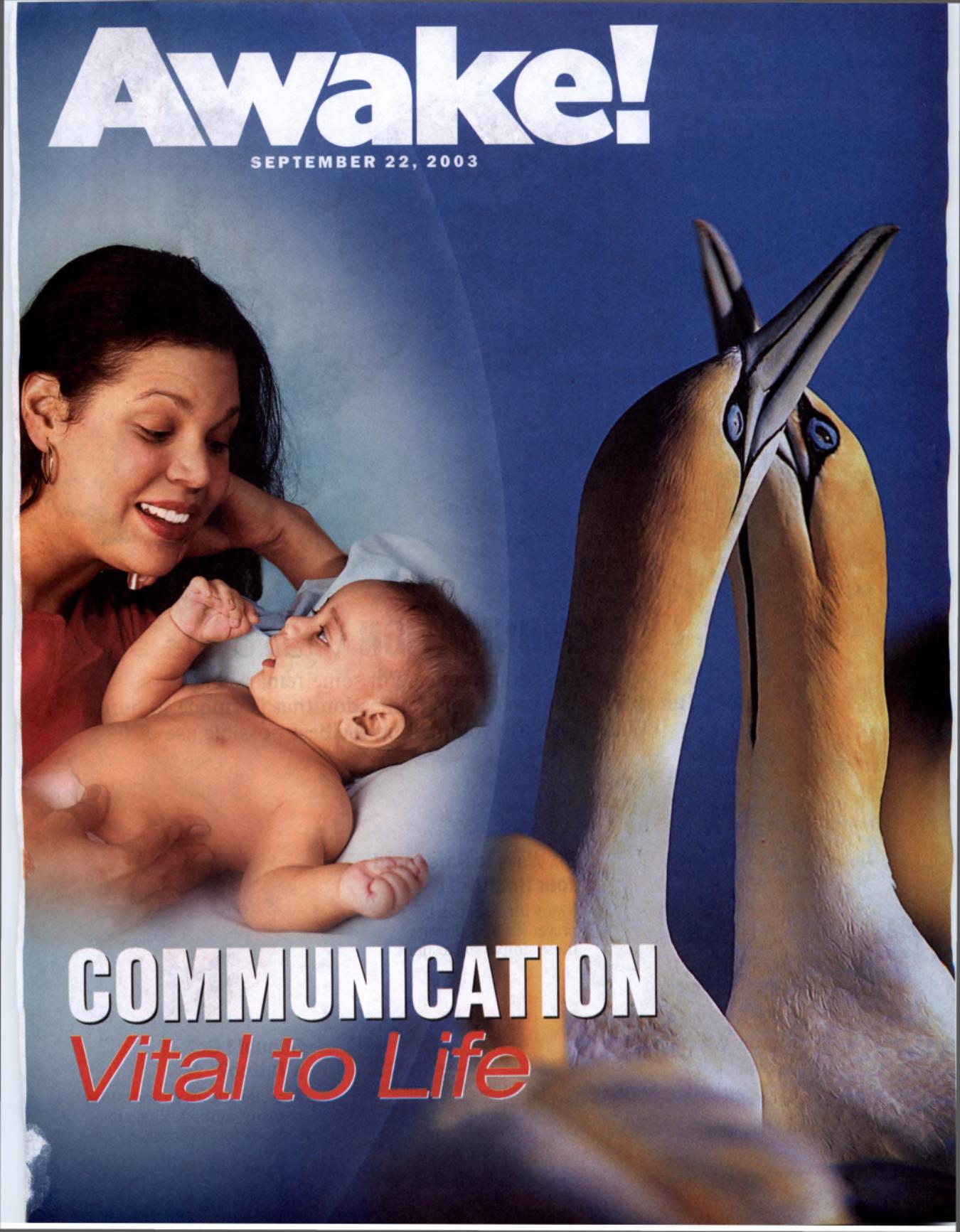


Awake!

SEPTEMBER 22, 2003

A composite image for the magazine cover. On the left, a woman with dark hair and a hoop earring is smiling and holding a newborn baby. The baby is looking towards the right. On the right side of the image, two large seabirds, possibly boobies, are shown in profile, facing each other. They have long, hooked beaks and bright blue eyes. The background is a soft, out-of-focus blue.

COMMUNICATION
Vital to Life



COMMUNICATION *Vital to Life* 3-10

Animals communicate in some remarkable ways. But there is a form of communication that is unique to humans. What is it? Are you making the best possible use of it?

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Many illnesses can be prevented by following these simple suggestions.



Should I Get a Tattoo? 25

Why are tattoos so appealing to many youths? What are some factors to consider?

COMMUNICATION

Vital to Earth's Web of Life

WHEN Julie was a baby, her parents eagerly awaited the moment when she would utter her first words. "To hear 'Mama' and 'Dada' come from a baby's lips is a thrill that no parent can fully describe," said Julie's mother. "When Julie first called me 'Mama,' it was as if she were putting her little arms around me and saying: 'You are my mom. I love you, and I want to talk to you.' I will always remember that special moment." Yes, the ability to communicate is truly a precious gift!

Of course, humans are not the only creatures with the ability to communicate. Although governed more by instinct, animals also have some remarkable forms of communication. For example, courting emperor penguins in icy Antarctica go through their annual prewinter ritual of hooting at each other—but not for fun. The life of each couple's future chick is involved.

How so?

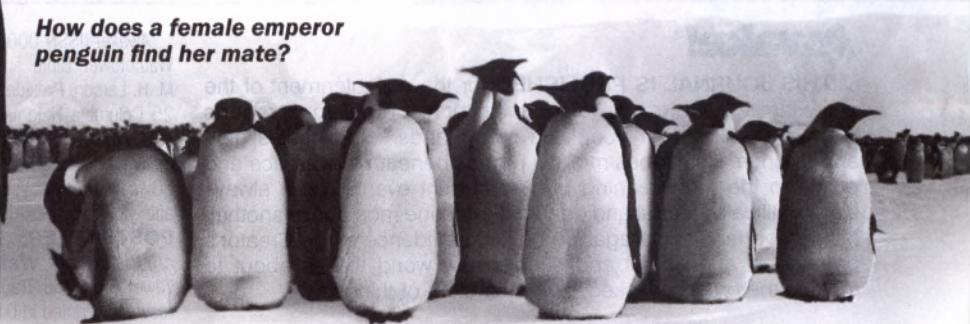
After laying her egg, the female releases it to her mate to incubate in his brood pouch while she goes to sea to feed. About 65 days later, she returns, having wad-

dled and slid on her belly across the ice for up to 100 miles. Finding the colony is a miracle in itself, but how does she find her mate and their newly hatched chick among tens of thousands of hooting emperors? During their courtship each bird memorizes the other's songs so well that even after months of separation, they manage to find each other!

In addition to a phenomenal variety of sounds, animal communication includes gestures, attention-grabbing colors, flashing lights, and complex scents. And incredible though it may seem, even plants can communicate with one another and with certain animals, as we shall see. Yes, communication truly is vital to earth's highly interdependent and intricate web of life.

Do you want to learn more about some of the amazing forms of communication in the world around us? And would you like to enhance your appreciation for your own communication skills and even improve these? The following articles may help you.

How does a female emperor penguin find her mate?



COMMUNICATION

in the World Around Us

"Without communication, each individual would merely be an island isolated from all other such islands." —*The Language of Animals*.

IN A patch of forest, a savanna, or even in your own garden, any number of animals might be busily communicating with one another. The book *The Language of Animals* says: "Animals use every sense, gesturing with appendages and body position; sending and receiving subtle—or not so subtle in the case of frightened skunks—odor signals; squeaking, squawking, singing and chirping; sending and receiving electrical signals; flashing lights; changing skin pigmentation; 'dancing'; and even tapping and vibrating the surface they walk on." But what do all these signals mean?

Scientists discover the meaning of animal signals through careful observation. For example, they have observed that when a bantam (small domestic fowl) sees a ground predator such as a weasel, the bantam makes a high-pitched *kuk, kuk, kuk* sound to warn other bantams. But if it spots a hawk,

a bantam emits a single long shriek. Each call elicits a prompt response that accords with the threat, indicating that the birds communicate meaningful information. Other birds have been observed making similar discriminating calls.

"One of the main ways to study communication in animals," says the book *Songs, Roars, and Rituals*, "is to record the signal of interest and then play it back to the animals and see whether they respond in a predictable way." Tests with bantams gave the same results as were observed in the wild. The method works even with spiders. In order to determine what attracts female wolf spiders to courting males—which try to impress females by waving their hairy forelegs at them—researchers experimented by videotaping a male wolf spider and digitally removing the tufts of hair from its legs. When they played the video back to the female, she suddenly lost interest. The lesson? Female wolf spiders are evidently attracted only to males waving hairy legs!

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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Signaling With Scent

Many animals signal one another by secreting powerful chemicals called pheromones, usually from special glands, or by means of their urine or feces. Just as a fence and a nameplate or number identify the property of a human, pheromones flag and define the territory of certain animals, including dogs and cats. Although invisible, this most effective form of marking enables animals of the same species to keep an optimal distance from one another.



Semimonthly Languages: Afrikaans, Albanian, Arabic, Cebuano, Croatian, Czech,² Danish,² Dutch, English,² Estonian, Finnish,² French,² German,² Greek, Hungarian, Iloko, Indonesian, Italian,² Japanese,² Korean,² Latvian, Lithuanian, Norwegian, Polish, Portuguese,² Romanian, Russian, Serbian, Slovak, Slovenian, Spanish,² Swahili, Swedish,² Tagalog, Ukrainian

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Silkworm moths have extremely sensitive antennae

Courtesy Phil Pellitteri

But pheromones do more than mark territory. They are like a chemical bulletin board that other animals "read" with great interest. Scent marks, says the book *How Animals Communicate*, "probably include additional information about the resident, such as its age, sex, physical strength and other abilities, [and] the current phase of the owner's reproductive cycle . . . The scent of the animal's mark acts as his passport for individual identification." Understandably, some animals take their scent marks very seriously—a fact well-known to zookeepers. After washing down cages or runs, keepers have observed that many animals immediately remark their area. Indeed, "the absence of its own scent is stressful and may evoke abnormal behaviour and even sterility," says the above reference.

Pheromones also play a big role in the insect realm. Alarm pheromones, for example, mediate swarming and attack behavior. Aggregation pheromones attract individuals to a food source or to a suitable nesting site. They include the sex pheromones, to which some creatures are acutely sensitive. Male silkworm moths have two elaborate antennae that look like tiny, delicate fern fronds. These antennae are so sensitive that they can detect a single molecule of female sex pheromone!

Some 200 molecules will cause



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the male to begin searching for the female. Chemical communication, though, is not confined to animate life.

"Talking" Plants

Did you know that plants can communicate with one another and even with certain animals? *Discover* magazine reports that researchers in the Netherlands observed that lima bean plants, when attacked by spider mites, release a chemical distress call that attracts other mites that prey on the spider mite. Similarly, corn, tobacco, and cotton plants, when invaded by caterpillars, emit airborne chemicals that draw wasps—a lethal enemy of caterpillars. Said one researcher: "Plants are not just saying, 'Yes, I am damaged,' they are also saying specifically who is damaging them. It is such an intricate and fabulous system."

Plant-to-plant communication is equally amazing. According to *Discover*, researchers have "caught willow, poplar, alder, and birch trees listening to their own kind and barley seedlings listening to other barley seedlings. In each case, damaged plants, whether eaten by caterpillars, infected by fungus or powdery mildew, [or] infested by spider mites, . . . sent out chemicals that seemed to jump-start the defenses of undamaged plants nearby." Even unrelated plants have responded to chemical alarms.

When under attack or warned of one, a plant engages its own defenses. These include toxins that kill insects or compounds that impede or even stop the invader's ability to digest the plant. Future research into this fascinating field may lead to more amazing discoveries, some of which may even benefit agriculture.

THE FIREFLY'S COLD LIGHT

An incandescent light bulb loses over 90 percent of its energy as heat. A firefly's light, which is based on complex chemical reactions, is 90 to 98 percent efficient, wasting next to nothing on heat. Hence, it is rightly called cold light. The light-forming chemical reactions occur in special cells called photocytes. Nerves turn the photocytes on and off.

'Morse Code' With Lights

"Their little airborne lamps, winking on before the stars, endowed my ordinary suburban neighborhood with a wonderful kind of magic," wrote ecologist Susan Tweit in an article about fireflies. These insects of the beetle family use a light-based vocabulary that "ranges from a simple warning glow to a complicated call-and-response flashing between potential mates," says Tweit. The color of their light ranges from green to yellow to orange. Because females rarely fly, most of the flashing we see is that of males.—See the box "The Firefly's Cold Light."

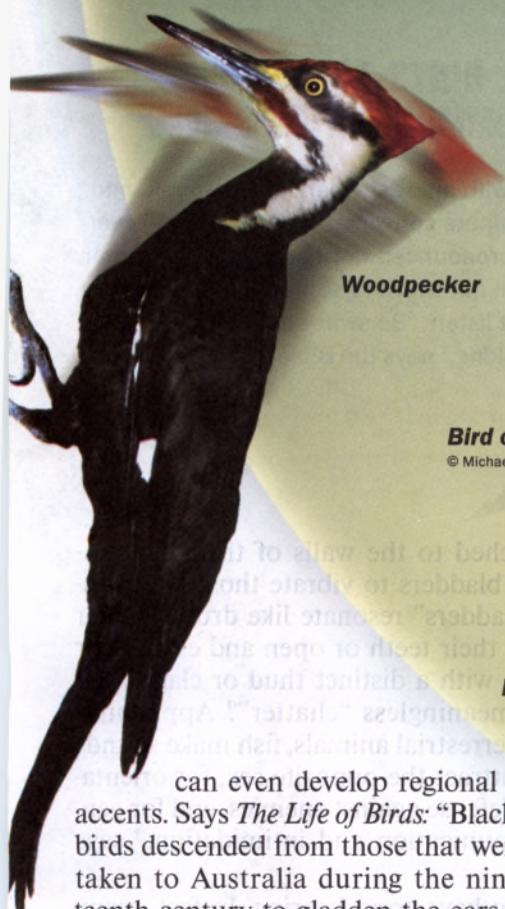
Each of the 1,900 species of fireflies, also called lightning bugs, has a unique pattern of flashes. It might consist of three flashes, one second or so apart, or of a series of pulses of different lengths and intervals. When searching for a mate, a male flies about flashing his courting code. "A female cues in on the timing of the flashes," says *Audubon* magazine, and "responds with a 'Here I am' flash at the interval appropriate to her species." The male recognizes her silent invitation and flies to her.

Feathered Masters of Song

"In duration, variety and complexity, no other vocalisations produced by any other animal can match the song of a bird," says David Attenborough in his book *The Life of Birds*. Birdsongs originate not in the throat but in an organ called the syrinx, deep within a bird's chest near where the windpipe divides prior to entering the lungs.

The songs of birds are partly inherited and partly learned from parents. Hence, birds





Woodpecker



Bird of paradise

© Michael S. Yamashita/CORBIS



Palm cockatoo

Roland Seitre

can even develop regional accents. Says *The Life of Birds*: "Black-birds descended from those that were taken to Australia during the nineteenth century to gladden the ears of European settlers with sounds of home, now have very distinct Australian accents." Male lyrebird vocalizations, which are said to be the most complex and melodious of all birdsongs, are almost entirely learned from other birds. In fact, lyrebirds are such gifted imitators that they can copy almost any sound they hear—including musical instruments, barking dogs, burglar alarms, the blows of an ax, and even camera motor drives! All this mimicry, of course, is mainly with a view to impressing a potential mate.

Woodpeckers, which normally use their beak to dig for food, are the percussionists of the avian world, signaling other birds by pounding their beak on a resonant hollow log or branch. Some may even "exploit exciting new instruments . . . , a corru-

gated iron roof or a metal stove-pipe," says Attenborough. Birds also communicate visually, with or without musical accompaniment. For example, they might signal one another by flashing their beautifully colored feathers.

When advertising his territory, the male Australian palm cockatoo does it all—percussion, vocalization, rhythmic movements, and a feather show. He snaps off a suitable branch, grabs it with his foot, and taps it on a dead trunk. At the same time, he spreads his wings, fans out his crest, sways



HELPFUL HINTS TO IMPROVE YOUR COMMUNICATION SKILLS

1. Listen with interest when others speak, and do not dominate conversations. People will overlook a mispronounced word or a slip in grammar, but they will not warm to someone who wants to talk but not listen. "Be swift about hearing, slow about speaking," says the Bible.—James 1:19.

his head to and fro, and emits high-pitched shrieks—truly a spectacular performance!

Some birdcalls are recognized by other animals. Consider the honey guide, a small, thrushlike bird found mostly in Africa. True to its name, the honey guide, with its distinctive cry, will lead a ratel, a badgerlike member of the weasel family, to a tree containing a beehive. When the bird alights on or near the tree, it emits a different call that says, in effect, "Honey is near!" The ratel locates the tree, claws open the trunk, and indulges his sweet tooth.

Talking Underwater

Since the advent of hydrophones, underwater listening devices, researchers have been amazed at the many sounds emanating from the deep. Ranging from a low hum to a mew and even shrieks, these sounds are so abundant that submariners have exploited them to camouflage their own operational noises. But fish sounds are not without a pattern. In his book *Secret Languages of the Sea*, marine biologist Robert Burgess says: "Where one fish might 'grunt, cluck, and bark,' then repeat the performance precisely, another might 'click and snap,' then do a 'scrape and rasp' for an encore."

Lacking vocal cords, how do fish make sounds? Some, says Burgess, employ mus-

cles "attached to the walls of their balloon-like swim bladders to vibrate those walls until their bladders" resonate like drums. Other fish gnash their teeth or open and close their gill covers with a distinct thud or clap. Is all this just meaningless "chatter"? Apparently not. Like terrestrial animals, fish make sounds so as to "attract the opposite sex, for orientation, as a defense against enemies, and for general communication and intimidation," says Burgess.

Fish also have good hearing. In fact, many species have inner ears as well as a line of pressure-sensitive cells that run along the mid-line of their flanks. This row of cells, called the lateral line, can detect the pressure waves created by sound as it travels through water.

Earth's Preeminent Communicators

"When we study human language," wrote professor of linguistics Noam Chomsky, "we are approaching what some might call the 'human essence,' the distinctive qualities of mind that are, so far as we know, unique to man." Barbara Lust, professor of linguistics and human development, stated: "Children as young as 3 years of age already possess a remarkable knowledge of language structure and syntax which is so complex and precise that it must challenge any known learning theory to account for its acquisition."

2. Take an interest in life and the things around you. Read widely but judiciously. When discussing what you learn, temper your conversation with modesty and humility.—Psalm 5:5; Proverbs 11:2.

3. Enlarge your vocabulary—but with practical words, not showy terms that draw attention to the speaker. People said of Jesus: “Never has another man spoken like this.” (John 7:46) Yet, even “unlettered and ordinary” people had no difficulty understanding Jesus’ words.—Acts 4:13.

The Bible, however, does furnish a reasonable explanation for the miracle of human language. It attributes this gift to the Creator, Jehovah God, who made mankind in his “image.” (Genesis 1:27) But how are divine traits reflected in our language skills?

Take naming, for instance. Professor of speech communication Frank Dance wrote that humans “are the only creatures who can name.” That this is a divine trait is evident in Scripture. At the very start of the creation account, the Bible tells us that God called “the light Day, but the darkness he called Night.” (Genesis 1:5) According to Isaiah 40:26, God evidently gave each star its own name—a staggering achievement!

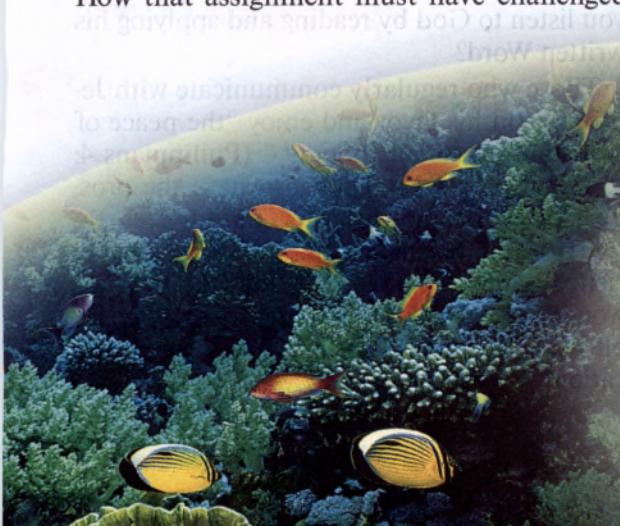
After God created Adam, one of the first projects he gave him was to name the animals. How that assignment must have challenged

4. Speak clearly, and pronounce words correctly. But avoid sounding overly precise or affected. When we speak articulately and refrain from slurring words or clipping off word endings, we dignify our speech and do a kindness to our listeners.—1 Corinthians 14:7-9.

5. Recognize that your communication skills are a divine gift. This will motivate you to accord those skills due respect.—James 1:17.

Adam’s powers of observation and creativity! Later, Adam named his wife Eve. She, in turn, called their first child Cain. (Genesis 2:19, 20; 3:20; 4:1, footnote) Since then, humans have spared no effort in naming every conceivable thing—and all in the interests of communication. Yes, think how difficult intelligent communication would be without names.

Besides having the ability and desire to name things, humans have many other communication skills, not all of which are verbal. Indeed, there is virtually no limit to what we can share with one another, from complex concepts to the most tender feelings. Yet, there is one particular form of communication that towers above all of these, as we will now see.



COMMUNICATION

That Leads to Life

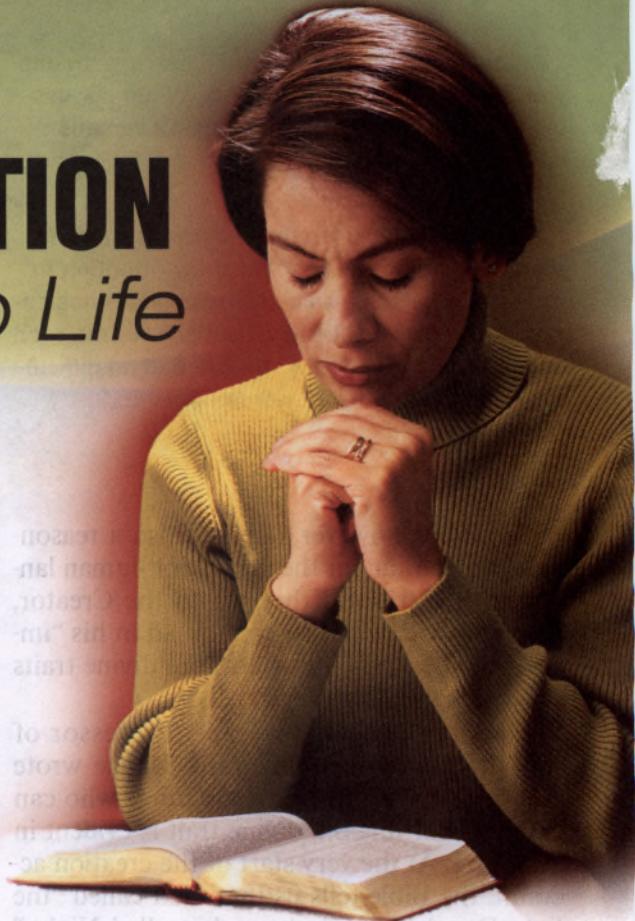
OF ALL earth's creatures, humans are the only ones not content simply to communicate with one another. Regardless of nationality, social status, gender, or educational level, humans have demonstrated an innate desire to communicate with the highest being, namely, God.

Is that just a foolish superstition? By no means! As mentioned in the preceding article, God created humans in his image. He placed within us a spiritual capacity. This includes the desire to communicate with him as our heavenly Father. (Genesis 1:27; Matthew 5:3) In fact, God views communication with him as so important that he is referred to as the "Hearer of prayer."—Psalm 65:2.

What an honor it is to pray to the Almighty! Most people would consider it a privilege to speak privately with an important dignitary, such as a president or a prime minister. Yet, Jehovah God is the highest personage in the universe! And we do not have to make an appointment to speak to him. We can pray anytime, anywhere. We can even address God silently from the heart. (1 Samuel 1:12-15) However, Jehovah does require that we be sincere and that we listen obediently to him. (Micah 6:8; Matthew 6:5-13) After all, good communication is a two-way process, is it not?

Do You Listen to God?

How does one listen to God? Primarily by reading and applying the teachings found in his written Word, the Holy Bible. (2 Timo-



Communication with God involves reading the Bible and praying

thy 3:16; 2 Peter 1:20, 21) "Man must live . . . on every utterance coming forth through Jehovah's mouth," said Jesus. (Matthew 4:4) Do you listen to God by reading and applying his written Word?

Those who regularly communicate with Jehovah gain his favor and enjoy "the peace of God that excels all thought." (Philippians 4:6, 7; Proverbs 1:33) They also have the prospect of everlasting life on a paradise earth, free from all the anxiety and suffering we experience today. (Psalm 37:29; John 17:3) What wonderful rewards for making the best possible use of the miracle of intelligent communication!

6 Ways to Safeguard Your Health

A Challenge in Developing Lands

MANY people today must struggle to keep clean, especially in lands where safe water and adequate sanitation are scarce. Yet, keeping clean is worth the effort. It is estimated that more than half of all illnesses and deaths among young children are caused by germs that enter their mouths through dirty hands or contaminated food or water. Many illnesses, especially diarrhea, can be prevented by applying the following suggestions that are set out in *Facts for Life*, a publication of the United Nations Children's Fund.

1 Safely dispose of excrement

Many germs are found in excrement. When disease-causing germs get into water and food or onto hands, utensils, or surfaces used for preparing and serving food, they may be passed into the mouth and swallowed, resulting in illness. The best way to prevent the spread of such germs is to get rid of all excrement. Human excrement should go into a toilet or latrine. Make sure there is no animal excrement near homes, pathways, or places where children play.

Where toilets or latrines are not available, bury excrement immediately



Wash your hands regularly

Where toilets or latrines are not available, bury excrement immediately. Remember that all excrement carries germs that can cause disease, even the excrement of infants. Children's excrement should also be put down a latrine or buried.

Clean latrines and toilets frequently. Keep latrines covered and toilets flushed.

2 Wash your hands

You should wash your hands regularly. Washing them with soap and water or ash and water removes germs. Rinsing the hands with water is not enough—both hands need to be rubbed with soap or ash.

It is essential to wash your hands after defecating and after cleaning the bottom of a baby



Families have fewer illnesses when they use clean water and keep it free of germs

or a child who has just defecated. Also, wash your hands after handling animals, before handling food, and before feeding children.

Hand washing helps to protect people from worms that cause illness. These worms are too small to see without a microscope. They live in excrement and urine, in surface water and soil, and in raw or poorly cooked meat. A principal way to prevent worms from getting into the body is to wash your hands. Further, by wearing shoes when you are near latrines, you can prevent worms that may be there from entering your body through the skin of your feet.

Children often put their hands into their mouth, so wash their hands often, especially after they have defecated and before they eat. Teach them to wash their own hands and not to play near the latrine, toilet, or defecation areas.

Wash your face with soap and water every day

3 Wash your face every day

To help prevent eye infections, wash your face with soap and water every day. Children's faces should also be washed. A dirty face attracts flies, which carry germs. These germs can cause eye infections and even blindness.

Check your children's eyes regularly. Healthy eyes are moist and shiny. If the eyes are dry, red, or sore or if they have a discharge, the child should be examined by a health care worker or a doctor.

4 Use only clean water

Families have fewer illnesses when they use clean water and keep it free of germs. Your water is probably clean if it comes from a properly constructed and maintained pipe system or from unpolluted wells and springs. Water from ponds, rivers, and open tanks or wells is far less likely to be clean, but it can be made safer by boiling.

Wells should be covered. Buckets, ropes, and jars that are used to collect and store water should be washed regularly and stored in a clean place, not on the ground. Animals should be kept away from drinking-water





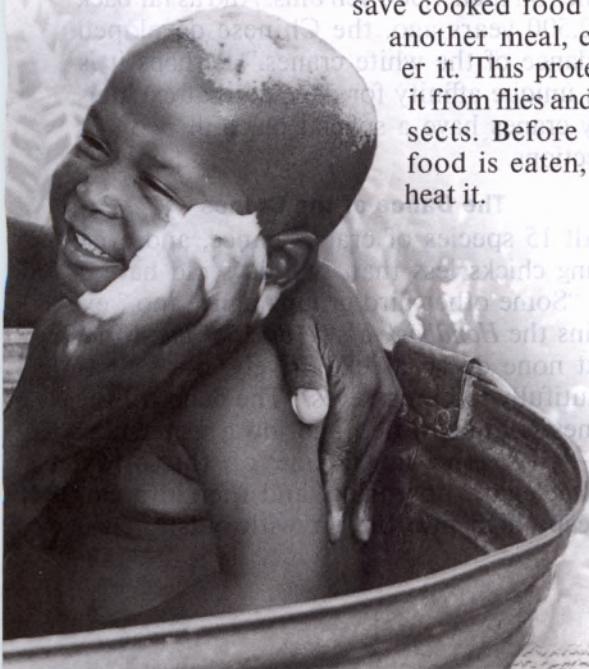
**If you need to save
cooked food for
another meal,
cover it**

sources and from family living areas. Do not use pesticides or chemicals near a water source.

In the home, water should be kept in a clean, covered container. It is best to have a water container with a tap. If there is no tap, water should be taken out of the container with a clean ladle or cup. Drinking water should never be touched with unclean hands.

5 Protect food from germs

By thoroughly cooking food, you can kill germs. Food, especially meat and poultry, should be properly cooked. Germs multiply quickly in warm food. Therefore, food should be eaten as soon as possible after it is cooked. If you need to keep food for longer than two hours, make sure it is kept in a place that is either hot or cold. Also, if you need to save cooked food for another meal, cover it. This protects it from flies and insects. Before the food is eaten, reheat it.



Breast milk is the best and safest milk for infants and young children. Animal milk that is freshly boiled or pasteurized is safer than unboiled milk. Avoid the use of feeding bottles, unless you clean them with boiling water before each use. Feeding bottles often carry germs that cause diarrhea. It is better to breast-feed children or feed them from a clean, open cup.

Wash fruit and vegetables with clean water. This is particularly important if they are given raw to babies and young children.

6 Dispose of all household refuse

Flies, cockroaches, rats, and mice all carry germs. These creatures thrive on garbage. If there is no garbage collection where you live, put your household refuse in a garbage pit where it can be buried or burned each day. Keep your home clean and free of garbage and wastewater.

If you regularly apply these suggestions, you will soon find that they are part of your daily routine. They are not difficult and do not require much money to implement, but they will safeguard the health of you and your family.

**Household refuse should be
buried or burned each day**



Dancing With the Cranes

BY AWAKE! WRITER IN SPAIN

IN THE South Korean city of Pusan, you can see an extraordinary folk dance. Men dressed in white robes and wearing tall black hats wave their arms, whirl and bow, and even stand on one leg.

Their peculiar, impromptu movements have a simple explanation. The men are imitating the red-crowned cranes that for centuries have wintered in South Korea. The unique dance of these cranes so impressed the local people that they created their own dance, based on the postures of the birds.

A thousand miles away, in Hokkaido, Japan, nature lovers flock to the Kushiro Shitsugen National Park to see the real thing. Thanks to an artificial feeding program during the harsh winter months, a Japanese colony of red-crowned cranes now numbers several hundred. A group of these elegant white-and-black birds performing their spirited dances in the snow is most beautiful to behold. *National Geographic* writer Jennifer Ackerman uses the Japanese word *aware* to describe her

enthrallement. It expresses "the feelings that arise from the poignant beauty of an ephemeral thing," she explains.

Cranes, which can be found on all continents except South America and Antarctica, have long held a fascination for people. These birds appear in cave paintings in Africa, Australia, and Europe. In the Far East, where cranes are symbols of longevity and happiness, they are a favorite theme of artists. Possibly because cranes may remain paired for life, they also represent marital happiness and frequently figure on bridal kimonos. The Koreans have classified the red-crowned crane as a "natural monument" in view of its rarity and beauty. The Japanese depict dancing cranes on their 1,000-yen bills. And as far back as 2,500 years ago, the Chinese developed a "dance of the white cranes." Perhaps it is this unique affinity for dancing that explains why cranes have a special place in people's affections.

The Dance of the Cranes

All 15 species of cranes dance, and even young chicks less than two days old have a try. "Some other bird groups dance too," explains the *Handbook of the Birds of the World*, "but none do so as extensively, nor . . . as beautifully to human eyes." The dance of the cranes is quite varied and always spectacular—given the large size of the birds, their elegant posturing, and their dramatic leaps high into the air with outstretched

In Our Next Issue

- Farming—Why in Crisis?
- Alternative Life-Styles
—Does God Approve?
- Mosaics—Paintings in Stone

Red-crowned cranes, Asia





**Detail from a
Korean porcelain**



**Black-and-white cranes
with ear tufts**

wings. The dance typically includes "long, intricate sequences of co-ordinated bows, leaps, runs and short flights," adds the *Handbook of the Birds of the World*.

And just like humans, once a few cranes start dancing, the whole group usually decides to take part. Observers in Africa have seen as many as 60 pairs of gray crowned cranes all dancing together in unison.

Why do cranes dance? Is it exercise, communication, courtship, alarm, or just a display of good spirits? The motivation may include any or all these reasons. Certainly, cranes like to dance in pairs, and dancing forms a part of their courtship ritual. But even immature cranes dance, and the youngsters are usually the most enthusiastic dancers. "Whatever its motivation, it is a delight to observe," concludes the *Handbook of the Birds of the World*.

The Flight of the Cranes

You often hear cranes long before you see them. A haunting trumpetlike call announces their presence, even though they may be miles away. This call apparently helps to keep the flock together during their long migration flights. Most species of cranes migrate from their northern breeding grounds. In the autumn they travel huge distances from Canada, Scandinavia, or Siberia to the warmer climes of China, India, the United States (Texas), or

the Mediterranean region. These journeys are hazardous and exhausting. Some Eurasian cranes have been spotted flying at an altitude of 30,000 feet as they cross the Himalayas en route to India. They fly in the typical V-formation and take advantage of thermals so that they can glide as far as possible. When crossing water, however, they must depend on wing power alone.*



Spanish ornithologist Juan Carlos Alonso has spent nearly 20 years tracking the migration patterns of the 70,000 Eurasian cranes that winter in Spain. "Some birds are ringed, and others are fitted with small radio transmitters so that we can track their migration flight," he explains. "It is a real thrill for me when in its Spanish wintering area, I discover a bird that I myself ringed when it was a fledgling in Northern Germany. The cranes' migration routes have been used for centuries. A crane ringed in Finland was found wintering as far south as Ethiopia, while some cranes from Siberia winter in Mexico."

* Thousands of Eurasian cranes migrate through Israel in spring and autumn, and some also winter there. In the late afternoon in the upper Jordan Valley, fortunate observers may see flocks of cranes flying against the backdrop of snow-covered Mount Hermon. This spectacle offers a fleeting moment of unforgettable beauty.

Fighting for Survival—With Human Help

Currently, 9 of the 15 species of cranes are threatened with extinction. The most critically endangered, the whooping crane of North America, was reduced to a mere 14 birds in 1938. Thanks to a captive-breeding program and the protection of key habitats, however, their numbers have slowly risen to over 300. Naturalists now rear chicks in captivity and then reintroduce them to protected areas in the wild. Recently, ultralight aircraft have been used successfully to teach a few young whooping cranes how to migrate. Russian scientists are making similar efforts to protect the endangered Siberian crane.

One of the most touching success stories comes from Japan. A small colony of red-crowned cranes in Hokkaido did not migrate,

since the birds were able to feed during the winter months along streams located near hot springs. In the harsh winter of 1952, however,

even these streams froze over, and the small flock of 30 birds seemed destined to disappear. But local schoolchildren scattered corn on the frozen streams, and the birds survived. Since then, the cranes have been fed regularly, and the small flock has increased to nearly 900 birds, about a third of the total worldwide population.

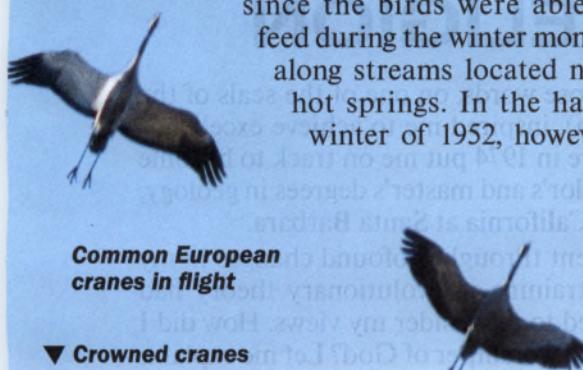
Facing an Uncertain Future

Like many other species, cranes have suffered from the draining of wetlands and the loss of grasslands. To survive, cranes have had to learn to live with people. They generally prefer to keep humans at a safe distance of several miles, but where they are not molested, they can become accustomed to human presence. In India, sarus cranes, the tallest of all flying birds, have adapted to breeding in village ponds. Other successful crane species have learned to glean on agricultural land while migrating or when they are in their winter quarters.

It is hoped that the concerted efforts of conservationists in many countries will ensure the survival of these graceful creatures. What a tragedy it would be if future generations could never thrill to the magnificent dance of the cranes or hear their clarion calls as they fly southward across the autumn sky!

Common European cranes in flight

▼ **Crowned cranes**



Map of Mars



As told by **KENNETH TANAKA**

Science WAS MY RELIGION

"THE truth shall make you free." Those words, on one of the seals of the California Institute of Technology (Caltech), inspired me to achieve excellence in scientific knowledge. My enrollment there in 1974 put me on track to become a research scientist. After completing bachelor's and master's degrees in geology, I furthered my studies at the University of California at Santa Barbara.

While progressing as a scientist, I also went through profound changes in my spiritual views and values. Although my training in evolutionary theory had crowded out belief in God, later I was forced to reconsider my views. How did I as a research geologist also become a devoted worshiper of God? Let me explain.

A Little Boy in Awe of the Cosmos

My fascination with science started at an early age. As a child growing up in Seattle, Washington, U.S.A., I was strongly encouraged by my parents to pursue academic excellence. I enjoyed reading about the universe—the building blocks of matter and life, the fundamental forces, space, time, relativity. When I was about eight years old, my fascination with science was noted, and the school I attended assigned me to weekly sessions with a personal science tutor.

I attended Sunday school at a Baptist church, but mostly to participate in hiking and camping trips. The rest of my family showed no interest in religion or God. As I became acquainted with history and the atrocities religion had committed, my conscience impelled me to withdraw from church activities. I also began to doubt God's



Top left: Courtesy USGS Astrogeology Research Program, <http://astrogeology.usgs.gov>

Mars map: National Geographic Society, MOLA Science Team, MSS, JPL, NASA; Mars surface: NASA/JPL/Caltech



existence, as science seemed to be able to explain just about everything.

A Change of Course—More to Come

I applied for college with the intention of studying physics, but in my final year of high school, I took a class in geology. This included field trips to notable rock outcrops of Washington State. I thought, 'How wonderful it would be to combine my love of the outdoors with my love of science!'

Thus, once I arrived at college, I quickly changed my major to geology. Some of the classes I enrolled in included studies of geologic time and earth history as discerned in the fossil record. Regarding the fossil record, I was taught that species evolved. My understanding was that evolution had yet to be proved. Still, I felt that as a theory, evolution seemed to be a reasonable explanation for the available geologic evidence, especially when contrasted with popular creationism. When I heard of a forthcoming debate on campus between creationists and evolutionists, I decided not to go. It was obvious that the earth was not made in less than a week—as some creationists claim!

In spite of my strong antireligious views, my trips to study the geology of the southwestern United States forced me to review my ideas on God's existence. There, at night, while viewing the magnificent celestial panorama through the clear desert skies, I could not help but conclude that God must have created the universe. Astronomers had confirmed that the universe had a beginning, but I could see that there would never be a purely scientific explanation for *why* this event had taken place. It seemed reasonable to believe that an intelligent, powerful Creator had designed and produced the cosmos around us.

Mapping Mars, Asking Questions

By the time I received my doctorate degree in the geological sciences in 1983, at the age of 27, I was mapping the geology of Mars for

the U.S. Geological Survey. I have since published dozens of articles and maps relating to planetary geology for both scientific and general audiences. Serving on advisory committees for the National Aeronautics and Space Administration, I worked to support spacecraft missions to Mars. Through my research and professional responsibilities, I have met respected planetary scientists from many countries, universities, and research institutions.

All that training and research experience gradually corrected my romantic childhood view of science. I came to realize that science

"Science seemed to be able to explain just about everything"

does not have and will never provide all the answers. In particular, I came to see that science does not provide enduring purpose or meaning to life. Current scientific views predict that the universe will either collapse on itself or dissipate into a structureless mass. If nonexistence were the ultimate destiny, how could there be any meaning in existence?

Charting a New Course

In September 1981, when I was living in Flagstaff, Arizona, I came in contact with Jehovah's Witnesses. I agreed to a Bible study with the objective of proving them and the Bible incorrect. Also, this would help me see at last what the Bible actually contains.

I began to spend several hours each week carefully examining Scriptural teachings. To my surprise, I found substantial knowledge and deep insight in the pages of the Bible. I was fascinated with researching the scientific accuracy of the Bible and the fulfillment of hundreds of detailed prophecies applying to events occurring over thousands of years of human history. I was especially impressed by how the integration of multiple Bible

prophecies—in the books of Daniel and Revelation—provides a solid basis for determining that we live in “the last days.”—2 Timothy 3:1.

In studying the Bible, I was unknowingly in excellent company. I later learned that Sir Isaac Newton, regarded as one of the greatest scientific geniuses of all time, admired and intensely researched the Bible. Like Newton, I focused on prophecies in Daniel and Revelation that foretold major historical events and



Like Newton, I was impressed with the Bible books of Daniel and Revelation

developments that have actually occurred.* However, I had the distinct advantage of living during and after the realization of the many prophecies that have been fulfilled since Newton's day. I discovered that these prophecies are amazingly diverse and extensive as well as unerring and undeniable. It was an eye-opener to realize that the entire Bible, penned by more than 40 men over a period of 1,600 years, contains an internally consistent, coherent, and compelling

* In his book *Observations Upon the Prophecies of Daniel, and the Apocalypse of St. John*, which was published in 1733, Sir Isaac Newton evaluated the prophecies in the Bible books of Daniel and Revelation.

**“Science does not have
and will never provide
all the answers”**

message concerning the major issues facing humankind and its future.

Letting go of my belief in evolution did not come without resistance, however. I respected the substantial weight of scientific authority backing up this theory. Nevertheless, I discovered that all Bible statements about the physical world are entirely consistent with known facts and cannot be disproved.

I came to appreciate that in order to achieve a complete, cohesive understanding of the Bible's extensive, interrelated contents, one cannot discount a single teaching, including the creation account in Genesis. I therefore discerned that acceptance of the entire Bible as truth was the only reasonable conclusion.

An Enduring Quest for Truth

Meanwhile, as I participated in formal scientific research, I came to see how many times theories had become widely accepted for a while, only to be proved incorrect later. Part of the challenge for scientists is that our subjects are complicated, while our data and research tools are limited. Thus, I have learned to be cautious about accepting as fact unproved theories, no matter how carefully they may be crafted.

Realistically, many fundamental aspects of our natural world cannot be explained by science. For instance, *why* are the available building blocks of life and the physical laws governing them perfectly suited to sustain complex life processes and ecosystems? While science is not equipped to reveal God, his inspired Word provides tangible evidence of his existence and activities as Creator. (2 Timothy 3:16) With this spiritual knowledge, we can appreciate the One responsible for the power, wisdom, and beauty evident in our physical world.

Further reinforcement of the scientific soundness of the Bible came through my scrupulous examination of various publications of Jehovah's Witnesses, including the books *Life—How Did It Get Here? By Evolution or by Creation?* and *Is There a Creator Who Cares About You?* These publications analyze profound scientific topics and provide keen insight into

"I found substantial knowledge and deep insight in the pages of the Bible"

current research and the conclusions of leading experts. Additionally, they discuss the consistency between known scientific facts and proper understanding of the Bible.

For example, the fossil record is shown to match the general sequence of the appearance of living forms described in the book of Genesis. Furthermore, a creative day as understood by the ancients can mean an epoch of extended duration, in much the same way as the terms "period" and "era" are used by science in describing earth history. Thus, the Bible is not at odds with scientific findings. It indicates that the creative days lasted aeons. It does not support the conclusion of creationists who believe that those days were each 24 hours in length.

Faith Versus Credulity

As a scientist, I have no taste for credulity. But I have deep respect for well-founded faith. Such reliable faith is defined at Hebrews 11:1: "Faith is the assured expectation of things hoped for, the evident demonstration of realities though not beheld." Trust in God's promises is founded on established proof that the Bible is inspired by God. I saw the need to avoid common but baseless religious doctrines that contradict the Scriptures. These include the teachings of an immortal soul, hellfire, the Trinity, and others. Many such erroneous doctrines arose from ancient philosophy and mythology or from poor Bible scholarship. Adherence to false teachings has led to the 'blind faith' practiced by most religionists today, which has caused many scientists to have little regard for religion.

One of my primary responsibilities as a scientist has been to define, defend, and disseminate my research findings. Similarly, I felt compelled to teach Bible truth to others, as no other knowledge could be of greater importance. I took on this rewarding activity and was baptized as one of Jehovah's Witnesses some 20 years ago. Then, in September 2000, I was

able to increase the time I spend on my preaching activity to an average of 70 hours per month. Since then, I have had the privilege of conducting Bible studies with as many as ten interested individuals each month and seeing several students become avid Bible teachers themselves.

I still enjoy investigating Mars and other parts of the universe through the "eyes" of sophisticated spacecraft



I share what I have learned from the Bible with others

sent to explore our celestial neighborhood. Many mysteries remain to challenge science. I look forward to a future in which the human quest for both spiritual and scientific knowledge will satisfy our inquisitiveness and yield answers to our deepest questions. I have come to appreciate that true meaning in life comes with accurate knowledge of God and his purpose for mankind, which is the real sense of Jesus' words emblazoned on one of the seals of Caltech: "The truth shall make you free."

—John 8:32, King James Version



The **Piñata** An Ancient Tradition

BY AWAKE! WRITER IN MEXICO

THE neighborhood children are having a fiesta. We can hear their excited voices crying out: "Dale! Dale! Dale!" (Hit it! Hit it! Hit it!) We peer over into the patio and observe a gaily decorated papier-mâché burro suspended between two trees. A blindfolded child is striking out at the burro with a stick, attempting to break it. The guests are shouting encouragement. At last, the burro bursts open, and candy, fruit, and toys spill out. Amid much laughter, all scramble to pick up the treats. It looks like fun. We are told that the burro is called a piñata and that breaking a piñata at fiestas is a tradition here in Mexico and some other Latin-American countries.

We wonder why the piñata is so popular. What is its origin? Does breaking the piñata have any special significance? We decided to investigate.

The Origin of the Piñata

A widespread opinion is that the Chinese may have been the first to use something like a piñata as part of their New Year's celebration, which also marked the beginning of spring. They made figures of cows, oxen, and buffalo, covering them with colored paper and filling them with five kinds of seeds. Colored sticks were used to break the fig-

ures open. The decorative paper that covered the figures was burned and the ashes gathered and kept for good luck during the coming year.

It is thought that in the 13th century, Venetian traveler Marco Polo took the "piñata" back with him from China to Italy. There, it acquired its present name from the Italian word *pignatta*, or fragile pot, and came to be filled with trinkets, jewelry, or candy instead of seeds. The tradition then spread to Spain. Breaking the piñata became a custom on the first Sunday of Lent.* It seems that at the beginning of the 16th century, Spanish missionaries brought the piñata to Mexico.

However, the missionaries may have been surprised (as we were) to find that the native people of Mexico already had a similar tradition. The Aztecs celebrated the birthday of Huitzilopochtli, their god of the sun and war, by placing a clay pot on a pole in his temple at the end of the year. The pot was adorned with colorful feathers and filled with tiny treasures. It was then broken with a stick, and the treasures that spilled out became an offering to the god's image. The Maya also

* In some religions, such as Catholicism, Lent is the 40-day period of penance that culminates in Holy Week celebrations at Easter time.

When considering whether to include a piñata at a social gathering, be sensitive to the consciences of others



The Piñata Today

Later, the piñata became part of the festivities of the *posadas** during the Christmas season and continues as such to this day. (A star-shaped piñata is used to represent the star that guided the astrologers to Bethlehem.) Breaking the piñata is also considered indispensable at birthday parties. Indeed, piñatas have become so traditionally Mexican that Mexico even exports them to other countries.

We found that for many people in Mexico, the piñata has lost its religious

played a game in which blindfolded participants hit a clay pot suspended by a string.

As part of their strategy to evangelize the Indians, the Spanish missionaries ingeniously made use of the piñata to symbolize, among other things, the Christian's struggle to conquer the Devil and sin. The traditional piñata was a clay pot covered with colored paper and given a star shape with seven tasseled points. These points were said to represent the seven deadly sins: greed, gluttony, sloth, pride, envy, wrath, and lust. Striking the piñata while blindfolded represented blind faith and will-power overcoming temptation or evil. The treats inside the piñata were the reward.

* In Mexico the *posadas* is a nine-day celebration prior to Christmas, enacting Joseph and Mary's search for posada, or lodging. A piñata is broken as the culmination of the festivities on each of the nine nights.

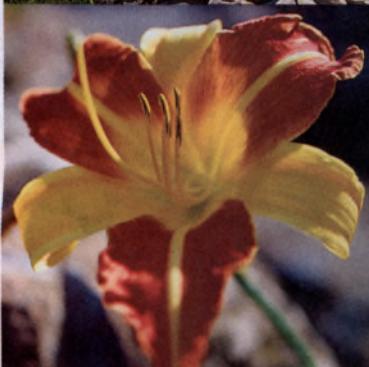
Piñatas come in all kinds of shapes and sizes



significance and is considered by most to be just harmless fun. In fact, piñatas are used in Mexico on many festive occasions, not just for the posadas or for birthdays. And piñatas can be purchased in many forms other than the traditional star shape. They are sometimes made to resemble animals, flowers, clowns.

When considering whether to include a piñata at a social gathering, Christians should

be sensitive to the consciences of others. (1 Corinthians 10:31-33) A main concern is, not what the practice meant hundreds of years ago, but how it is viewed today in your area. Understandably, opinions may vary from one place to another. Hence, it is wise to avoid turning such matters into big issues. The Bible says: "Let each one keep seeking, not his own advantage, but that of the other person."—1 Corinthians 10:24.

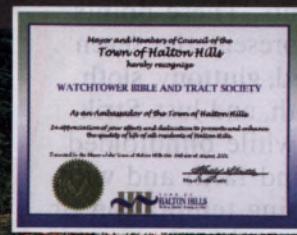


"Keep Doing Good"

"I want you to know that your efforts and hard work have not gone unnoticed by persons who take an interest in the appearance of our Town and how it looks to travellers passing through. Your property displays the pride you take in your surroundings and the Town itself."

These words of praise were from the mayor of the town of Halton Hills, where the branch office of Jehovah's Witnesses in Canada is located. Thereafter, the mayor presented the branch with a plaque, expressing "appreciation of [its] efforts and dedication to promote and enhance the quality of life of all residents of Halton Hills."

Such commendation from government authorities attests to the truthfulness of Romans 13:3, which says: "Keep doing good, and you will have praise from it." Rightfully, though, all praise and honor go to the Sovereign of the universe, Jehovah.



Young People Ask . . .

Should I Get a Tattoo?

"Some tattoos are cute. They are very artistic."—Jalene.*

"I dreamed about my first tattoo for two years."—Michelle.

TATTOOS are everywhere—or so it seems. Rock stars, sports figures, fashion models, and movie stars flaunt them. Many teenagers have followed suit, proudly displaying tattoos on their shoulders, hands, waists, and ankles. Andrew contends: "Tattoos are cool. Having one or not is a personal choice."

Says the *World Book Encyclopedia*: "Tattooing is the practice of making permanent designs on the body. It is done by pricking small holes in the skin with a sharpened stick, bone, or needle that has been dipped in pigments with natural colors."

Although exact statistics are hard to come by, one source estimates that 25 percent of all 15- to 25-year-olds in the United States have a tattoo. Sandy says: "It's the popular thing to do." Why are tattoos so appealing to some youths?

* Some of the names have been changed.



Why So Popular?

For some, a tattoo is a way of making a grand romantic gesture. Michelle relates: "On his ankle my brother has the name of a girl he used to go out with." The problem? "He's not dating her anymore." According to *Teen* magazine, "doctors estimate that more than 30 percent of all tattoo removal is done on teen girls who want the name of an ex-boyfriend taken off."

Some youths view tattoos as works of art. Others see them as symbols of independence. "I'm in charge of my life," proclaimed Josie, adding that getting a tattoo was "the only life decision I've ever made." Tattooing allows some youths to experiment—to feel they have control over their appearance. Tattoos can

also serve as a symbol of rebellion or of alternative life-styles. Some tattoos thus contain obscene words and drawings or provocative slogans.

The majority of youths, however, may simply have become caught up in a fad. But just because it seems as if everyone is getting tattooed, does it mean that *you* should?

The Ancient Art of Tattooing

Tattooing is by no means a modern practice. Tattoo-bearing Egyptian and Libyan mummies have been found that date back hundreds of years before the time of Christ. Tattooed mummies have also been found in South America. Many of the tattooed images were directly related to the worship of pagan gods. According to researcher Steve Gilbert, "the earliest known tattoo that is a picture of something, rather than an abstract pattern, represents the god Bes. In Egyptian mythology Bes is the lascivious god of revelry."

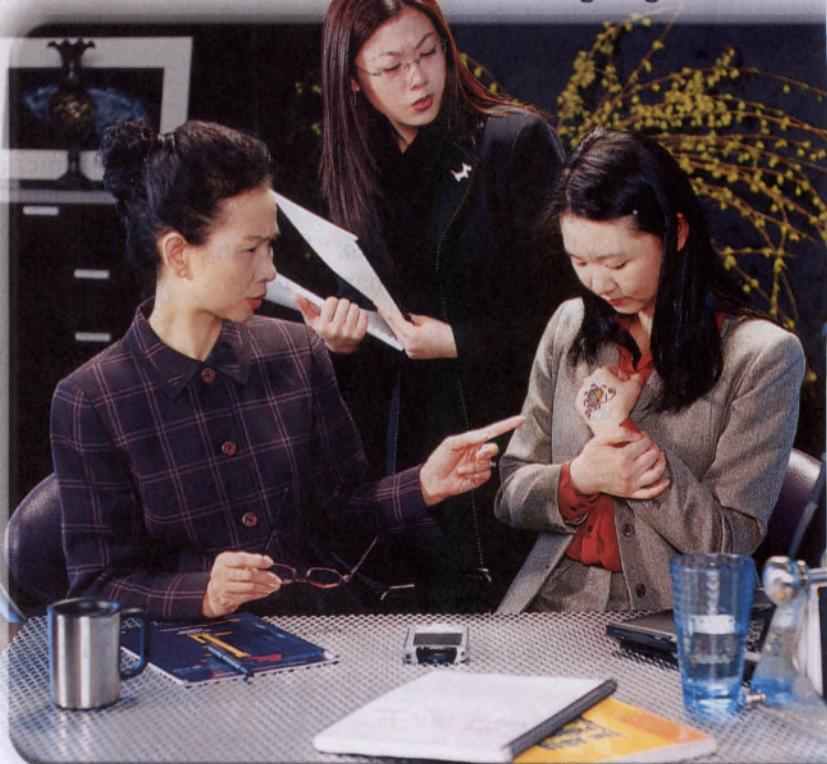
Significantly, the Mosaic Law forbade God's people to tattoo themselves. Said Leviticus 19:28: "You must not make cuts in your flesh for a deceased soul, and you must not put tattoo marking upon yourselves. I am Jehovah." Pagan worshipers, such as the Egyptians, tattooed the names or symbols of their deities on their breast or arms. By complying with Jehovah's ban on tattoo markings, the Israelites would stand out as different from other nations.—Deuteronomy 14:1, 2.

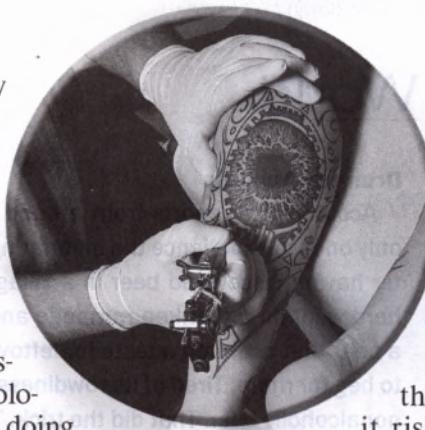
While Christians today are not under the Law of Moses, the prohibition it laid on tattooing is sobering. (Ephesians 2:15; Colossians 2:14, 15) If you are a Christian, you would certainly not want to



Tattoos are often associated with rebellious life-styles

In time, many regret getting a tattoo





make markings on your body—even temporarily—that smack of paganism or false worship.—2 Corinthians 6:15-18.

Health Risks

There are also health concerns you should consider. Dr. Robert Tomsick, an associate professor of dermatology, comments: "What you're doing is breaking the skin and introducing pigmented material into the area. Even though the needle only goes in a little way, anytime you break the skin, you have a risk of bacterial or viral infection. I think [getting a tattoo] is generally a risky thing to do." Dr. Tomsick continues: "Once pigment is in, even if there's no infection, there's always the chance of contact allergies, dermatitis and allergic reactions that can cause skin to get red, swollen, crusty and itchy."

Despite the intended permanence of tattoos, various methods are used in attempts to remove them: Laser removal (burning the tattoo away), surgical removal (cutting the tattoo away), dermabrasion (sanding the skin with a wire brush to remove the epidermis and dermis), salabrasion (using a salt solution to soak the tattooed skin), and scarification (removing the tattoo with an acid solution and creating a scar in its place). These methods are expensive and can be painful. "It's more painful to have a tattoo removed by laser than to get the original tattoo," says *Teen* magazine.

What Will Others Think?

You should also give serious thought to how others might feel about your wearing a tattoo, as many react negatively. (1 Corinthians 10:29-33) On a whim, Li, a woman in Taiwan, got a tattoo at age 16. Now she is a 21-year-old office worker. "It bothers me the way my co-workers stare at the tattoo," Li admits. British mental-health worker Theodore Dalrymple says that to many people, tattoos "are often the visible

sign that a man . . . belongs to a violent, brutal, antisocial, and criminalized subculture."

An article in *American Demographics* magazine similarly observed: "It is clear that most Americans consider it risky to have visible body art.

Eighty-five percent [of youths] agree with the statement, 'people who have visible tattoos . . . should realize that this form of self-expression is likely to create obstacles in their career or personal relationships.'

Consider also whether choosing to get a tattoo would enhance or undermine your claim of being a Christian. Could it be a "cause for stumbling" others? (2 Corinthians 6:3) True, some youths have had their tattoos placed on hidden areas of the body. Even their parents may not know about these secret tattoos. But beware! An emergency trip to the doctor or simply taking a shower at school could make your secret common knowledge! Better it is to "conduct ourselves honestly in all things," avoiding foolish deception.—Hebrews 13:18.

Like all fads, tattoos may lose their appeal over time. Really, is there any garment—whether a pair of jeans, a shirt, a dress, or a pair of shoes—that you love so much that you would commit to wearing it for the rest of your life? Of course not! Styles, cuts, and colors change. Unlike a piece of clothing, however, tattoos are hard to shed. Besides, what is "cool" to you when you are 16 might not be very appealing when you are 30.

Many have come to regret making permanent alterations to their appearance. "I got a tattoo before learning about Jehovah," relates Amy. "I try to keep it covered. When others in the congregation happen to see it, I feel embarrassed." The message? Think before you ink. Don't make a decision that you may regret later.

Watching the World

Teens' Real Worries

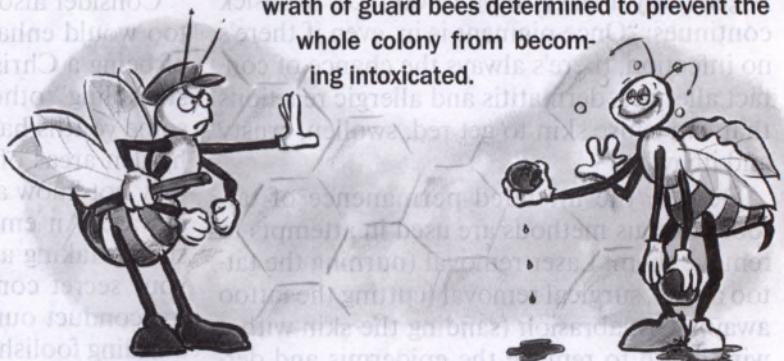
"Parents are so worried about their teenage children getting mixed up with drugs that they are failing to spot the serious emotional and mental health problems that concern their offspring," says *The Times* of London. A survey of more than 500 parents and more than 500 teenagers shows that 42 percent of parents believe that drug abuse is the single biggest problem facing their children. However, only 19 percent of teenagers agree. Thirty-one percent of teens worry more about relationships with friends and family, and 13 percent about bullying. Justin Irwin, director of the telephone help line Get Connected, the organization that commissioned the study, expressed particular concern about the tendency of parents to overlook their teenagers' psychological and emotional problems. He urges parents: "Stop making assumptions. Start being realistic."

Harmful Effects of Sleep Loss

"Nine percent of Poles sleep less than five hours per night," reports the Warsaw weekly *Wprost*. "Among Americans and Britons, 1 in 3 sleeps no more than 6.5 hours a night." According to Michał Skalski of a sleep-disorder clinic in Poland, "someone who sleeps little is under permanent stress." Japanese research indicates that "the risk of heart attack is 50 percent higher in those who sleep five hours a day or less when compared with those sleeping eight hours per night," reports *Wprost*. In addition, American studies indicate that lack of sleep may be linked

Drunken Animals

According to reports from around the world, humans are not the only ones to experience the inebriating effects of alcohol. Recently, after having discovered beer in a village in Assam, India, an elephant herd went on a drunken rampage and destroyed buildings. In Bosnia a bear that acquired a taste for leftover beer in discarded cans began to beg for more. Tired of its rowdiness, the villagers decided to leave it nonalcoholic beer. That did the trick. The bear still enjoys its drink but is no longer aggressive. In northern California, birds drunk on fermented berries from roadside bushes attacked cars. The remedy was to cut down the bushes. Fermented nectar causes bees to fly into trees or just fall to the ground, unable to find their way back to the hive. Drunken bees that do make it home face a further challenge—the wrath of guard bees determined to prevent the whole colony from becoming intoxicated.



to diabetes and other health problems. Sleep loss not only "leads to changes in glucose metabolism" but is also related to "increased risk of obesity," says the report. "When you're tired, your body tries to compensate for the lack of energy," explains the magazine *American Fitness*. "Sleep-deprived people tend to eat and drink more to feel awake. So, if you've lost a couple pounds and want to keep them off, sleep a little more."

A Day in the Office

A survey by *London Magazine* asked 511 people about their typical day. During working

hours, about half had drunk alcohol, 48 percent had stolen, and almost a third had used illegal drugs, reports London's newspaper *The Daily Telegraph*. Additionally, 42 percent had "imagined killing their boss," almost a third "had looked at pornography on the internet," "62 per cent had been propositioned by a colleague and nearly a fifth had had sex in the office." Thirty-six percent of these employees had lied on their résumés, 13 percent said that they would go to bed with their boss to get a promotion, and 45 percent would backstab a workmate to get ahead. According to

psychotherapist Philip Hodson, much of this conduct springs from resentment of those in power. He said: "We are willing to do anything to be at the top. Labels, position and status are very important to us."

Sudden Death in Sports

When three men in their 50's died of heart attacks on the same day after running long-distance races in different parts of Japan, sports doctors issued warnings. Dr. Masatoshi Kaku, chairman of the Kobe Sports Academy and a medical doctor, writes in the *Asahi Shimbun* newspaper: "About 80 percent of sudden deaths are heart related. . . . People who have been given a clean bill of health make up more than 90 percent of sudden death victims." Dr. Kaku recommends that electrocardiogram tests be

made while exercising rather than only while the subject is at rest. He further advises against overexertion and recommends refraining from exercise if you experience the slightest feeling of fever, nausea, or dizziness. "It is not a disgrace to drop out in the middle of a game or race," says Dr. Kaku. He adds: "Athletes tend to overvalue the virtue of going the distance, but you should know to question it when necessary."

The Need for Family Conversation

"Family conversations have deteriorated into a 'daily grunt' that leaves young children unable to talk properly," reports *The Times* of London. Alan Wells, director of the government's Basic Skills Agency, which is responsible for maintaining educational standards in

Britain, attributes the decline to children's "sitting in front of the television and the computer and the lack of time families spend having food together." Wells also blames an increase in one-parent families lacking grandparents, as well as the fact that few parents now read to their children. He believes these factors help to explain why children entering school at four or five years of age are "less articulate and less able to express themselves" than children were in the past. Wells recommends programs to teach parents how to interact with their children.

A More Balanced Life

A survey conducted by the Australia Institute, an independent research organization, found that "23 per cent of Australians aged 30 to 59 have sacrificed income for the sake of a more balanced lifestyle in the past 10 years," reports *The Sydney Morning Herald*. The trend, which the researchers call downshifting, is being adopted by many who hope to improve their sense of well-being and to have more time with their children. These workers are "switching to a less demanding and less well-paid job, reducing work hours or dropping out of the workforce altogether," says the *Herald*. Dr. Clive Hamilton, executive director of the Australia Institute, said: "This is about putting lives in front of incomes. These are people who certainly do not view themselves as drop-outs; they're ordinary people from the mainstream, who are rejecting overconsumption and deliberately reducing their income in search of a more balanced lifestyle."

Raining Fish

Hundreds of little fish perhaps from the spray of Lake Dojran or Lake Korónia were found in the village of Koróna, reported the Greek newspaper *Eleftherotypia*. "Everywhere the villagers found fish that had fallen from the sky." According to Christos Balafoutis, director of the meteorological department in Thessalonica, such incidents are not rare. Storm clouds in low-pressure weather systems produce whirlwinds that suck up water, along with fish and frogs, from the surface of lakes. "The air in the whirlwind can lift them up to a high altitude and carry them very far," says the report. Later the fish fall when the force of the whirlwind weakens.



From Our Readers

Privacy The cover title "Is Your Privacy in Danger?" (January 22, 2003) caught my attention because I am the author of a best-selling book on the subject. Your writer did an excellent job. Here is an additional suggestion: When asked for identification, you might want to use a passport, which does not list your home address or social security number.

J. L., Spain



shells along seashores is among our fondest memories. Every time we look at our collection, we admire the Creator's unsurpassed artistic genius.

W. and M. P., Germany

Ever since I was about 12 years old, I have been fascinated by shells. After 20 years of collecting them, I felt satisfied with what I had gathered. But upon reading this article and learning that there are some 50,000 species of mollusks, I realize that I have accumulated very little, and I marvel even more at Jehovah's creation.

M. S., Paraguay

Reed Boats I was fascinated by the article "Sailing the Deep Blue Sea—On Reeds!" (January 22, 2003) In my personal Bible reading, I came across Job 9:26. Referring to the short life span of humans, it states: "They have moved on like reed boats." A friend and I wondered why Job would have compared a brief life span to a reed boat. Then my friend suggested that Job may have been making the same point mentioned in your article—that "reeds gradually become water-logged" and hence unusable.

N. D., United States

"Awake!" responds: According to one reference work, Job's words refer to the swift speed with which such light vessels

were able to travel. If this is so, the same point would be made—that man's life span is short.

Flamingos When we opened this issue of *Awake!*, my husband and I noticed the article "Flame-Feathered Dancers." (January 22, 2003) My husband remarked: "This is for you." He well knows my admiration of Jehovah's creation and especially of the elegant pink flamingo. I yearn to observe these beautiful creatures with my own eyes. Thank you for the article. It enriched me in many ways.

M. N., Czech Republic

Cheating I am 11 years old. I enjoyed the article "Young People Ask . . . What's Wrong With Cheating?" (January 22, 2003) Even though I do not always bring home good grades, I know that the scores I get are the ones I have honestly earned. Actually, some of my classmates who cheat get worse grades than I do! At any rate, my conscience is clean, and that's what matters most.

Z. T., Austria

I have fallen into the trap of cheating, probably because I did not consider it so serious. This article will help me to remember scriptures like Hebrews 13:18, which, in turn, will help me whenever I am tempted to cheat in the future.

N. I., Italy

I am in the tenth grade. Sometimes I have tried to cheat during my exams, never realizing that this is tantamount to stealing! But thanks to this article, I will now endeavor to keep my conscience clean.

K. G., Estonia



“Year of the Bible”

In Austria, France, Germany, and Switzerland, the year 2003 has been designated the “Year of the Bible.” The German daily *Frankfurter Allgemeine Zeitung* states: “As with the first and last time it was celebrated in 1992, [the churches] are aiming to heighten people’s awareness of this ‘book of life’ and to emphasize the cultural value of the Holy Scriptures.”

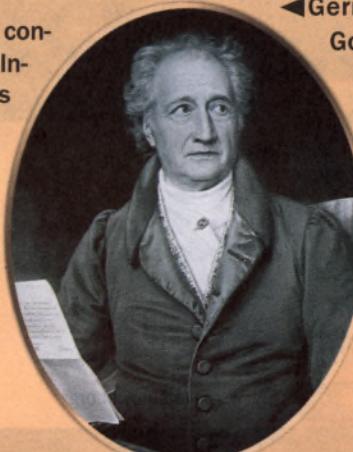
According to *Bibelreport* of June 2002, the Bible has been translated into 2,287 languages—at least in part. Estimates also show that so far, some five billion Bibles have been distributed. Such mammoth efforts clearly show what high regard people have for this book.

Today, most people may not be convinced that the Bible is practical. Indeed, many feel that the standards in the Bible are old-fashioned and out of touch with reality. With the Year of the Bible, however, churches in Germany hope to achieve two things—encourage people to live more closely by the Bible and whip up enthusi-

asm for the Bible in those who are alienated from the church.

Reading the Bible from beginning to end is no small achievement, but it certainly is a good way to grasp the main points of the Scriptures. A person who wants to benefit most from the Bible, however, ought to keep in mind the statement at 2 Timothy 3:16, 17: “All Scripture is inspired of God and beneficial for teaching, for reproofing, for setting things straight, for disciplining in righteousness, that the man of God may be fully competent, completely equipped for every good work.”

◀ German poet Johann Wolfgang von Goethe (1749-1832) made this expression: “I am convinced that the Bible becomes even more beautiful the more one understands it.” Indeed, only in God’s Word do we find a sound explanation of where we come from, why we are here, and what the future will bring!—Isaiah 46:9, 10.



From the book *Bildersaal deutscher Geschichte*



"IT IS A MUST-READ"

That is how one reader from California, U.S.A., described the book *Draw Close to Jehovah*. "It is well written, beautifully illustrated, and packed with many spiritual gems," he stated. He then concluded by saying: "Thank you so much for this wonderful book about our magnificent God."

Others have made similar comments, such as: "Now that I've read through it, I'm actually a little sad that I'm finished. But I look forward to going through it again—this time studying it carefully and meditating deeply on the contents."

Another person wrote:
"The information about

our God's compassion and his readiness to forgive touched the depths of my heart and made me feel truly close to our heavenly Father and Life-Giver."

We believe that you will draw closer to our heavenly Father, Jehovah, by reading this book. It is divided into four sections entitled "Vigorous in Power," "A Lover of Justice," "Wise in Heart," and "God Is Love." Three introductory chapters lead into these sections, which concentrate on the principal attributes of God. The chapter "Draw Close to God, and He Will Draw Close to You" concludes this 31-chapter book.

