of his hard work.” (Ecclesiastes 2:24) In Bible times, Israel was an agricultural society. Plowing, harvesting, and threshing all required enormous physi-

cal effort. Yet, Solomon said that hard work could bring rich rewards.

Centuries later, the apostle Paul said: “Let the stealer steal no more, but rather let him do hard work, doing with his hands what is good work.” (Ephesians 4:28) Paul himself was no stranger to manual labor. Although he was a highly educated man, he sometimes supported himself by making tents.—Acts 18:1-3.

How do you feel about working with your hands? Whether you realize it or not, physical work can benefit you in many ways.

#### **Training for Life**

Exerting yourself in physical work—whether by swinging a hammer or mowing

a lawn—can promote good health. The benefits can go beyond your keeping fit and trim. Do you know how to fix a flat tire or how to change the oil in a car? Can you fix a broken window or repair a clogged drain? Can you cook? Can you make a bathroom spotlessly clean and sanitary? These are skills that both young men and young women do well to know, skills that can help you to live successfully on your own one day.

Interestingly, Jesus Christ himself appears to have mastered some manual skills while here on earth. He learned the trade of carpentry—no doubt from his foster father, Joseph—as he came to be called the carpenter. (Matthew 13:55; Mark 6:3) You too can learn a variety of useful skills by working with your hands.

### **Building Character**

Hard work can also affect how you feel about yourself. Writing for the U.S. National Mental Health and Education Center, Dr. Fred Provenzano says that learning physical tasks can add to your “sense of self-reliance and general confidence” and “can also foster self-discipline and order, which are foundations for successful employment.” A young man named John says: “Physical work helps you to learn patience. You learn how to work through problems.”

Sarah, quoted earlier, explains: “Doing manual labor taught me to be hardworking and industrious. I learned to be disciplined both mentally and physically.” Does hard work have to be drudgery? Says Nathan: “I learned to enjoy working with my hands. As I improved in my skills, I saw the quality of my work increase. This built my self-esteem.”

Manual labor can also teach you the simple joy of accomplishment. A young man named James puts it this way: “I enjoy doing carpentry. Though it may be physically tiring at times, I can always look back at what I built

and feel a sense of accomplishment. It really is satisfying.” Brian echoes those sentiments. “I enjoy working on automobiles. Knowing that I have the ability to repair something that is broken and make it as good as new gives me a sense of confidence and satisfaction.”

### **Sacred Service**

For Christian youths, being able to do hard work can be a help in their service to God. When King Solomon was given the assignment of building a magnificent temple to Jehovah, he realized this was a task that would require a tremendous amount of effort and skill. The Bible says: “King Solomon proceeded to send and fetch Hiram out of Tyre. He

### **Learning a trade has helped many young ones to expand their service to God**

was the son of a widowed woman from the tribe of Naphtali, and his father was a Tyrian man, a worker in copper; and he was full of the wisdom and the understanding and the knowledge for doing every sort of work in copper. Accordingly he came to King Solomon and began to do all his work.”—1 Kings 7:13, 14.

What a privilege Hiram had to use his skills to promote Jehovah’s worship! Hiram’s experience highlights the truthfulness of the Bible’s words at Proverbs 22:29: “Have you beheld a man skillful in his work? Before kings is where he will station himself; he will not station himself before commonplace men.”

Today, even youths with little or no construction skills have had the privilege of sharing in the construction of Kingdom Halls. Because of their involvement in such projects, some have learned useful trades, such as the electrical trade, plumbing, masonry, and carpentry. Perhaps you could discuss with your

local elders the possibility of sharing in Kingdom Hall construction yourself.

James, who has worked on several Kingdom Halls, says: "Many in the congregations may not have the time or abilities to help. So by helping out, you are assisting an entire congregation." Nathan, who learned how to work with concrete, found that this skill opened up another door of service to God. He recalls: "I was able to travel to Zimbabwe and use my skills in helping to build a branch office of Jehovah's Witnesses. I worked there for three months, and it was one of the greatest experiences of my life." For other youths, a taste for hard work has moved them to apply to serve as volunteers at the local branch office of Jehovah's Witnesses.

Becoming skilled in physical labor could also allow you to have a measure of "self-sufficiency." (1 Timothy 6:6) Many young ones among Jehovah's Witnesses serve as pioneers, or full-time evangelizers. Learning a trade has helped some to support themselves financially without having to invest a lot of time and money in secular schooling.

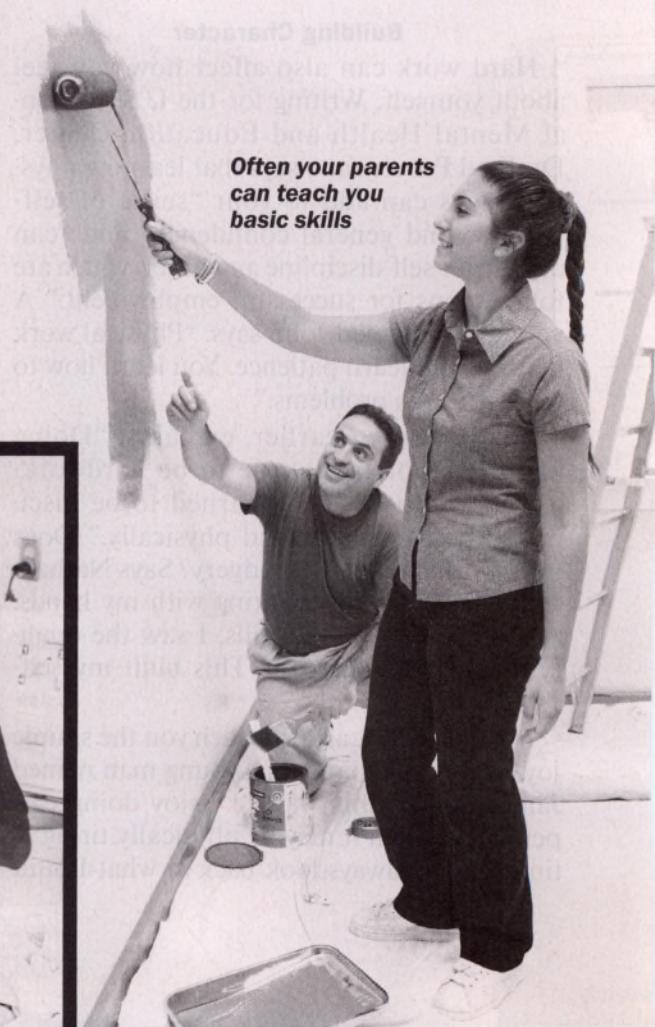
#### How to Learn

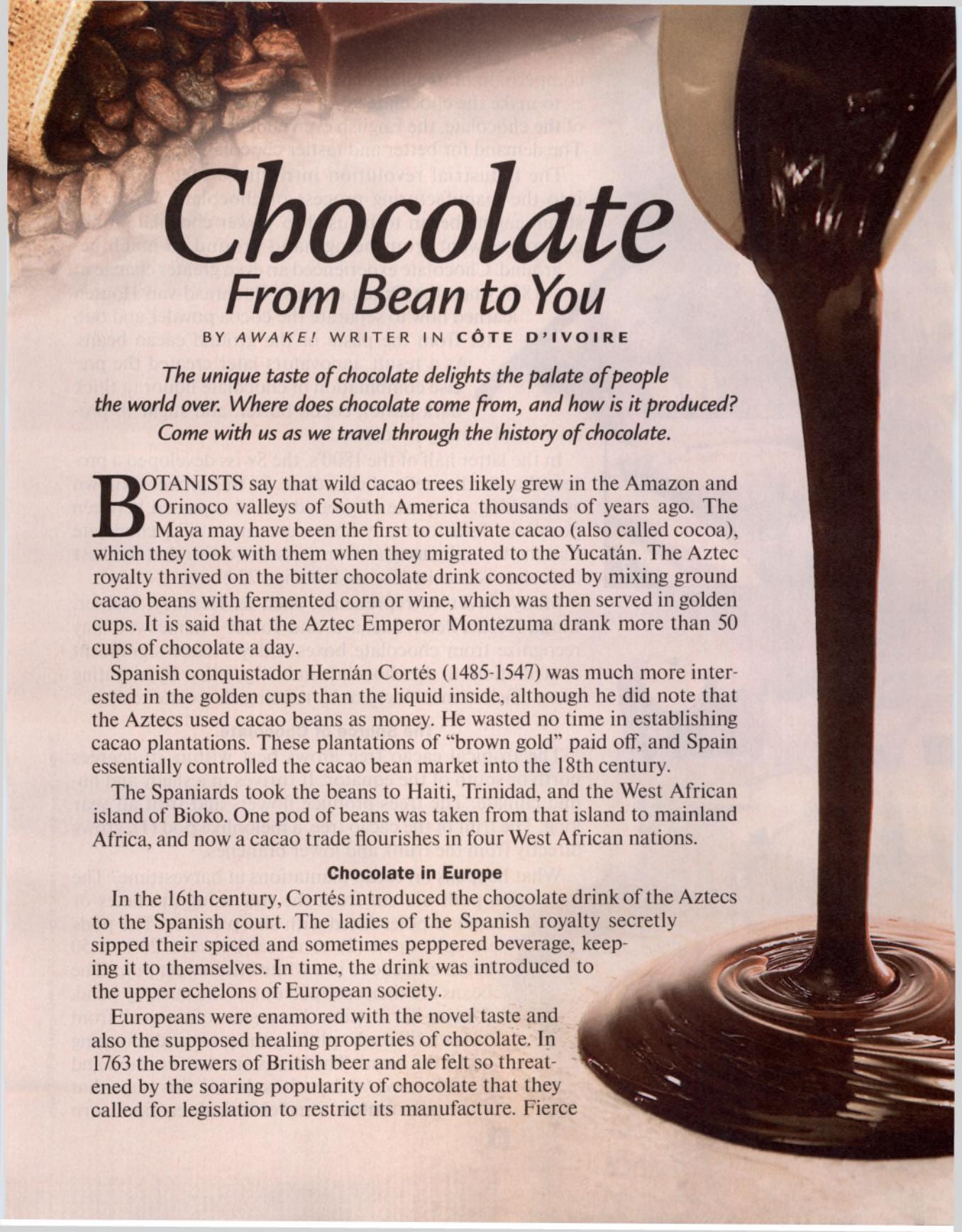
Clearly, whether you are interested in making a living as a tradesman or simply want to be handy around the house, you can benefit from learning how to do manual labor.

It may be that your local school offers some courses in the trades. Likely, you can also receive some training right at home. How? By learning to perform household chores. Writes Dr. Provenzano, quoted earlier: "Chores are especially important for teens because they teach basic domestic 'survival skills' that will help the teens to successfully and competently live separately from their parents when that time comes." So be alert to do what is needed around the home. Is there a lawn to be mowed or a shelf that needs repair?

Far from being demeaning or degrading, physical labor can benefit you in many ways. Don't run away from manual work! Instead, strive to "see good" from your hard work, for as Ecclesiastes 3:13 says, "it is the gift of God."

**Often your parents  
can teach you  
basic skills**





# Chocolate

## From Bean to You

BY AWAKE! WRITER IN CÔTE D'IVOIRE

*The unique taste of chocolate delights the palate of people the world over. Where does chocolate come from, and how is it produced? Come with us as we travel through the history of chocolate.*

**B**Otanists say that wild cacao trees likely grew in the Amazon and Orinoco valleys of South America thousands of years ago. The Maya may have been the first to cultivate cacao (also called cocoa), which they took with them when they migrated to the Yucatán. The Aztec royalty thrived on the bitter chocolate drink concocted by mixing ground cacao beans with fermented corn or wine, which was then served in golden cups. It is said that the Aztec Emperor Montezuma drank more than 50 cups of chocolate a day.

Spanish conquistador Hernán Cortés (1485-1547) was much more interested in the golden cups than the liquid inside, although he did note that the Aztecs used cacao beans as money. He wasted no time in establishing cacao plantations. These plantations of "brown gold" paid off, and Spain essentially controlled the cacao bean market into the 18th century.

The Spaniards took the beans to Haiti, Trinidad, and the West African island of Bioko. One pod of beans was taken from that island to mainland Africa, and now a cacao trade flourishes in four West African nations.

### Chocolate in Europe

In the 16th century, Cortés introduced the chocolate drink of the Aztecs to the Spanish court. The ladies of the Spanish royalty secretly sipped their spiced and sometimes peppered beverage, keeping it to themselves. In time, the drink was introduced to the upper echelons of European society.

Europeans were enamored with the novel taste and also the supposed healing properties of chocolate. In 1763 the brewers of British beer and ale felt so threatened by the soaring popularity of chocolate that they called for legislation to restrict its manufacture. Fierce



competition in the chocolate trade led some to add starches to make the chocolate go further. To intensify the color of the chocolate, the English even added a bit of brick dust! The demand for better and tastier chocolate kept growing.

The industrial revolution introduced mechanization into the manufacturing process of chocolate. When the steam engine began to be used to power chocolate mills, chocolate went from being hand-ground to machine-ground. Chocolate experienced an even greater change in

1828 when the Dutch chemist Coenraad van Houten learned how to separate the cocoa powder and butter from the paste of the ground cacao beans.

As a result, innovators later created the precise combination of chocolate liquor (a thick dark paste), cocoa butter, and sugar to produce solid "eating chocolate."

In the latter half of the 1800's, the Swiss developed a process that further refined chocolate. In this process, known as conching, the paste of ground beans is passed between porcelain disks for many hours, creating a silky chocolate that melts on the tongue. Connoisseurs claim that the best chocolate is conched for no less than 72 hours.

Many clever entrepreneurs, such as Hershey, Kohler, Lindt, Nestlé, Peter, Suchard, and Tobler—names you may recognize from chocolate boxes today—made significant contributions to the chocolate industry, either by inventing more efficient machinery or by refining chocolate recipes.

#### The Source of Chocolate

The tropical cacao tree grows best within 20 degrees north or south of the equator. It thrives in a shady and humid climate. The trees produce flowers and fruit all year long. The fruit of the cacao tree, a melonlike pod (1), grows directly from the trunk and lower branches.

What happens on cacao plantations at harvesttime? The ripe pods are cut from the tree using machetes or bamboo poles fitted with sharp knives. The pods are split open (2) to reveal between 20 and 50 beans embedded in a white bittersweet pulp. The beans are then scooped out of the husk by hand. During harvesttime, harvester often work from dawn till dusk splitting the pods and scooping out the beans. The beans are then covered and left for several days. It is during this stage that the pulp ferments and chemical reactions turn

the cacao beans chocolate brown. Next, the beans are dried (3), either by spreading them out in the hot sun or using hot-air blowers. Drying preserves them for shipping and storage.

There are basically two types of cacao beans, the Forastero and the Criollo. The Forastero is the standard, or base, bean, which makes up the greater part of the world's production. The main cultivation areas are in West Africa, Brazil, and Southeast Asia. The Criollo is the flavor bean. It is cultivated on a much smaller scale in Central America, Ecuador, and Venezuela. It adds the nutty or floral nuances to chocolate.

After the drying process, the cacao beans are ready to be packed into sacks (4) and shipped to chocolate manufacturers around the world, mainly in Europe and North America. About two handfuls of these dried cacao beans (5) will make one pound of chocolate candy. It is difficult to imagine that the bitter seeds of the cacao fruit can be transformed into the delicate confections that we find in a box of chocolates, but the process has essentially not changed for centuries.

### The Making of Chocolate

Upon arrival at the factory, the beans are cleaned and sorted. In much the same way as coffee beans are roasted to bring out their best flavor, the cacao beans are now roasted to bring out the full chocolate aroma. The beans are then cracked open (6). The dark brown particles inside, the nibs, are the basis for all cocoa and chocolate.

The nibs are ground to produce a thick dark paste, called chocolate liquor (7). When hardened, it is sold as baking chocolate. The liquor is then subjected to high pressure—the process that Van Houten invented—and cocoa butter is extracted, leaving a residue of cocoa powder. If extra cocoa butter is added to chocolate liquor, the tasty blend is on its way to becoming the eating chocolate that we are familiar with. Conching (8) and other refining processes work together to produce the type of chocolate that consumers prefer today (9).

So the next time you enjoy the rich, velvety flavor of chocolate, take a moment to think about the long journey it has made from the bitter bean growing in the Tropics to the appealing chocolate confection before you.



A large photograph of a woman with dark hair, smiling. She is wearing a red sleeveless dress with a pink floral pattern and a wide, circular lei made of white flowers and red leaves around her neck. A black pearl necklace is visible. She is holding a dark object, possibly a shell or a piece of coral, in her hands.

BY AWAKE! WRITER IN NEW ZEALAND

# Black Pearls

## Gems From the South Seas

*"Workers required for pearl farm in Manihiki," read an ad in the "Cook Islands News." You may wonder, 'How are pearls farmed? And where is Manihiki, anyway?'*

MANIHKI, a remote atoll, is one of 15 islands collectively called the Cook Islands, located 1,600 miles northeast of New Zealand. In the early 1970's, according to some sources, experiments with black pearl cultivation began there. Today dozens of commercially successful black pearl farms dot the lagoons of Manihiki.

Black pearl farming requires manual work, but technical expertise is also a must. The process begins with a careful selection of suitable black lip oysters. Those chosen are gently opened, and the oyster's flesh is skillfully cut with a scalpel. A small spherical nucleus, or bead, is then implanted along with a tiny piece of tissue from a living donor's mantle, the lining on the inside of the shell. Then workers return the oysters to the lagoon and carefully maintain them, purging any buildup of algae or barnacles.

Gradually, the implanted mantle tissue envelops the nucleus and coats it layer by layer with a lustrous pearly substance called nacre or mother-of-pearl. If the implant is not rejected, a pearl is produced within one and a half to two years. The whole process has been called "a remarkable symbiosis of man and nature."



*Black pearls (enlarged to show detail)*



### **Black Pearls—Their Value**

The South Pacific black pearl is among the world's rarest pearls, hence it is among the most valuable. Actually, black pearls come in a range of vibrant colors, from silvery white to jet black. Some are rose, gold, bronze, copper, peacock green, blue, purple, or variations of glistening gray. You can even find combinations of colors, such as pink/rose, green/gold, green/black, blue/black, and purple/black.

When the value of a pearl is being determined, one hue is not necessarily more valuable than another. What really enhances the quality of an individual pearl is the evenness or consistency of its color. There are other factors that can determine a pearl's worth—its size, shape, surface, and luster.

When a jeweler speaks of a pearl's size, he is referring to its diameter. The usual range is between 8 and 12 millimeters, with rare specimens reaching 18 millimeters or more. Although size is not the most significant factor, the pearl's price is, generally speaking, commensurate with its weight or dimensions.

As with color, the shapes are varied. Usually, round, or spherical, pearls are the most highly prized. However, drop, or tear-shaped, gems make beautiful pendants and earrings. There are also circle pearls, those with distinct rings or grooves encircling them. If you hear of a button-shaped pearl, that relates to its having one side rounded and the other flat. Then, too, there are baroques, those of irregular shape.

A pearl with a completely unblemished surface is rare and costly. External flaws, which are common, may be in the form of depressions, bumps, wrinkles, scratches, spots, or stains—all occurring naturally. If the flaws are few in number or restricted as to location, it may be possible to conceal them when the pearl is placed in an ornamental setting.

What you will certainly notice is the pearl's luster, which is dependent upon the thick-

ness of its nacre. Another consideration is the gem's iridescence, or light-reflecting quality, which gives the pearl its alluring warmth. Some argue that it is the luster—more than the color, size, shape, or surface—that generates admiring glances.

### **Pearls Require Care**

In contrast with other precious gems, such as diamonds or rubies, pearls are referred to as "soft." They can be scratched by contact with other jewelry or hard objects. So if you have pearls, take care when wearing or storing them.

Acid, including that found in human perspiration, can cause damage, as can detergents, perfumes, and other cosmetics. A major Cook Islands jeweler recommends the following cleaning procedure: "Mix a solution of water and mild dishsoap in a small bowl. Agitate the water with a soft toothbrush, and lightly scrub the setting and the pearl. Rinse with fresh water, and dry with a soft cloth."

### **Pearls in History**

Pearls were among the earliest of the precious gems used as human adornment, being praised in ancient literature. People in the Middle East and Asia especially treasured them, apparently viewing pearls as symbols of purity and virtue.

In ancient Rome, pearls were so highly esteemed that only people of certain rank were permitted to wear them. Pliny the Elder, a first-century naturalist and philosopher, extolled pearls as "the most sovereign commodity in the whole world." And when illustrating the preciousness of the Kingdom of the heavens, Jesus spoke of "one pearl" of such value that a traveling merchant seeking fine pearls "promptly sold all the things he had and bought it."—Matthew 13:45, 46.

Jesus' reference to pearls no doubt reflects both their beauty and value. How thankful we can be to Jehovah, the Creator of these gems, including those found in the South Seas!

# Watching the World

## TV Teaches Aggression

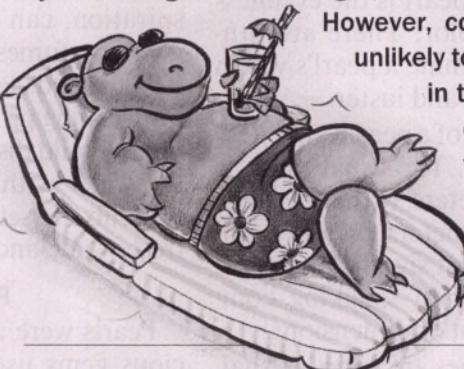
"Watching television soap operas encourages a range of antisocial behaviour in children, including backbiting, gossiping, spreading rumours, splitting up other people's relationships and verbal bullying," according to a study described in London's newspaper *The Times*. The study, presented to the British Psychological Society, has found "a significant link" between viewing such indirect aggression on TV and adolescents' antisocial behavior, says the paper. The worst soaps averaged 14 incidents of backbiting an hour. Lecturer Sarah Coyne of the University of Central Lancashire, England, worries that the "constant and relentless" portrayal of indirect aggression as justified, attractive, or rewarded with a positive outcome gives young people bad role models.

## Low-Carb Diet's Long-Term Effects

Although dieters may lose weight on low-carbohydrate diets, there is little data available on the long-term effects of such diets. Some researchers worry that a protein-heavy diet might lead to liver and kidney troubles, osteoporosis, and other serious health problems. "Much of the yummy

## Hippo Sunscreen

"Hippos protect their hairless skin from the sun by sweating a sunscreen similar to commercial products used by humans," reports *The Independent* of London. Upon testing the liquid secreted by an animal in a Tokyo zoo, scientists in Kyoto, Japan, learned how it protects the hippo's skin against the ravages of tropical sunshine and dirt. The viscous, colorless secretion gradually turns red, then brown and plasticlike. As it turns brown, it changes from alkaline to very acidic, thus acting as a strong antiseptic. The brown coating also serves as a sunscreen by absorbing ultraviolet light, as commercial sunscreens do.



However, cosmetics companies are unlikely to market hippo sunscreen in the near future, the paper concluded, first because there are too few hippos in the world, and second because the secretion has such an offensive odor.

stuff in low-carb diets—think filet mignon with béarnaise sauce—comes loaded with artery-clogging saturated fats. . . , a major risk factor for heart disease and stroke," notes *Time* magazine. In contrast, Dr. David Katz of the Yale University School of Public Health points out: "Diets rich in fiber and complex carbohydrates, found in fruits, vegetables, beans and whole grains, have been shown in a wide array of studies to be associated with longevity, lasting weight control, reduced risk of cancer, reduced risk of cardiovascu-

lar disease, reduced risk of diabetes, reduced risk of gastrointestinal disorders and overall health promotion."

## Painted Sculptures

"Archaeologists and art historians are reluctant to abandon their white-marble view of noble antiquities," such as ancient Greek statues, states the German magazine *Spektrum der Wissenschaft*. "The truth is—they were brightly colored." Despite historical references to painted statues and the discovery of traces of color on sculptures, the subject has not enjoyed great attention

from scholars. Recently, though, indirect proof that statues were painted has come through study of what is known as color-weathering relief. Paint pigments break down at different rates, exposing some areas of a statue's surface to the elements before other areas. The difference in exposure produces a varied pattern of weathering, indicating that the statue had been painted in various colors. It seems that the art of sculpture "attained completion in the minds of Greeks and Romans only when color was added," concludes the report.

### Quick-Tongued Chameleons

How does a chameleon propel its tongue at such high speed to catch its prey? "The secret is a spring-loading mechanism that stores up energy like the elastic of a catapult prior to release," reports *New Scientist* magazine. Scientists knew that a chameleon's tongue contains sheaths surrounded by an "accelerator muscle." Now, with the aid of slow-motion video footage, Dutch researchers have discovered that a mere 200 milliseconds before its tongue strikes, "a chameleon uses the accelerator muscle to spring-load en-

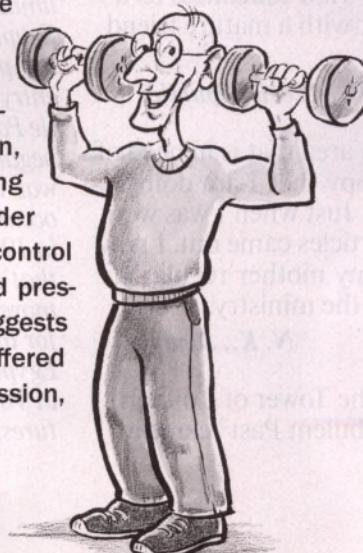
ergy into the intralingual sheathes, packing them into one another like sections of a telescope. When the chameleon strikes, the pent-up energy can be released in just 20 milliseconds, accelerating the tongue pad forward" to snare its lunch.

### Unbelieving Britons

In a poll of 10,000 people in ten countries, Britain was found to be "among the most godless . . . , with the lowest levels of religious belief and activities," claims *The Times* of London. While 46 percent of Britons said that they had always believed in God, only two countries, Russia and the Republic of South Korea, claimed fewer believers. More than 90 percent of people in Nigeria, Indonesia, and Lebanon believed that their god was the one true God, but only 3 out of 10 in Britain felt the same way. In most countries more than 80 percent said that belief in God makes one a better person, but only 56 percent of Britons agreed. Whereas 85 percent in the United States, 99 percent in Indonesia, and 83 percent in Mexico believed God created the universe, only 52 percent in Britain did. Asked whether the world would be more peaceful without religion, 6 percent in the United States, 9 percent in India, and 11 percent in Israel said yes, but in Britain the figure was 29 percent!

### Weight Lifting Beats Pensioner Blues

One study shows that "weightlifting can cut depression by 50 per cent for older people," reports the *Australian* newspaper. Thus, weight lifting may be on a par with drug therapy in combating depression in seniors, according to geriatrician Dr. Nalin Singh of Sydney's Royal Prince Alfred Hospital. In the study, which involved 60 men and women averaging 72 years of age, even those who did low-intensity exercises experienced "a 30 per cent drop in depression, the same as those who did not lift weights but received standard medical care," says *The Australian*. Besides fighting depression, weight lifting strengthens "ageing bones and muscles, helping older people avoid falls. It also helps control arthritis, diabetes and high blood pressure," says the paper. Singh suggests that weight lifting "should be offered as a primary treatment for depression, especially for older people."



# From Our Readers

**Loneliness** I felt compelled to write you after reading the series “Alone but Not Lonely.” (June 8, 2004) When I first saw this series, it did not strike me as interesting. But as I started reading, I realized that I tend to shut people out emotionally. The suggestions given were just what I needed.

*A. V., United States*



I suffer from seizures and depression, and I spend most of my time asleep from medications. So, oftentimes, I feel alone and lonely. These articles helped me to understand that even when we feel lonely, we are not alone!

*J. C., United States*

I am 14 years old, and I went through a period when I wanted to fit in with my classmates. I thought they were my friends. However, when they saw that as a Christian, I was different, I learned that they would desert me if I did not change and become like them. I now realize that true friends—old and young—can be found in the Christian congregation.

*N. C., Spain*

This series enabled me to see why I reacted so negatively when my husband traveled on business and I was left alone. Your counsel to view loneliness as a common experience and to talk with a mature friend has helped me very much.

*J. H., Czech Republic*

I am moving away soon to an area that is in need of evangelizers. My mother is happy that I am doing so, but at times she feels lonely. Just when I was wondering what I could do, these articles came out. I now plan on communicating with my mother regularly, sharing the joys I experience in the ministry.

*N. K., Japan*

**London Tower** The article “The Tower of London—Historic Monument to a Turbulent Past” came at

just the right time. (June 8, 2004) My teacher and some schoolmates had just returned from a trip to London. Thanks to this article, I was able to imagine what a trip to London would be like—at no personal expense!

*P. L., Germany*

**Anxiety** Recently, as a result of anxieties, I became very tired. Thinking my condition was due to a lack of faith made things worse. I was very grateful when I saw the article “The Bible’s Viewpoint: Does Anxiety Indicate a Lack of Faith?” (June 8, 2004) Jehovah always gives me encouragement when I am worried.

*Y. I., Japan*

**Demographics** In the article “Demographics, the Bible, and the Future,” you say that Israel left Egypt after 215 years. (May 8, 2004) But Exodus 12:40, 41 says it was 430 years.

*R. C., United States*

*“Awake!” responds: Exodus 12:40* says: “*The dwelling of the sons of Israel, who had dwelt in Egypt, was four hundred and thirty years.*” Note that “*the dwelling of the sons of Israel*” is not limited to the time the Jews spent in Egypt; instead, it evidently covers the entire period that began with Abraham’s entry into the land of Canaan. The apostle Paul showed that this 430-year period began when the Abrahamic covenant was validated. (Galatians 3:16, 17) That occurred when Abraham entered Canaan in 1943 B.C.E. Bible chronology indicates that it was 215 years before the Jews moved to Egypt. That leaves 215 years for the Jews to have actually “dwelt in Egypt.”—See the article “Chronology,” in Volume 1 of “Insight on the Scriptures,” published by Jehovah’s Witnesses.

# Vulnerable Viewers

BY AWAKE! WRITER IN FINLAND

FOR many children, films, television, videos, DVDs, electronic games, and the Internet are a normal part of life. A recent report published by the Finnish Board of Film Classification says that "according to some estimates, the time spent by children and young ones using or watching the media is up to between 20 and 30 times greater than the time spent associating with their family."\* Sadly, this exposes children to much harmful material.

In some lands the authorities try to protect children by establishing age limits and ratings. According to the report, however, children and their parents do not always under-

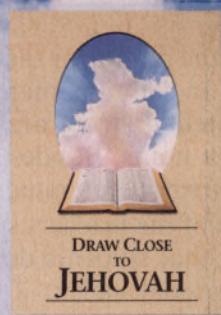
\* The report "The Age Limits of Visual Programs and Child Protection" was based on a study that included some 340 elementary school students as well as their parents and teachers.

stand the ratings, or they tend to belittle their value. In addition, many movie theaters and video-rental stores are known to disregard the age limits. Besides, some programs and films are not even rated.

One of the teachers surveyed observed: "It seems that students do not always consider the material violent if there is no blood in it." Many video and computer games—and even cartoons designed especially for children—contain potentially harmful material.

The report states that each household carries "the main responsibility for the films and television programs children watch." It concludes with a challenging question: "Do we as adults have the will, strength, and means to protect children from the harmful effects of the media?"





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## **Draw Close to the Creator**

After reading the book *Draw Close to Jehovah*, one reader from California, U.S.A., wrote: "I would like to tell you how reading and meditating on this book has enriched my life and my relationship with our heavenly Father. I feel that Jehovah is my friend now. This is the first publication that has made me laugh, cry, sit in awe of what I just read, and pray to Jehovah immediately. I love Jehovah more than I think my heart can contain, and I know that this book is one of the reasons for such feelings."

