

Awake!

June 8, 2001



Good Health for All

IS IT POSSIBLE?

Good Health for All

IS IT POSSIBLE? 3-10

The World Health Organization established the lofty goal of having "an acceptable level of health for all the people of the world." Can medical science ever reach such a goal?



The Beautiful Moth 16

Although many view it as a pest, the lowly moth is both beautiful and fascinating.



Are All Religions Different Roads Leading to God? 26

Millions would answer yes. What does the Bible say?



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Good Health for All

A REACHABLE GOAL?



DO YOU wish that you and your family could enjoy better health? Of course you do. But while most of us may suffer only occasional minor illnesses, for millions of people, infirmity is a painful, lifelong companion.

Nevertheless, large-scale efforts are being made to stem the tide of sickness and disease. Consider the World Health Organization (WHO), an agency of the United Nations. At a conference sponsored by WHO in 1978, delegates from 134 lands and 67 UN

organizations agreed that health is not simply freedom from sickness or disease. Health, they declared, is "a state of complete physical, mental and social well-being." The delegates then took the bold step of declaring health to be a "fundamental human right"! WHO thus set the goal of achieving "an acceptable level of health for all the people of the world."

Such a goal is appealing, even noble. But how likely is it that it will ever be achieved? Of all the fields of human endeavor, medicine has certainly become one of the most trusted and admired. According to the British newspaper *The European*, people in Western lands have grown accustomed to "the traditional medical concept of the 'silver bullet' cure: one pill to solve one problem." In other words, for every ailment, we expect the medical field to deliver a simple and straightforward cure. Can the medical profession really fulfill such a high expectation?

Modern Medicine

HOW HIGH CAN IT REACH?

MANY children learn early: To pick an apple beyond their reach, they climb onto the shoulders of a playmate. Within the field of medicine, something similar has taken place. Medical researchers have reached higher and higher up the scale of achievement by standing on the shoulders of eminent practitioners of the past.

Among those earlier healers were well-known men such as Hippocrates and Pasteur, along with men such as Vesalius and William Morton—names unfamiliar to many. What does modern medicine owe to them?

In ancient times the healing arts were often not a scientific venture but an exercise in superstition and religious ritual. The book *The Epic of Medicine*, edited by

Dr. Felix Martí-Ibañez, says: “To fight disease . . . , the Mesopotamians resorted to a medico-religious medicine, since they believed that disease was their punishment by the gods.” Egyptian medicine, which soon followed, was likewise rooted in religion. Thus, from the very beginning, the healer was viewed with a sense of religious admiration.

In his book *The Clay Pedestal*, Dr. Thomas A. Preston observes: “Many beliefs of the ancients left imprints on the practice of medicine that survive to this day. One such belief was that disease was beyond the control of the patient, and only through the magical power of the physician was there hope for recovery.”

“Many beliefs
of the ancients
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practice of medicine
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this day.”

—*The Clay Pedestal*

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Unless otherwise indicated, *New World Translation of the Holy Scriptures—With References* is used.

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Kos Island,
Greece



**Hippocrates,
Galen, and
Vesalius laid the
foundations of
modern medicine**

Courtesy National Library of Medicine

Laying the Foundations

In time, though, medical practice became increasingly scientific in its approach. The foremost ancient scientific healer was Hippocrates. He was born about 460 B.C.E. on the Greek island of Kos and is regarded by many as the father of Western medicine. Hippocrates laid the basis for a rational approach to medicine. He rejected the notion that disease was a punishment from a deity, arguing that it had a natural cause. Epilepsy, for example, had long been called a sacred disease because of the belief that it was curable only by the gods. But Hippocrates wrote: "With regard to the disease called Sacred: it appears to me to be nowise more divine nor more sacred than other diseases, but has a natural cause." Hippocrates was also the first known healer to observe

the symptoms of various diseases and record them for future reference.

Centuries later, Galen, a Greek physician born in 129 C.E., likewise did innovative scientific research. Based on dissections of humans and animals, Galen produced a textbook on anatomy that was used by doctors for centuries! Andreas Vesalius, born in Brussels in 1514, wrote the book *On the Structure of the Human Body*. It met with opposition, since it contradicted many of Galen's conclusions, but it laid the foundation for modern anatomy. According to the book *Die Grossen* (The Great Ones), Vesalius thus became "one of the most important medical researchers of all peoples and all times."

Galen's theories about the heart and the circulation of the blood were likewise

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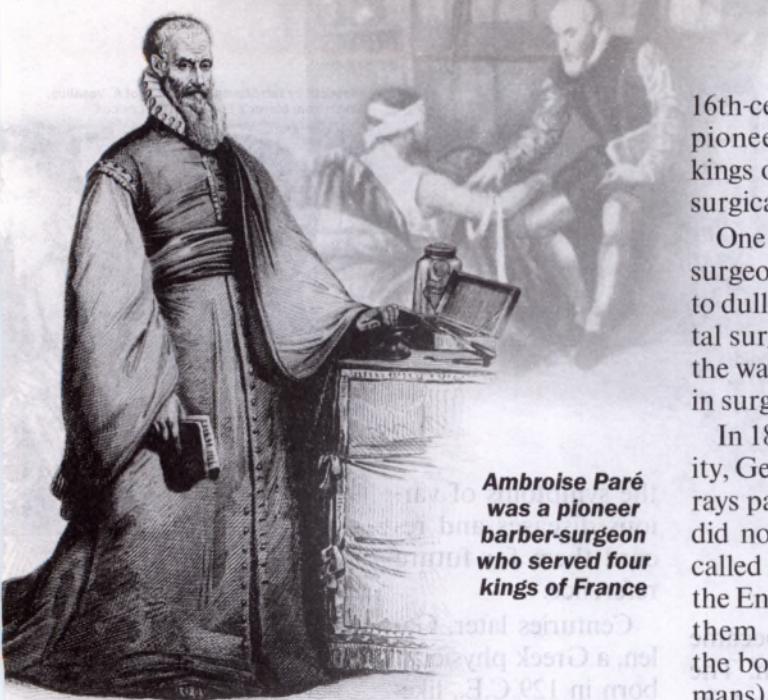
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**Ambroise Paré
was a pioneer
barber-surgeon
who served four
kings of France**

overturned in time.* English physician William Harvey spent years dissecting animals and birds. He observed the function of the heart valves, measured the volume of blood in each of the heart's chambers, and estimated the amount of blood in the body. Harvey published his findings in 1628 in a book called *On the Motion of the Heart and Blood in Animals*. He was criticized, opposed, attacked, and insulted. But his work was a turning point in medicine—the body's circulatory system had been discovered!

From Barbering to Surgery

Huge strides were also being made in the surgical arts. During the Middle Ages, surgery was often times the work of barbers. Not surprisingly, some say that the father of modern surgery was

Paré and Ar-Rāzī: Courtesy, National Library of Medicine

* According to *The World Book Encyclopedia*, Galen thought that the liver changed digested food into blood, which then flowed to the rest of the body and was absorbed.

16th-century Frenchman Ambroise Paré—a pioneer barber-surgeon who served four kings of France. Paré invented a number of surgical instruments as well.

One of the major problems still facing the surgeon in the 19th century was his inability to dull the pain of surgery. But in 1846 a dental surgeon named William Morton opened the way to the widespread use of anesthetics in surgery.*

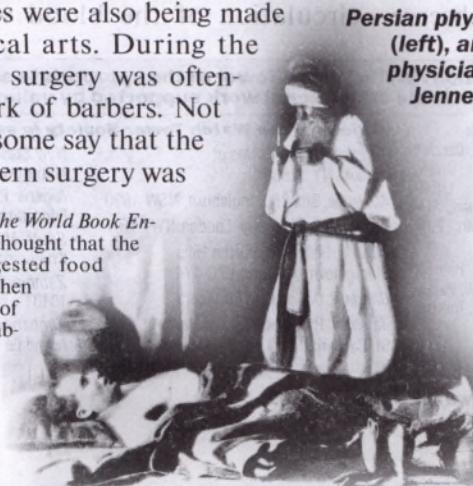
In 1895, while experimenting with electricity, German physicist Wilhelm Röntgen saw rays passing through flesh but not bone. He did not know the origin of the rays, so he called them X rays, a name that has stuck in the English-speaking world. (Germans know them as *Röntgenstrahlen*.) According to the book *Die Großen Deutschen* (Great Germans), Röntgen told his wife: "People will say: 'Röntgen has gone mad.'" Some did. But his discovery revolutionized surgery. Surgeons could now look inside the body without cutting it open.

Conquering Diseases

Throughout the ages infectious diseases such as smallpox recurrently brought epidemics, terror, and death. Ar-Rāzī, a ninth-century Persian considered by some to have been the greatest physician of the Islamic

* See the article "From Agony to Anesthesia," in the November 22, 2000, issue of *Awake!*

**Persian physician Ar-Rāzī
(left), and British
physician Edward
Jenner (right)**



From the book
*Great Men and
Famous Women*

world of that time, wrote the first medically accurate description of smallpox. But it was centuries later that a British physician named Edward Jenner found a way to cure it. Jenner noted that once a person contracted cowpox—a harmless disease—he was immune to smallpox. Based on this observation, Jenner used cowpox lesions to develop a vaccine against smallpox. That was in 1796. Like other innovators before him, Jenner was criticized and opposed. But his discovery of the process of vaccination eventually led to the elimination of the disease and provided medicine with a powerful new tool.

Frenchman Louis Pasteur used vaccination to fight rabies and anthrax. He also proved that germs play a key role in causing disease. In 1882, Robert Koch identified the germ that causes tuberculosis, described by one historian as “the greatest killer disease of the nineteenth century.” About a year later, Koch identified the germ that causes cholera. Says *Life* magazine: “The work of Pasteur and Koch ushered in the science of microbiology and led to advances in immunology, sanitation and hygiene that have done more to increase the life span of humans than any other scientific advance of the past 1,000 years.”

Twentieth-Century Medicine

At the beginning of the 20th century, medicine found itself standing on the shoulders

of these and other brilliant practitioners. Since then, medical advances have been made at a breathtaking rate—insulin for diabetes, chemotherapy for cancer, hormone treatment for glandular disorders, antibiotics for tuberculosis, chloroquine for certain types of malaria, and dialysis for kidney complaints, as well as open-heart surgery and organ transplants, to name a few.

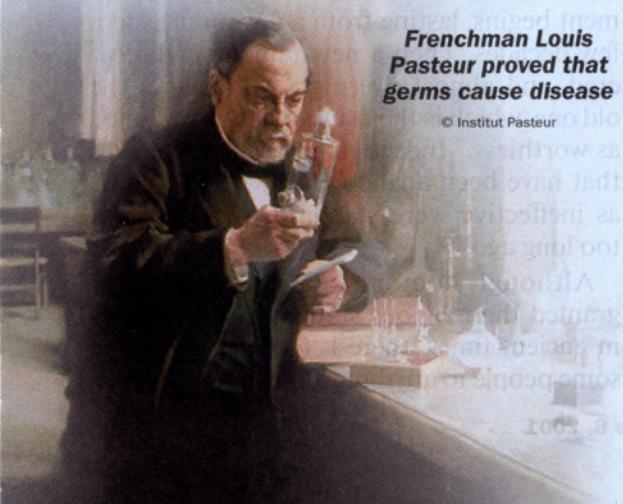
But now that we stand at the dawn of the 21st century, how near is medicine to the goal of guaranteeing “an acceptable level of health for all the people of the world”?

A Goal out of Reach?

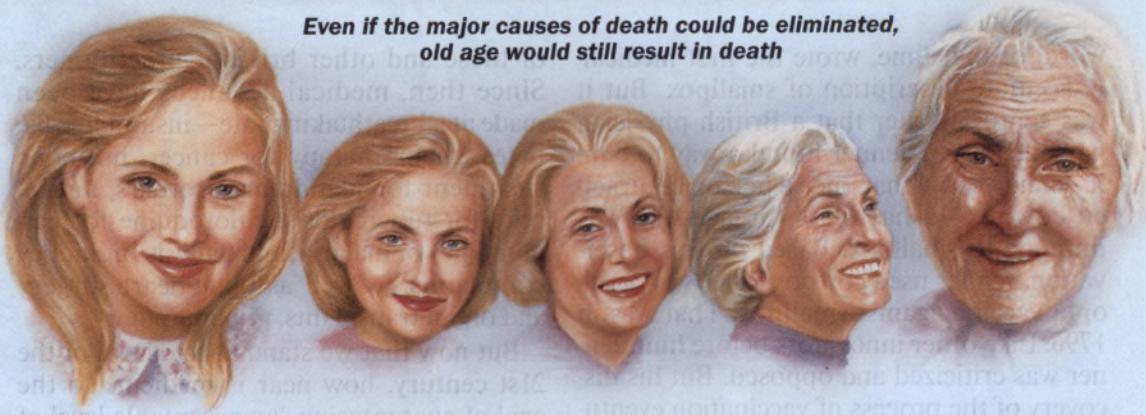
Children learn that climbing onto the shoulders of a playmate does not bring every apple within reach. Some of the juiciest apples are at the top of the tree, still way out of range. In the same way, medicine has gone from one achievement to the next, higher and higher. But the most treasured goal—good health for everyone—elusively remains at the top of the tree.

Thus, while in 1998 the European Commission reported that “Europeans have never enjoyed such long and healthy lives,” the report added: “One person in every five will die prematurely before the age of 65. Cancer will account for some 40% of these deaths, cardiovascular diseases for another 30% . . . Better protection must be provided against new health threats.”

The German health magazine *Gesundheit* reported in November 1998 that infectious diseases like cholera and tuberculosis are presenting an increasing threat. Why? Antibiotics “are losing their effectiveness. More and more bacteria are resistant to at least one common medicament; indeed, many are resistant to several.” Not only are old diseases on the way back but new diseases like AIDS have appeared. The German pharmaceutical publication *Statistics '97* reminds us: “For two thirds of all known



**Even if the major causes of death could be eliminated,
old age would still result in death**



sicknesses—about 20,000—there is so far no way of treating the cause.”

Does Gene Therapy Hold the Answer?

Granted, innovative treatments continue to be developed. For example, many feel that genetic engineering may hold the key to better health. Following research in the United States in the 1990's by physicians such as Dr. W. French Anderson, gene therapy was described as “the hottest new area of medical research.” The book *Heilen mit Genen* (Healing With Genes) states that with gene therapy “medical science could be on the brink of a pioneer development. This is especially the case with the treatment of sicknesses that have until now been incurable.”

Scientists expect in time to be able to cure inborn genetic diseases by injecting patients with corrective genes. Even harmful cells, such as cancer cells, will perhaps be made to self-destruct. Genetic screening to identify a person's predisposition to certain illnesses is already possible. Some say that pharmacogenomics—adjusting medicaments to suit the patient's genetic makeup—will be the next development. One prominent researcher suggests that doctors will one day be able to “diagnose their patients' illnesses and give them the proper snippets of molecular thread to cure them.”

However, not everyone is convinced that gene therapy offers the “silver bullet” cure of the future. Indeed, according to surveys, people may not even want to have their genetic makeup analyzed. Many also fear that gene therapy might be a dangerous interference with nature.

Time will tell whether or not genetic engineering or other high-tech approaches to medicine will live up to their extravagant promises. However, there is reason to avoid undue optimism. The book *The Clay Pedestal* describes an all-too-familiar cycle: “A new therapy comes out, heralded at medical meetings and in the professional journals. Its creators become celebrities within the profession, and the media hail the advance. After a period of euphoria and well-documented testimonials in support of the wonder treatment, a gradual disillusionment begins, lasting from a few months to a few decades. Then a new remedy is discovered, and almost overnight, it replaces the old one, which is then summarily abandoned as worthless.” Indeed, many of the remedies that have been abandoned by most doctors as ineffective were standard treatment not too long ago.

Although doctors today are no longer granted the religious status given to healers in ancient times, there is a tendency among some people to attribute almost godlike pow-

ers to medical practitioners and to imagine that a cure for all of mankind's ills is a scientific inevitability. However, reality falls painfully short of this ideal. In his book *How and Why We Age*, Dr. Leonard Hayflick observes: "In 1900, 75 percent of the people in the United States died *before* they reached the age of sixty-five. Today, this statistic is almost reversed: about 70 percent of people die *after* the age of sixty-five." What caused this remarkable increase in life span? Hayflick explains that it "was largely due to reductions in the mortality of newborns." Now suppose that medical science could eliminate the ma-

jor causes of death in the elderly—heart disease, cancer, and stroke. Would that amount to a grant of immortality? Hardly. Dr. Hayflick notes that even then, "most people would live to be about one hundred years old." He adds: "These centenarians would still not be immortal. But what would they die from? They would simply become weaker and weaker until death occurred."

Despite the best efforts of medical science, the elimination of death is thus still beyond medicine's reach. Why is this the case? And is the goal of good health for all an impossible dream?

Good Health for All—SOON!

"THE idea of never being sick again . . . is currently in vogue," reports the German newsmagazine *Focus*. Yet this idea is not new. When human life began, the Creator never intended that mankind be sick at all. His purpose for mankind was not simply "an acceptable level of health for all the people of the world." (Italics ours.) Our Creator purposed perfect health for everyone!

So why do we all suffer from sickness and disease? The Bible tells us that Jehovah God made the parents of all humankind, Adam and Eve, perfect. Once he completed his creation, "God saw everything he had made and, look! it was very good." Our loving Creator never intended that human life be plagued with disease and death. But when Adam and Eve chose to abandon the way of life laid down for them, they fell into sin. The result of Adamic sin was death, which was passed on to all humans.—Genesis 1:31; Romans 5:12.

Jehovah did not simply cast mankind off. Nor did he abandon his original purpose for

them and the earth. Throughout the Bible, he makes known his purpose to restore obedient humans to their original state of good health. While Jesus Christ, the Son of God, was on earth, he demonstrated God's power to heal disorders. For instance, Jesus cured blindness, leprosy, deafness, dropsy, epilepsy, and paralysis.—Matthew 4:23, 24; Luke 5:12, 13; 7:22; 14:1-4; John 9:1-7.

God will soon instruct his Messianic King, Jesus Christ, to take over the affairs of the world of mankind. Under his administration, the prophecy of Isaiah will come true: "No resident will say: 'I am sick.' The people that are dwelling in the land will be those pardoned for their error." (Isaiah 33:24) How is this to take place?

We notice that the prophet writes of people being "pardoned for their error." Hence, the original cause of sickness—mankind's inherited sin—will be taken away. How? The value of the ransom sacrifice of Jesus will be applied to obedient mankind, thus removing the basis for sickness and death. Paradisaic

conditions will be experienced in every corner of the earth. The Christian apostle John wrote: “[God] will wipe out every tear from their eyes, and death will be no more, neither will mourning nor outcry nor pain be anymore. The former things have passed away.” That is soon to be!—Revelation 21:3, 4; Matthew, chapter 24; 2 Timothy 3:1-5.

Maintaining a Balance

In the meantime, sickness and disease are the lot of millions of people. It is only nat-

ural, then, for individuals to be concerned about their health and about the health of their loved ones.

Christians today greatly appreciate the efforts of the medical profession. They take reasonable steps to become or remain healthy. However, the Bible’s promise of a future free of sickness helps us to maintain our balance in this regard. Until the Messianic King takes over the affairs of humankind, perfect health simply is not possible. As we have seen, even the most breathtaking discoveries have not enabled medicine to grasp the juiciest apple at the top of the tree—good health for everyone.

The goal of “an acceptable level of health for all the people of the world” will soon be achieved. But not by the UN or the World Health Organization or environmental planners or social reformers or physicians. That accomplishment is reserved for Jesus Christ. What a joy it will be when mankind will finally be “set free from enslavement to corruption and have the glorious freedom of the children of God”!—Romans 8:21.

There will be sound health for all in God’s new world



CROSSWORD PUZZLE

Clues Across

1. Joab put Uriah in the place where he knew these were [2 words] (2 Samuel 11:16)
8. A descendant of Manasseh whose mother was Hammolecheth (1 Chronicles 7:14, 18)
10. Called this because she led an immoral life (Luke 7:37, 38)
11. It was built up into the first woman (Genesis 2:22)
12. Peter compared the actions of those who leave "the path of righteousness" to the actions of this animal (2 Peter 2:21, 22)
13. It was in his day that "a start was made of calling on the name of Jehovah" (Genesis 4:26)
15. The father of Israel's first king, Saul (Acts 13:21)
16. Under the Mosaic Law, the minimum number of witnesses required for a person to be condemned to death (Deuteronomy 17:6)
17. One of Azel's six sons, a descendant of Saul and Jonathan (1 Chronicles 8:38)
18. Paul said that "every family in heaven and on earth" owes this to Jehovah God (Ephesians 3:14, 15)
20. An open area assigned to a particular usage (Ezekiel 26:5)
22. Efforts (Acts 9:29)
23. Rodent (Leviticus 11:29)
24. Her sons became the founders of nomadic herdsmen and musicians (Genesis 4:20, 21)
25. Swiftness (Mark 6:25)
26. A container used for carrying something (Genesis 44:11)
28. The city where Goliath's sword was kept (1 Samuel 21:1, 9)
29. A Christian "relative" of Paul who was with him in Corinth during his third missionary tour (Romans 16:21)
30. Both James and Peter testified that God "gives undeserved kindness" to such ones (James 4:6; 1 Peter 5:5)
32. It was in their territory that the refuge city Ramoth-gilead was to be found [3 words] (Joshua 21:38)

Clues Down

1. Expression indicating wicked persons [3 words] (Romans 9:22)
2. Where Jacob lived for 17 years and then died [3 words] (Genesis 47:28)
3. Rather than submit to a trial in Jerusalem, Paul appealed to this Caesar (Acts 25:11, 21)*
4. A priest who was head of the paternal house of Seraiah after the Jews returned from Babylon (Nehemiah 12:12)
5. A city in the Judean wilderness (Joshua 15:62)
6. Masticate (Leviticus 11:7)
7. Word used to express wonder or surprise (Isaiah 8:22)
9. People in this condition were

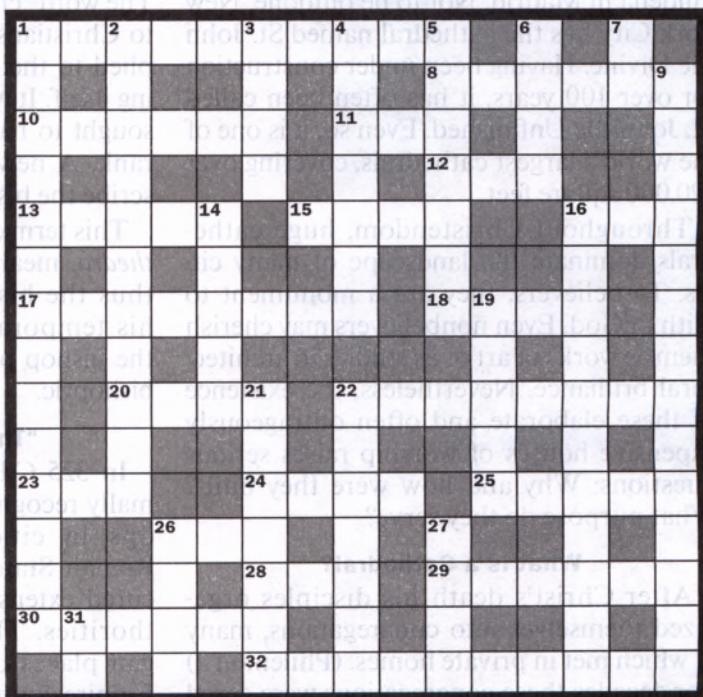
* The scriptures cited do not contain the word needed. It can be found in a footnote in the *Reference Bible*.

among those cured by Jesus [2 words] (Matthew 4:24)

14. One who employs others (2 Chronicles 24:12)*
16. Taking a false step (Romans 5:20)
19. First letter of the Hebrew alphabet (Psalm 119, superscription)
21. Used to catch fish (Habakkuk 1:15)
22. A Maacathite whose "son" Eliphlet was an outstanding fighter for David (2 Samuel 23:34)
26. Infant (Mark 13:17)
27. A string of this color was put above the fringed edges of every Israelite's garment (Numbers 15:38-41)
31. Following Jehovah's direction, Abram left this city to journey to the land of Canaan (Genesis 15:7)

* The scripture cited has a form of the word needed.

Crossword Solutions Page 19



CATHEDRALS

Monuments to God or Men?



IN Moscow a resurrection of sorts has taken place. Christ the Savior Cathedral, razed by Stalin in 1931, has been rebuilt, its golden domes gleaming against the Russian sky. In the city of Évry, near Paris, workers have put the finishing touches on the only cathedral built in France during the 20th century. This comes just a few years after the consecration of the cathedral of Almudena in Madrid. Not to be outdone, New York City has the cathedral named St. John the Divine. Having been under construction for over 100 years, it has often been called St. John the Unfinished. Even so, it is one of the world's largest cathedrals, covering over 120,000 square feet.

Throughout Christendom, huge cathedrals dominate the landscape of many cities. To believers, they are a monument to faith in God. Even nonbelievers may cherish them as works of art or as studies in architectural brilliance. Nevertheless, the existence of these elaborate and often outrageously expensive houses of worship raises serious questions: Why and how were they built? What purpose do they serve?

What Is a Cathedral?

After Christ's death his disciples organized themselves into congregations, many of which met in private homes. (Philemon 2) For decades these congregations were cared

for by spiritually "older men." (Acts 20:17, 28; Hebrews 13:17) After the death of the apostles, however, there was a falling away from true Christianity. (Acts 20:29, 30) In time, a number of elders elevated themselves above the others and became viewed as bishops having oversight of a number of congregations—something Jesus had warned against. (Matthew 23:9-12) The word "church," which originally applied to Christians themselves, was then also applied to their place of worship—the building itself. It wasn't long before some bishops sought to have churches that befitted their rank. A new term was thus coined to describe the bishop's church—the cathedral.

This term comes from the Greek word *kathedra*, meaning "seat." The cathedral was thus the bishop's throne, the symbol of his temporal power. From his cathedral the bishop presided over a jurisdiction, the bishopric.

The Age of Cathedrals

In 325 C.E., the Council of Nicaea formally recognized the establishment of bishops in cities. Supported now by the Roman State, the bishops frequently procured extensive gifts of land from the authorities. They also took over many pagan places of worship. When the Roman Empire foundered, the ecclesiastical struc-



tures survived and grew to be dominant in the Middle Ages. That period soon became what French historian Georges Duby calls “the Age of Cathedrals.”

From the 7th century to the 14th century, Europe’s population tripled. This demographic upheaval primarily benefited the cities, whose prosperity increased. Consequently, the richest episcopal cities were the most favorable sites for the growth of colossal cathedrals. Why? Because these grand projects could only flourish where there was a continuous flow of money!

Another factor that fueled the building of cathedrals was the popular veneration of the Virgin Mary and religious relics. This blossomed as never before in the 11th and 12th centuries. Bishops expanded this worship, thereby increasing the popularity of their cathedrals. The title *Notre-Dame* (Our Lady) began to grace cathedrals in France at this time. “Which town did not dedicate a church and often its cathedral to her?” asks the Catholic encyclopedia *Théo*. Thus, Saint-Étienne cathedral in Paris was dedicated to Notre-Dame. Notre-Dame cathedral in Chartres, France, became one of Europe’s foremost shrines. “No single figure—not even Christ Himself—dominated the lives and thoughts of the cathedral builders as thoroughly as did the Virgin Mary,” says *The Horizon Book of Great Cathedrals*.

“We Shall Build a Cathedral So Great . . .”

Why, though, were many of these buildings so huge? As early as the fourth century, the cathedrals of Trier, Germany, and Geneva, Switzerland, covered immense sites, despite relatively small numbers of worshipers. In the 11th century, the population of Speyer, Germany, was unable to fill its vast cathedral. *The Horizon Book of Great Cathedrals* thus concludes that

the “size and sumptuousness [of cathedrals] revealed a number of quite profane motivations.” Among them was “the arrogant pride of the bishop or abbot under whose patronage the edifice was to be built.”

During the 12th and 13th centuries, cathedrals measured 330 feet on average, aiming to be as high as they were long. Winchester cathedral, in England, at 556 feet long, and Milan’s Duomo, in Italy, at 475 feet, are outstanding. “We shall build a cathedral so great that those who see it completed will think that we were mad,” declared a Spanish church official in Seville in 1402. In fact, the cathedral of Seville is said to be the world’s second-largest, with its lofty 174-foot-high vault. The spire of Strasbourg cathedral in France measures 465 feet, the equivalent of a 40-story building. In the 19th century, the tower of the Gothic Münster cathedral in Ulm, Germany, rose to 528 feet, making it the tallest stone tower in the world. “No requirements of worship justify such excesses of gigantic proportions,” insists historian Pierre du Colombier.

During the 12th and 13th centuries, cathedral promoters tapped into yet another ‘profane motivation’—urban patriotism. Says the *Encyclopædia Britannica*: “Towns vied with each other to build the loftiest cathedral.” Town councillors, burghers, and guilds turned cathedrals into symbols of their city.

Costly Yesterday, Costly Today

One writer describes cathedral building projects as “bottomless financial abysses.”

How, then, were these buildings—maintained even now at spiraling costs—financed in the past? In some cases prelates, such as Maurice de Sully in Paris, paid for them out of their own pockets. Sometimes political rulers, such as



Cathedral of Santiago de Compostela, Spain

King James I of Aragon, footed the bill. By and large, though, it was the revenue of the bishopric that financed the cathedrals. This money consisted of feudal taxes and income from property. In fact, the Bishop of Bologna in Italy possessed 2,000 estates! To this was added religious income from collections, indulgences, and penalties for sins. In Rouen, France, those who purchased the right to eat dairy products during Lent paid for the cathedral's so-called Butter Tower.¹⁰

Some individual donors were exceptionally generous, and they were honored by having their likenesses preserved in church stained-glass windows and sculptures. The principle of anonymous Christian giving had evidently been forgotten. (Matthew 6:2) A constant flow of cash was needed, since spending often exceeded estimates. Not surprisingly, then, the fervor to raise money often led to misappropriation and extortion. For example, the accusation of heresy often entailed the confiscation of one's goods. This made possible the plundering of so-called heretics, such as the Cathari, and this financed several church building projects.*

Needless to say, it took constant pressure from the church to keep money flowing. It was not—as some historians have claimed—that the masses were spontaneously moved to build such edifices. Historian Henry Kraus states: “As deeply religious an era as the Middle Ages were, the construction of churches was not people’s first priority.” Many historians thus criticize the church for its extravagance. Admits *The Horizon Book of Great Cathedrals*: “The money expended by the church for building could have been used to feed the famished . . . or to maintain hospitals and schools. Thus, it

could be said that the cathedrals cost hundreds of thousands of human lives.”

How They Were Built

Cathedrals are a testimony to human ingenuity. It is truly amazing that such immense buildings were constructed with the use of primitive technology. First, detailed plans of the building were drawn up. At the stone quarry, templates were used to ensure the uniformity of decorative features and the correct size of stone blocks. The blocks were carefully marked to indicate their exact place in the structure. Transport was extremely slow and expensive, but in spite of this, according to French historian Jean Gimpel, ‘between 1050 and 1350, France quarried more stone than ancient Egypt.’

At the construction site itself, workers accomplished great feats using the primitive lifting gear of the day—pulleys and hoists, often powered by men walking on wooden treadmills. The mathematical formulas used by engineers today were unknown back then. Builders had to rely on instinct and experience. Not surprisingly, many serious mishaps occurred. In 1284, for example, the vaults of Beauvais cathedral, in France, proved to be too large, and they collapsed. However, innovative features such as buttresses, flying buttresses, rib vaulting, and pinnacles enabled builders to reach new heights.

Construction lasted anywhere from 40 years for the fastest (Salisbury, England) to several centuries. Some, such as the cathedrals in Beauvais and Strasbourg, France, have never been finished.

An Error of Priorities

These ‘beautiful and thus costly structures,’ as Pope Honorius III put it, caused controversy from the start. Voices within the church were raised against the work and the phenomenal sums involved. Pierre

* See the article “The Cathari—Were They Christian Martyrs?” in the September 1, 1995, issue of *The Watchtower*, published by Jehovah’s Witnesses, pages 27-30.

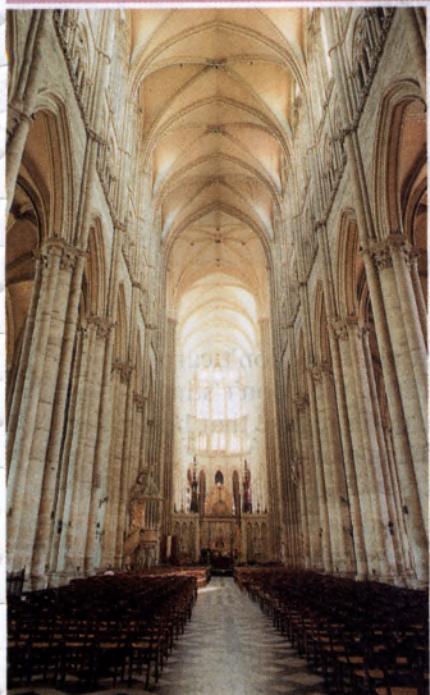
le Chantre, a 13th-century prelate of Notre-Dame de Paris, declared: "It is sinful to build churches as is done at present."

Even today the cathedral at Évry, to name but one, provokes harsh criticism. As reported by the French newspaper *Le Monde*, many people feel that cathedrals reflect "an error in priorities" and that the churches "should invest in people and in evangelization rather than in stones and decoration."

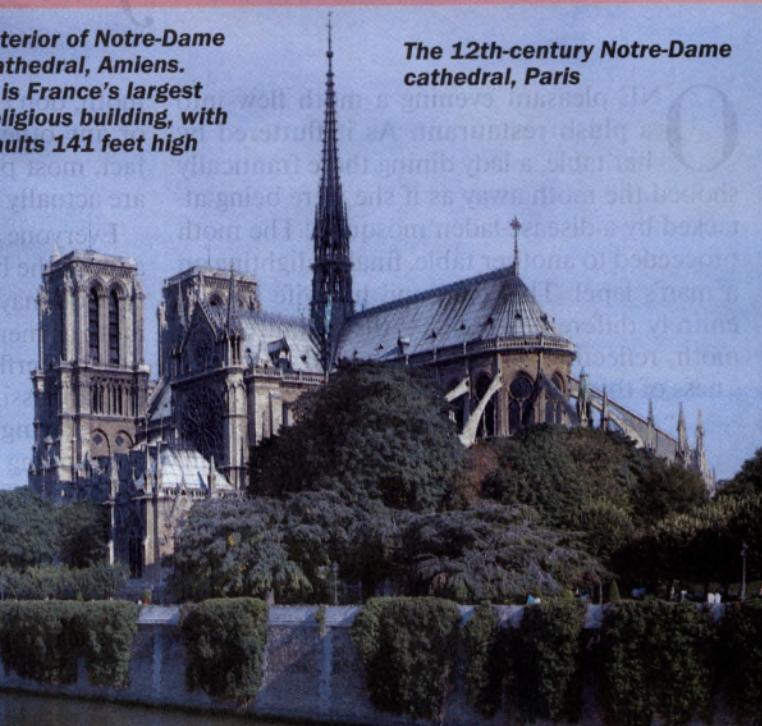
No doubt many who shared in the building of these vast edifices had a sincere love of God. Such ones clearly had "a zeal for God," but it was "not according to accurate knowledge." (Romans 10:2) Jesus Christ never suggested that his followers construct elaborate houses of worship. He urged true worshipers to "worship with spirit and truth." (John 4: 21-24) In spite of their beauty, Christendom's mighty cathedrals stand in contradiction to this principle. They may be monuments to the men who built them, but they fail to glorify God.



Top: The stained-glass rose window of Notre-Dame, Chartres, France
Above: Detail of a stonemason, Notre-Dame, Paris



Interior of Notre-Dame cathedral, Amiens.
It is France's largest religious building, with vaults 141 feet high



The 12th-century Notre-Dame cathedral, Paris



The Beautiful Moth

ONE pleasant evening a moth flew into a plush restaurant. As it fluttered by her table, a lady dining there frantically shooed the moth away as if she were being attacked by a disease-laden mosquito! The moth proceeded to another table, finally alighting on a man's lapel. This man and his wife had an entirely different reaction—they admired the moth, reflecting on the beauty and harmlessness of this delicate creature.

"Moths are about as harmless as a creature can get," explains John Himmelman, cofounder of the Connecticut Butterfly Association. "They have no biting mouth parts, and some adults, such as the well-known luna

moth, don't eat at all. They don't carry rabies or any other diseases, they don't sting . . . In fact, most people don't realize that butterflies are actually day-flying moths."

Everyone admires butterflies, but few stop to admire the beauty and variety of moths. "Beauty?" you may say, skeptically. Some think of the moth as merely a lackluster cousin of the beautiful butterfly, yet both are given the same scientific classification—Lepidoptera, meaning "scaly wings." The wide variety observable among these lovely creatures is astounding. *The Encyclopedia of Insects* states that there are 150,000 to 200,000 known species of Lepidoptera. But of these, only 10 per-

2



3



4



cent are butterflies—the rest are moths!

Like many other people, I hardly thought of moths except when putting away my winter clothes and placing mothballs around them in an attempt to repel the clothes moth. I did not know that as adults, moths do not eat fabric at all—they only do so while in the larval stage as caterpillars.*

What changed my outlook toward moths? Some time ago my husband and I paid a visit to some friends of ours named Bob and Ronda. Bob knew quite a bit about moths. He showed me a small box containing what I at first thought was a beautiful butterfly. He explained that it was a cecropia, or robin moth, one of the largest moths in North America. It can attain a wingspan of up to six inches and has a life cycle of one year. How amazed I was to learn that its life as an adult lasts a mere 7 to 14 days! A close examination of the lovely cecropia gave me a whole new perspective on moths.

* Some moth larvae also cause considerable crop damage.

**1. Robin moth
(cecropia)**

Natural Selection© - Bill Welch

2. Polyphemus moth

A. Kerstitch

3. Sunset moth

A. Kerstitch

4. Atlas moth

Developmental stages

of the cecropia moth

include:

1. Eggs

2. Caterpillar

Natural Selection© - Bill Welch

3. Adult moth

Bob pointed to some small specks on the bottom of his box. "These specks are eggs," Bob explained, "and I hope to raise them to adulthood." Raise a moth? I was intrigued by the idea. It turned out, though, that executing this plan was not so easy. For two weeks Bob tried unsuccessfully to hatch the eggs. He then decided to mist them with water. Within a week after the misting, 26 of the 29 eggs hatched in one day. Bob then placed the fragile larvae, each about the size of a mosquito, into a smooth casserole dish to keep them from crawling out.

The first meal the emerging larvae ate was their own egg cases. After that, Bob had to provide food, which proved to be a bit of a challenge. After doing some research, he tried feeding them maple leaves. The larvae crawled onto the leaves but did not eat them. However, when Bob offered cherry and birch leaves, they readily consumed them.

When the tiny larvae had grown into caterpillars, Bob transferred them to a terrarium with a screened top. The terrarium provided the proper balance of moisture for the caterpillars and the leaves. It also served to contain the caterpillars, since they developed a wanderlust as soon as they were able to crawl.

Providing food for 26 hungry caterpillars turned out to be more work than expected. Each time that Bob packed the terrarium with leaves, the caterpillars devoured the entire supply within two days. At this point he enlisted the help of his sister and two young friends, a boy and a girl, to share in watching and feeding the growing brood.

The caterpillars' consumption of large quantities of food is vital, not only for growth during their larva stage but also for nourishment



when they become adults. You see, the adult cecropia moth does not have functional mouth parts, and it does not eat at all! For sustenance during its brief adult life, it depends entirely on the food it ingested during its larval stage.

Getting New Skins

As the caterpillars grew, they shed their skins, or molted, several times. The stages of a caterpillar's life between molts are called instars.

A cecropia caterpillar's skin does not grow, so when the caterpillar becomes so large that its skin is stretched to the limit, it is time for it to molt. Bob could tell when this was about to happen because the caterpillars

stopped eating.

After spinning silk-en pads and attaching themselves to them, the caterpillars remained still for several days while they developed a new skin. When the new skin was ready, the caterpillars simply walked out of their old skins, leaving them attached to the silk pad. Seeing the caterpillars in their last instar, I was amazed at how big they had grown. They were nearly five inches long and larger in diameter than my index finger.

Spinning a Cocoon

After the last instar, each caterpillar spun a cocoon—a large mass of grayish threads affixed to a stick. Cecropias make cocoons of two types. One is a large, loose, baggy structure with a rounded bottom and a tapered neck. The other type is smaller and denser and is oblong in design with a tapered neck and bottom. Both types contain a tightly-wound inner cocoon. Cecropia cocoons are generally reddish-brown, brown, drab green, or gray. Compared with the cocoons of other North American species, the cocoons of cecropia moths are enormous—up to four inches long and two inches wide. And these amazing structures are able to protect their inhabitants in temperatures as low as -30 degrees Fahrenheit.

After the caterpillars settled into their cocoons, there was nothing for us to do but wait patiently. The unveiling took place the following spring, about one year after Bob had first received the adult moth. Bob placed the sticks holding the cocoons in a piece of plastic foam to keep them standing upright. Soon, all the cecropias but one emerged from their cocoons, making the patience and hard work worthwhile.

Increased Appreciation for Moths

Witnessing the remarkable life cycle of the

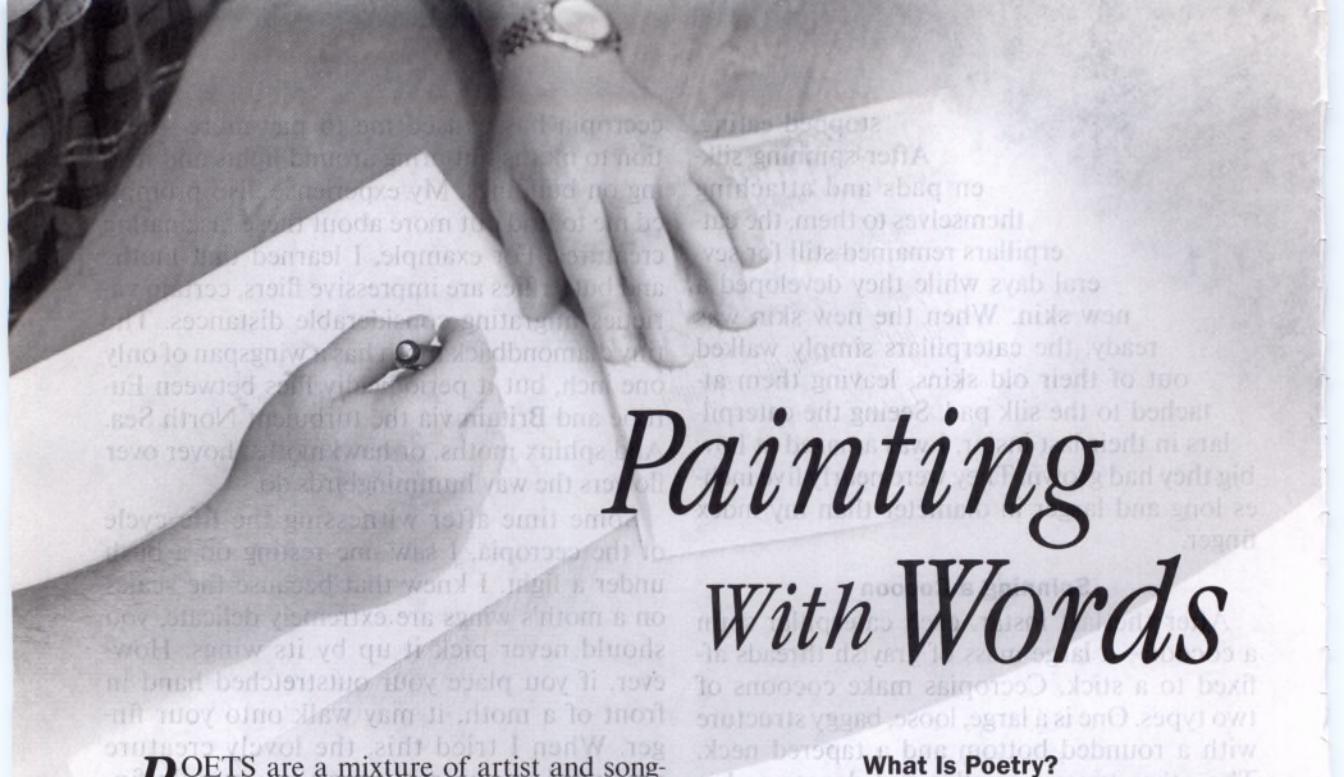
cecropia has caused me to pay more attention to moths fluttering around lights and resting on buildings. My experience also prompted me to find out more about these fascinating creatures. For example, I learned that moths and butterflies are impressive fliers, certain varieties migrating considerable distances. The tiny diamondback moth has a wingspan of only one inch, but it periodically flies between Europe and Britain via the turbulent North Sea. And sphinx moths, or hawkmoths, hover over flowers the way hummingbirds do.

Some time after witnessing the life cycle of the cecropia, I saw one resting on a bush under a light. I knew that because the scales on a moth's wings are extremely delicate, you should never pick it up by its wings. However, if you place your outstretched hand in front of a moth, it may walk onto your finger. When I tried this, the lovely creature rewarded me by resting on my middle finger. Eventually, it took to flight over the treetops. As it flew away, I thought of how much it looked like a butterfly. The next time you think you see a butterfly, take a second look. It may very well be a beautiful, harmless moth.

—Contributed.

CROSSWORD SOLUTIONS

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Painting With Words

POETS are a mixture of artist and songwriter. Their pens are impelled as much by their hearts as by their heads. Hence, well-written poems can inspire you. They can also make you think, laugh, or cry. The book *The Need for Words* says: "Poetry is often nothing more than words organised to have a high, sudden impact. That's partly the reason why great poems . . . are unforgettable in every way."

Beautiful poetry is rarely the work of a shallow mind. Poetry has a long association with what matters most in life—relationships, love, spirituality, nature, and the meaning of life. It comes as no surprise, therefore, that poetry is one of the oldest art forms. Comparing poetry with prose (ordinary written language), one famous poet said that if both described the same thing and were equally well written, "the verse will be read a hundred times where the prose is read once."

As you may have noticed, however, poetry takes many different forms. It may rhyme, or it may not. Sometimes it even seems to border on prose. So, what exactly is poetry?

What Is Poetry?

The Macquarie Dictionary defines poetry as "the art of rhythmical composition, written or spoken, for exciting pleasure by beautiful, imaginative, or elevated thoughts" and as "literary work in metrical form; verse." Note the two key aspects of poetry—*rhythm* and *meter*. Rhythm is part of the world around us. We see it in the ocean tides, in the seasons, and even in the beat of our heart. In verse, rhythm is the flow of sound produced by the language; we sense something repeating as we read. Meter is the pattern of rhythm, and it may vary from poem to poem. Another popular poetic device is *rhyme*. The rhyming elements are usually the last words on a line. Of course, rhyming patterns may vary. Sometimes the rhyme follows immediately on the next line, or it may be delayed.

Not dependent on rhyme, Japanese haiku is famous for combining beauty of thought with astonishing brevity. It packs its thoughts into just three lines comprising 17 syllables—5 in the first and third lines and

7 in the second.* Its beauty and simplicity have made haiku an enjoyable introduction to poetry for many, even kindergartners.

Traditionally, poetry is renowned for compressing considerable thought into few words. *The World Book Encyclopedia* states that poetic words “suggest much more than they say. They stir your imagination . . . The language of poetry is packed under pressure, and the meaning of a single word may trigger the thought, letting the entire poem explode in your imagination.” Of course, you may have to read some poems a number of times before they “detonate” in your mind, allowing you to grasp their sense.

In order to create the desired effects, poets select their words the way a jeweler selects his stones. King Solomon of Israel, a composer of proverbs and songs, “pondered and made a thorough search” in order to find “delightful words” and “correct words of truth.”—Ecclesiastes 12:9, 10; 1 Kings 4:32.

Solomon and his father, David, wrote in the traditional Hebrew form of their day. Hebrew verse, which was often sung to musical accompaniment, is not dependent on rhyme. Rather, it is noted for its rhythm of thought, or ideas—a literary form called *parallelism*. Lines may be synonymous in expression, or they may present contrasting thoughts. (Psalm 37:6, 9) Often the second line expands the thought of the first by adding something fresh. Observe how this is done at Psalm 119:1:

* For a discussion of haiku, please see *Awake!* of January 8, 1989.

A considerable portion of the Hebrew Scriptures consists of poetry

*Happy are the ones faultless in their way,
The ones walking in the law of Jehovah.*

Note how the second line reveals what it means to be faultless, namely, to walk in the law of Jehovah. Because Biblical Hebrew employs parallelism, or sense rhythm, rather than rhyme, it is more readily translated.*

A Vehicle for Every Emotion

Along with song, poetry is a superb vehicle for carrying the full range of emotions. Observe the blend of utter delight and the feeling of patience rewarded that is captured by Adam’s words when Jehovah presented Eve to him in the garden of Eden:

This is at last bone of my bones

And flesh of my flesh.

This one will be called Woman,

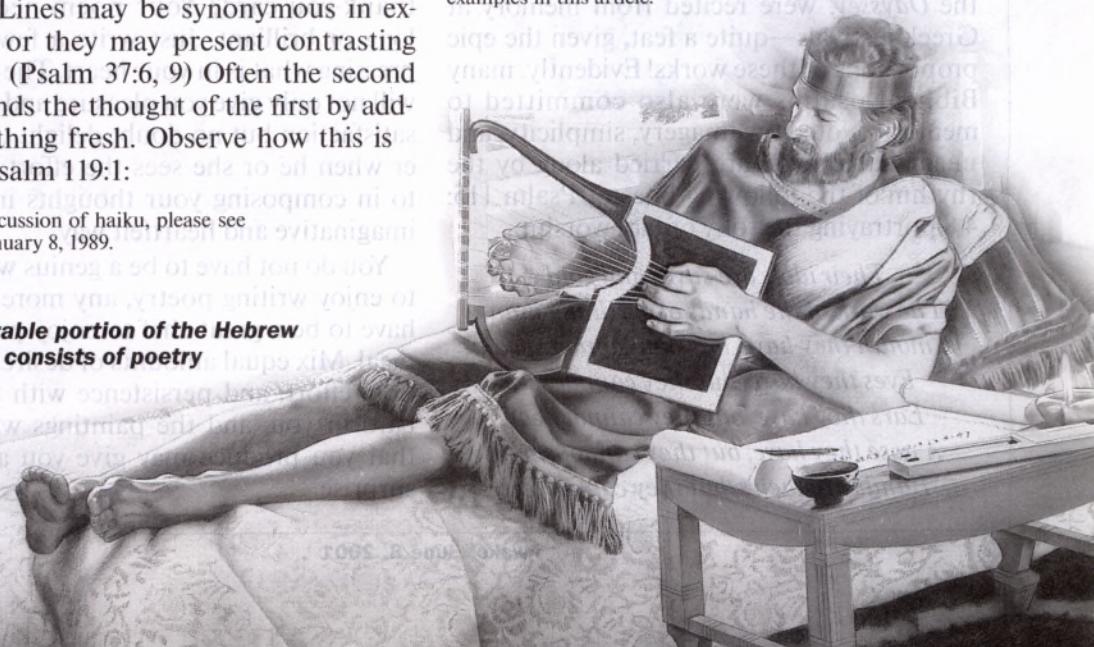
Because from man this one was taken.

—Genesis 2:23.

What is truly remarkable about this passage is how much it says literally and conveys emotionally in just a few lines—an economy that is even more evident in the

* *Awake!* is translated into 83 languages.

Hence, we have chosen to use Biblical, rather than non-Biblical, verse as examples in this article.



original tongue. Likewise, the poetic books of Job, Psalms, Proverbs, and Lamentations capture an impressive range of emotions, besides teaching vital spiritual truths. In fact, in the original Hebrew, the very first psalm opens with the word "happy" or "blessed." How would you describe the feelings of the writer of the following words of Psalm 63:1? Note the rich imagery, a salient feature of Hebrew verse.

*O God, you are my God,
I keep looking for you.
My soul does thirst for you.
For you my flesh has grown faint with longing
In a land dry and exhausted,
where there is no water.*

The book of Lamentations captures yet another spirit. In it Jeremiah laments the tragedy that befell Jerusalem at Babylonian hands in 607 B.C.E. He pours out his heart in five lyrical dirges that exude the prophet's sadness yet also his awareness that divine justice was done.

Poetry Aids the Memory

Because of its attributes, poetry often lends itself well to memorization. The oldest surviving Greek poems, the *Iliad* and the *Odyssey*, were recited from memory at Greek festivals—quite a feat, given the epic proportions of these works! Evidently, many Biblical psalms were also committed to memory. Note how imagery, simplicity, and unassailable logic are carried along by the rhythm of the following lines of Psalm 115: 4-8 portraying the folly of idol worship:

*Their idols are silver and gold,
The work of the hands of earthling man.
A mouth they have, but they cannot speak;
Eyes they have, but they cannot see;
Ears they have, but they cannot hear.
A nose they have, but they cannot smell.
Hands are theirs, but they cannot feel.*

*Feet are theirs, but they cannot walk;
They utter no sound with their throat.*

*Those making them will become
just like them,
All those who are trusting in them.*

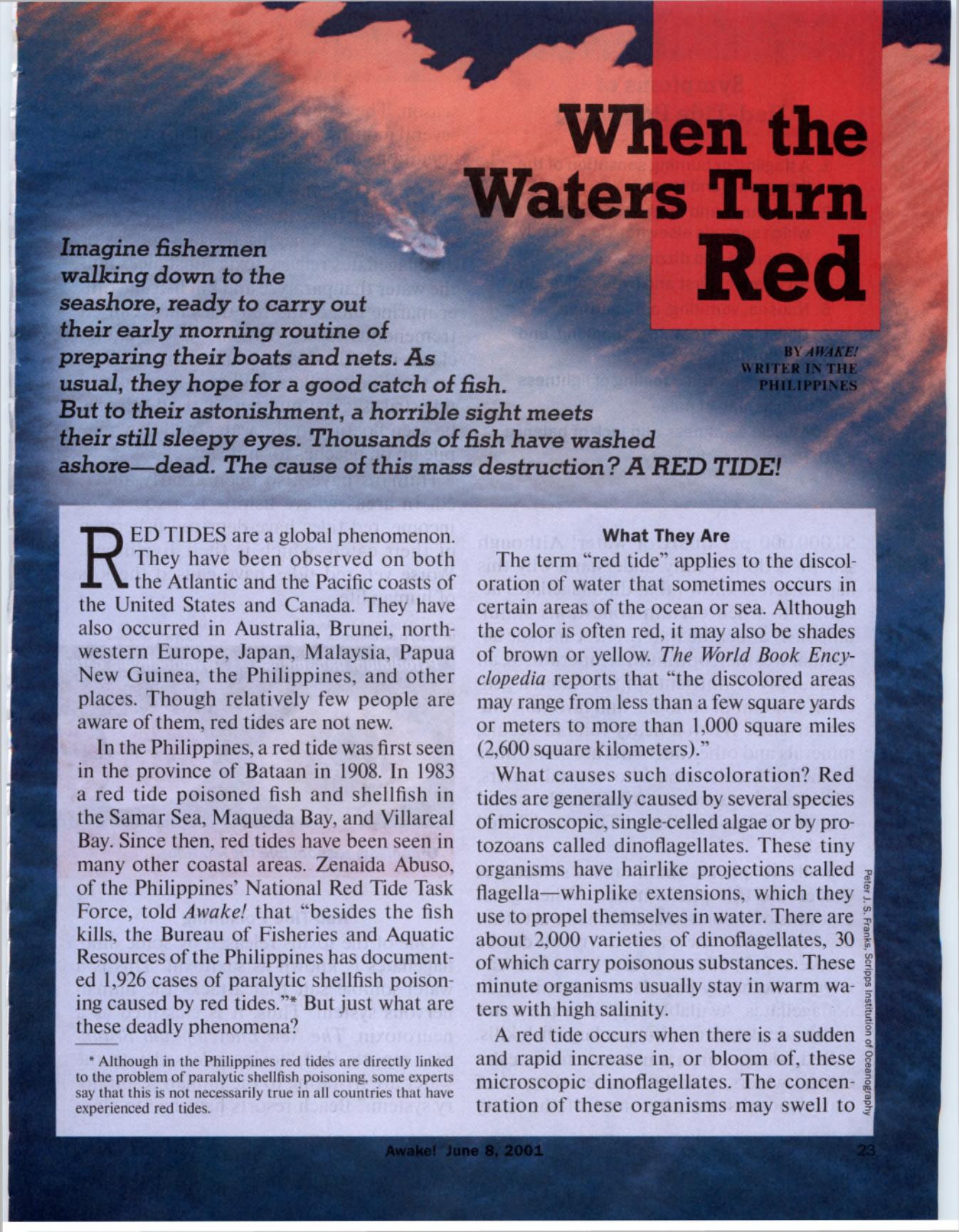
No doubt most people would have little trouble remembering a vivid, powerful passage like that.

Do You Want to Write Poetry?

From nursery rhymes to advertising jingles, poetry is a part of our lives. Hence, most people are familiar with at least the basic concepts of verse. But if you want to write poetry yourself, you may first want to read a broad selection of verse. This will help you to grasp the various principles of composition, besides expanding your vocabulary. Of course, you need to be selective so as not to expose yourself to anything that is unwholesome or degrading. (Philippians 4: 8, 9) Naturally, the best way to learn to write verse is to sit down with pencil and paper and write.

In time, you may even be able to write poetry for the enjoyment of family and friends. Why not try putting your thoughts into verse when you send someone a get-well or thank-you card? Your poem need not be long or brilliant. Just write a few lines expressing what is in your heart. The challenge will not only give you pleasure and a sense of satisfaction but no doubt delight the receiver when he or she sees the effort you went to in composing your thoughts in such an imaginative and heartfelt way.

You do not have to be a genius with words to enjoy writing poetry, any more than you have to be a great chef to enjoy preparing a meal. Mix equal amounts of desire, imagination, effort, and persistence with the latent bard in you, and the paintings with words that you produce may give you a pleasant surprise.



When the Waters Turn Red

Imagine fishermen walking down to the seashore, ready to carry out their early morning routine of preparing their boats and nets. As usual, they hope for a good catch of fish. But to their astonishment, a horrible sight meets their still sleepy eyes. Thousands of fish have washed ashore—dead. The cause of this mass destruction? A RED TIDE!

BY AWAKE!
WRITER IN THE
PHILIPPINES

RED TIDES are a global phenomenon. They have been observed on both the Atlantic and the Pacific coasts of the United States and Canada. They have also occurred in Australia, Brunei, northwestern Europe, Japan, Malaysia, Papua New Guinea, the Philippines, and other places. Though relatively few people are aware of them, red tides are not new.

In the Philippines, a red tide was first seen in the province of Bataan in 1908. In 1983 a red tide poisoned fish and shellfish in the Samar Sea, Maqueda Bay, and Villareal Bay. Since then, red tides have been seen in many other coastal areas. Zenaida Abuso, of the Philippines' National Red Tide Task Force, told *Awake!* that "besides the fish kills, the Bureau of Fisheries and Aquatic Resources of the Philippines has documented 1,926 cases of paralytic shellfish poisoning caused by red tides."^{*} But just what are these deadly phenomena?

What They Are

The term "red tide" applies to the discoloration of water that sometimes occurs in certain areas of the ocean or sea. Although the color is often red, it may also be shades of brown or yellow. *The World Book Encyclopedia* reports that "the discolored areas may range from less than a few square yards or meters to more than 1,000 square miles (2,600 square kilometers)."

What causes such discoloration? Red tides are generally caused by several species of microscopic, single-celled algae or by protozoans called dinoflagellates. These tiny organisms have hairlike projections called flagella—whiplike extensions, which they use to propel themselves in water. There are about 2,000 varieties of dinoflagellates, 30 of which carry poisonous substances. These minute organisms usually stay in warm waters with high salinity.

A red tide occurs when there is a sudden and rapid increase in, or bloom of, these microscopic dinoflagellates. The concentration of these organisms may swell to

* Although in the Philippines red tides are directly linked to the problem of paralytic shellfish poisoning, some experts say that this is not necessarily true in all countries that have experienced red tides.

Symptoms of Red-Tide Poisoning

1. A tingling or burning sensation of the lips, gums, and tongue
2. Numbness and tingling of the face, which spreads elsewhere in the body
3. Headache and dizziness
4. An intense thirst and hypersalivation
5. Nausea, vomiting, and diarrhea
6. Difficulty in breathing, speaking, and swallowing
7. Joint aches and a feeling of lightness
8. Quickenning of pulse
9. Muscle weakness and lack of balance
10. Paralysis of the body

50,000,000 per quart of water! Although scientists do not fully understand why this happens, it is known that dinoflagellates accumulate when certain conditions simultaneously affect the water. These include abnormal weather, optimum temperatures, an oversupply of nutrients in the water, a generous amount of sunlight, and favorable water currents. When a heavy rainfall occurs, minerals and other nutrients are sometimes washed from the land into coastal waters. These nutrients can contribute to the proliferation of dinoflagellates. The result? Red tides!

Sadly, it appears that humans sometimes exacerbate this phenomenon. When great amounts of industrial and human wastes are discharged into the water, the result can be an oversupply of certain nutrients. This can trigger the heavy population growth of dinoflagellates. Available oxygen in the water is soon depleted, resulting in large fish kills.

Red tides occur in warm seas and in calm coastal waters, usually between the end of warm months and the onset of the rainy

season. They may last from a few hours to several months, depending on the prevailing conditions in the area.

The Victims

Most red tides are harmless; however, some are very damaging. Certain species of dinoflagellates release toxic substances into the water that paralyze and kill fish and other marine life. Some red tides have caused tremendous losses of fish, oysters, squid, clams, mussels, shrimps, and crabs that feed on the dinoflagellates. When a harmful red tide strikes, great numbers of dead fish may be seen floating in the water, and they may pile up on beaches for miles.

Humans have also been greatly affected. In areas where fishing is a source of income, red tides have deprived fishermen of their catch, which is their livelihood. Worse yet, red tides have caused the loss of human life.

Courtesy of Dr. Rhodora V. Azanza,
University of the Philippines

Courtesy of
Dr. Haruyoshi Takayama

Pyrodinium bahamense



Gymnodinium catenatum



Organisms responsible for red tides

Red-Tide Poisoning

One of the toxins released by some dinoflagellates is known as saxitoxin. This is a water-soluble salt that attacks the human nervous system. Thus, it is classified as a neurotoxin. *The New Encyclopædia Britannica* reports that "toxins released into the water are irritating to the human respiratory system." Beach resorts have had to close

when red-tide toxins have been released into the air as a result of wave action.

Are you fond of eating shellfish and other seafood? Well, red tides can make shellfish that feed on the dinoflagellates poisonous. *InfoMapper* magazine states that 'bivalves and other shellfish like oysters, mussels, and clams pose the greatest danger because they are filter feeders and absorb more toxins than fish.' However, "fish, squid, shrimps, and crabs . . . can still be safe for human consumption." The reason? Red-tide toxins accumulate in the intestines of these creatures, and these are usually removed before cooking.

Still, there is need for caution when eating seafood—especially shellfish—taken from areas known to be contaminated by red tides. Such tides can cause a condition called paralytic shellfish poisoning, or PSP. If you have ingested red-tide toxins, you may feel symptoms within 30 min-

utes. The accompanying chart lists some of these symptoms. If not treated appropriately, PSP could culminate in respiratory paralysis, which can lead to death.

ASEAN-Canada Cooperative
Programme on Marine Science

Gambierdiscus toxicus



At present, an antidote for red-tide poisoning is still unknown. However, some emergency procedures have had a measure of success. Red-tide toxins may be removed from a patient's stomach by inducing him to vomit. Gastric lavage through a stomach tube has also been used to expel the poisons. In some cases, artificial respiration is necessary. In the Philippines some feel that drinking coconut milk with brown sugar helps victims to recover faster.

The Solution

Presently, red tides are largely beyond our control. But many believe that the problem of red tides could be minimized if fewer chemical fertilizers and pesticides were used. This would prevent them from washing into the sea. Prohibiting the dumping of industrial and human wastes into bodies of water would also help. Another approach would be to rid coastlines of possible sources of nutrients that can cause the dinoflagellates to multiply.

In the meantime, some governments are carefully monitoring the situation. In the Philippines, for example, a government agency regularly tests shellfish to ensure their safety for local and international markets. Ultimately, however, only the Creator can eliminate the harmful effects that come to mankind when the waters turn red.

Grant Pitcher/Courtesy WHOI

Effects of red tide





Are All Religions Different Roads Leading to God?

IFIND it literally incredible that the God of the whole universe has chosen to be known by one religious tradition," stated author Marcus Borg. Nobel Peace Prize winner Desmond Tutu said: "No religion can claim to have the whole truth about the mystery" of faith. A popular Hindu view is "*Jotto moth, totto poth*," which means when loosely translated that all religions are but different roads leading to the same goal. Buddhists also share this viewpoint. Indeed, millions of people believe that all religions are different roads leading to God.

Historian Geoffrey Parrinder stated: "It is sometimes said that all religions have the same goal, or are equal ways to the truth, or even that all teach the same doctrines." The teachings, rituals, and deities of religions are indeed similar. Most religions speak about love and teach that murder, stealing, and lying are wrong. In most religious groups,

some put forth sincere efforts to help others. So, then, if one is sincere in his beliefs and tries to live a good life, does it matter what religion he belongs to? Or are all religions just different roads leading to God?

Sincerity Alone—Is It Enough?

Consider the case of the first-century Jewish man named Saul, who became the Christian apostle known as Paul. He was a very zealous adherent of Judaism, and this led him to try to stamp out the worship of the followers of Christ, which worship he felt was improper. (Acts 8:1-3; 9:1, 2) But through God's mercy Saul came to realize that very religious people like himself might have a zeal for God, and yet, because of not having all the facts, they might be wrong. (Romans 10:2) When Saul learned more about God's will and dealings, he changed and began to worship with the very ones

he had been persecuting—the followers of Jesus Christ.—1 Timothy 1:12-16.

Does the Bible say that there are hundreds of faiths to choose from and that whichever one we select will be all right with God? The apostle Paul received instructions from the resurrected Jesus Christ that said quite the contrary. Jesus sent him to people of the nations “to open their eyes, to turn them from darkness to light and from the authority of Satan to God.” (Acts 26:17, 18) Clearly, our choice of religion does matter. Many of the people to whom Paul was sent already had a religion. But they were in “darkness.” Indeed, if all religions were simply different roads leading to life everlasting and God’s favor, there would have been no need for Jesus to train his followers for the disciple-making work that he commissioned them to do.—Matthew 28:19, 20.

In his famous Sermon on the Mount, Jesus said: “Go in through the narrow gate; because broad and spacious is the road leading off into destruction, and many are the ones going in through it; whereas narrow is the gate and cramped the road leading off into life, and few are the ones finding it.” (Matthew 7:13, 14) The Bible explicitly states that there is “one faith.” (Ephesians 4:5) Clearly, many who are on the “broad” road have a religion. But they do not have the “one faith.” Since there is only one true form of worship, those who desire to find that true faith will have to seek it out.

Search for the True God

From the very beginning of man’s history, God has told humans what he wants them to do. (Genesis 1:28; 2:15-17; 4:3-5) Today his requirements are clearly explained in the Bible. This makes it possible for us to distinguish between acceptable worship and unacceptable worship. (Matthew 15:3-9) Some people have inherited their religion, while others just go along with the majority

in the community. For many, religion is simply a matter of when and where they were born. However, should you leave your choice of religion to chance or let others make this decision for you?

Your choice of religion should be an informed one based on a careful examination of the Scriptures. In the first century, certain educated people did more than simply accept the apostle Paul’s words at face value. They ‘carefully examined the Scriptures daily as to whether these things were so.’ (Acts 17:11; 1 John 4:1) Why not do the same yourself?

The Bible describes the God of the universe as looking for people to worship him with truth. As recorded at John 4:23, 24, Jesus explained: “Nevertheless, the hour is coming, and it is now, when the true worshipers will worship the Father with spirit and truth, for, indeed, the Father is looking for suchlike ones to worship him. God is a Spirit, and those worshiping him must worship with spirit and truth.” Only “worship that is clean and undefiled from the standpoint of our God and Father” is acceptable to him. (James 1:27) God has blessed the search of millions to find the narrow road that leads to life. He will not give eternal life to the indifferent but rather to those who put forth a real effort to find the narrow way he has set out and then follow it.—Malachi 3:18.

IN OUR NEXT ISSUE

Water—Will There Be Enough?

**The Dalmatin Bible
—Rare but Not Forgotten**

A Unique Floral Region

WATCHING THE WORLD

Small Children and Shocking Music

Children as young as seven or eight years of age are being exposed to music laced with profanity, sexually explicit lyrics, and violence, reports the *Chicago Tribune*. "In the past, children from kindergarten to middle-school age had their own 'kids' music,'" but "today's elementary school children are likely to be tuning in the same stations as their parents or teenage siblings." And while recording companies in the United States are required to put warning labels on compact discs with violent or explicit lyrics to help keep them out of the hands of children, such music can easily be reviewed at listening stations in music stores. Diane Levin, a specialist in media culture and children, at Wheelock College in Boston, warned: "We get more and more desensitized as things get more and more extreme."

"Saint" Columbus?

"The Vatican is being pressed to make Christopher Columbus a saint," reports *The Times* of London. Scholars examining Vatican archives claim that it was, not King Ferdinand and Queen Isabella of Spain who funded Columbus' voyages, but Pope Innocent VIII who sent him on a secret mission to fund the Crusades and to "gain souls for Christianity." A note written by Pope Pius IX in 1851 says, in part: "It will be shown with absolute certainty that

Columbus undertook his excellent plan on the impulse of and with the assistance of this apostolic seat." The next pope, Leo XIII, described the explorer as "a man of the Church." Upon Columbus' return to Spain in 1493, however, the rights to his discoveries were signed over to the Spanish throne by the Spanish Borgia Pope Alexander VI, who had succeeded Innocent VIII.

Avoiding Debt



A consumer watchdog group in the United Kingdom has "launched a major campaign, *Don't let credit turn into debt*, to warn people of the dangers of excess debt," reports Newstream.com. According to the Office of Fair Trading (OFT), consumer credit in the UK has surged more than 60 percent in the past four years. Moreover, the average person now carries roughly \$3,700 of unsecured debt. The OFT suggests doing the following before you obtain credit: "Ask yourself honestly if you can afford it." Second, shop around. Many people seek the best price when purchasing goods but settle for whatever interest rates are offered by the merchant. Compare annual percentage rates of

banks or credit card companies to see if you can get cheaper credit. And third, if you become burdened by debt, seek help.

Ingenious Recycling

Using disposable plastic bottles, a group of farmers built a five-mile-long aqueduct near Trujillo, in northern Peru. According to Lima's newspaper *El Comercio*, 81 farmers acquired some barren land and located a water source, but they could not afford to buy the pipe that was needed to transport the water to their land. To solve the problem, one of the farmers suggested another approach. They purchased discarded plastic bottles and spent 14 days cutting off both ends and joining 39,000 of them together as one continuous tube. The aqueduct will serve as a temporary water supply until a well can be dug.

Fetuses Learn and Have Memory

"Babies not only learn while still in the womb, they also have a 10-minute, short-term memory as well as a 24-hour, long-term memory," reports Reuters news service. Dutch researchers at the University Hospital in Maastricht used vibrations and acoustics to stimulate "25 fetuses between 37 and 40 weeks of gestation" and "observed their reactions with an ultrasound scanner." After the initial tests were performed, the stimulation was repeated at 10-minute and 24-hour intervals. "If the baby moved a limb within

one second of the stimulation, it was regarded as a positive response," says Reuters, but "when the baby failed to respond after four consecutive stimuli, it indicated that the baby came to recognize the stimuli." The scientists found that when the tests were repeated, the fetuses became acclimated and no longer responded to the stimulus, indicating that they remembered the stimuli.

Women and Heart Disease

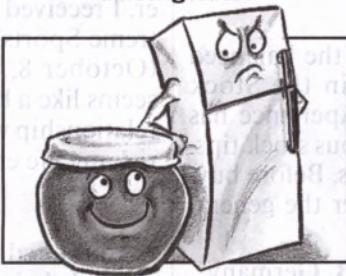
"Heart disease has traditionally been seen as a man's disease, even though equal numbers of males and females die from it every year," reports *The Toronto Star*. The newspaper states that heart disease among women is often diagnosed too late. The symptoms of heart disease—North America's leading cause of death—differ between men and women. "While men often experience heavy chest pain that can radiate to the neck, back and shoulders, women are more likely to have jaw pain, shortness of breath and nausea," says the *Star*. Symptoms appear most often in women over 55, when estrogen supplies are depleted. "Once that's completely gone, we do a very rapid catch-up with men in terms of heart disease," says Dr. Stephanie Brister, a heart surgeon at Toronto General Hospital.

Lung Cancer in British Women

"Deaths from lung cancer have overtaken breast cancer for the first time among British women, making it the biggest female cancer killer," reports

The Daily Telegraph of London. Women now dying from the disease are those who started smoking four decades ago when the habit was advertised as an aid in losing weight. Britain's Cancer Research Campaign says that over the past 20 years, women's breast cancer deaths fell by 5 percent, while deaths from lung cancer rose by 36 percent. Over the same period, the number of men who died from lung cancer dropped 31 percent, reflecting a decline in smoking by men. Professor Gordon McVie, director general of the campaign, observes that despite warnings, "more young girls than boys are taking up the habit."

Fresh Food Without a Refrigerator



Keeping perishable food cool and fresh without the aid of a powered refrigerator is challenging. However, a simple, cheap invention is proving very successful in semiarid northern Nigeria. It involves placing one earthenware pot inside another and filling the space between them with wet sand. Food is put in the smaller pot, and the pot is covered with a damp cloth. "Warm air outside draws moisture to the surface of the outer pot, where it evaporates," says *New Scientist* magazine. "The

water vapour carries heat away with it, so this drying action creates a constant heat flow from the interior of the pot, as long as the sand and cloth are kept wet." When this method is used, tomatoes and peppers can remain fresh for over three weeks and eggplants can last nearly a month. The inventor of the "pot-in-pot" system, Mohammed Bah Abba, says that farmers can now sell produce as it is needed, and their daughters, who would normally stay home each day to sell food, are free to attend school.

World Loses Two Animal Breeds a Week

The world is losing 2 farm animal breeds every week, and 1,350 breeds are threatened by extinction, reports Italy's *Corriere della Sera* newspaper. Researchers from the UN Food and Agriculture Organization (FAO) spent ten years studying 6,500 domesticated mammals and birds in 170 countries. According to Dr. Keith Hammond, senior officer of FAO's Animal Genetic Resources Group, "if something is not done, a third of breeding species will be lost in the next 20 years." A Reuters news report from Rome explains that the export of animals from developed lands has aggravated this problem. The imported animals may mate with local animals, causing local breeds to die out. "The problem, however," notes Dr. Hammond, "is that these animals are mainly suited to the conditions of the country they come from and they have difficulty coping with the often harsh environment of developing countries."

FROM OUR READERS

Universe I loved the series "The Universe—Did It Come About by Chance?" (October 8, 2000) It was very interesting to see how Jehovah God created everything in such an organized way. The article clearly shows that we are the product of creation and not evolution.

E. V., United States

Air Safety Thank you for the article "Making Air Travel Safer." (September 22, 2000) I noticed, though, that the pilot's cabin pictured is not of the Boeing 747 as stated but of a Boeing 777.

M. R., Czechia

We were unable to obtain photographs of a Boeing 747 simulator. Hence, the article stated that the 747 simulator is "similar to the one shown."—ED.

Stock Market Thank you for the balanced article "Is It Wise to Invest in the Stock Market?" (October 8, 2000) Experience has taught me to be careful of dubious stock tips. They often lead to greater losses. Before buying stocks, it is wise to consider the general market situation.

N. B., Germany

I disagree with the assertion that investing in the stock market is not putting one's trust in "the god of Good Luck." (Isaiah 65:11) Putting one's money into a volatile system that operates entirely at random is gambling.

P. B., United States

Admittedly, investing in the stock market can carry a high degree of risk. And, as with any business venture, random factors are involved. However, it would not be accurate to say that trading stocks is gambling. Gambling involves the exchange of money without any exchange of real goods. A stock, however, represents an actual share in the ownership of a business. Trading

stocks can thus be viewed as the buying and selling of legitimate goods.—ED.

Siberian Exile I was strengthened by the faithfulness of Stepan and other faithful Christian brothers mentioned in the story of Alexei Davidjuk, "My Chief Concern—Remaining Loyal." (October 8, 2000) I was affected by the reason given for one brother's disloyalty—"because he gave up reading and believing the Bible." These words have given me renewed strength to continue studying the Holy Scriptures regularly.

A. V., Georgia

Extreme Sports Recently I was given the opportunity to go hang gliding. The offer was tempting, but I was curious about what the Bible had to say on the matter. A few days later, I received the answer in your article "'Extreme Sports'—Should You Take the Risk?" (October 8, 2000) Hang gliding certainly seems like a breathtaking experience. But my relationship with Jehovah is too important to risk my life engaging in it.

M.M.S., Brazil

You stated that Satan's temptation of Jesus was "likely in a vision." Were not the temptations actual experiences?

C.G.H., United States

Several aspects of the Bible account are problematic if taken literally. For example, there is no mountain tall enough for Satan to show Jesus "all the kingdoms of the world and their glory." Nor is it likely that Jesus would allow Satan literally to 'take him along into the holy city' or to station him "upon the battlement of the temple." (Matthew 4:5-8) Evidently, then, some sort of vision was involved. However it was performed, Satan's temptation of Christ was real. Jesus' refusal to succumb to such temptation demonstrated his unbreakable integrity.—ED.



Can Earth's Species Be **Saved?**

FROM apes to albatrosses to dragonflies, humans are driving other creatures to the brink of extinction so quickly that we are jeopardizing our own chance for survival," says *The Globe and Mail* of Canada. The newspaper's comments were in regard to the 2000 IUCN Red List of Threatened Species, published by the World Conservation Union (IUCN) of Geneva, Switzerland. The Red List warns that over 11,000 species of plants and animals face a high risk of becoming extinct. Mammals are among the most endangered. "Roughly one in four types of mammal alive on the Earth today—or 24 per cent—is stalked by extinction," reports the *Globe and Mail*.

What is to blame for the crisis? Scientists point to the international pet trade, longline fishing operations, and loss of suitable habitats to explain the quickening pace at which these species are disappearing. In addition, as more and more logging roads are built through virgin forests, "people are getting greater and greater access to wild animals that were once beyond reach. Then they kill and eat them. If that's done thoroughly enough, species die out."

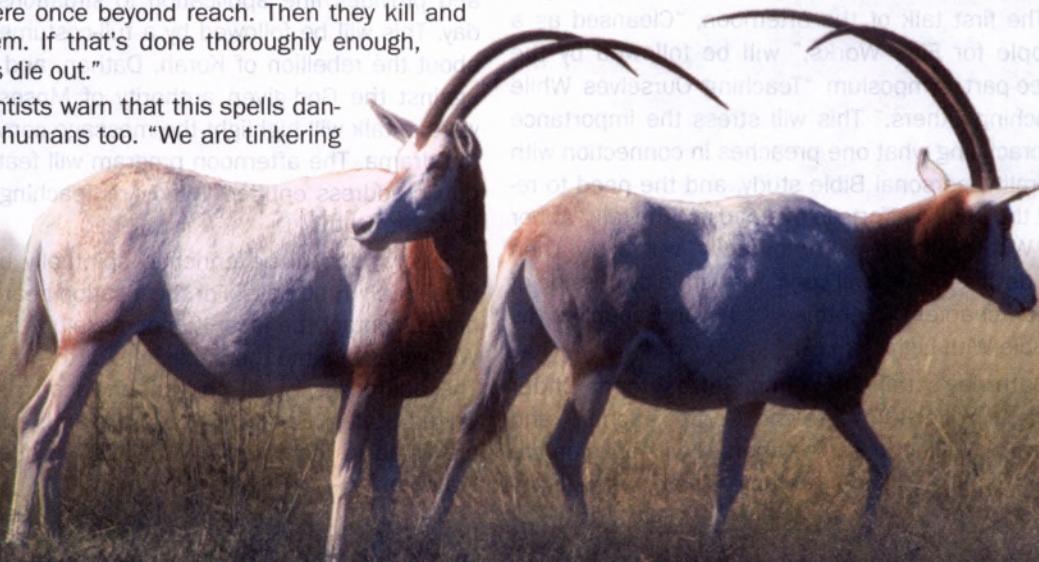
Scientists warn that this spells danger for humans too. "We are tinkering



with our life-support system as we drive species extinct," says David Brackett, chairman of the World Conservation Union's species survival commission. "The globe will not survive with all our biodiversity just in zoos."

The IUCN report urges the global community to act, stating that "human and financial resources must be mobilised at between 10 and 100 times the current level to address this crisis." Sadly, however, greed often stymies sincere efforts to conserve our planet's resources.

Can earth's species be saved? The first humans and their offspring were given the task of caring for the diversity of life on our planet. "Jehovah God proceeded to take the man and settle him in the garden of Eden to cultivate it," says the Bible, "and to take care of it." (Genesis 2:15) Although man is failing in his obligation, God's purpose toward the earth remains the same. He cares for our planet, and he will not allow it to be destroyed by carelessness or rapacity. (Revelation 11:18) His Word promises: "The righteous themselves will possess the earth, and they will reside forever upon it."—Psalm 37:29.



Welcome to the “TEACHERS OF GOD’S WORD” District Convention!



MILLIONS WILL ATTEND at hundreds of locations throughout the world. In the United States alone, 189 conventions are scheduled. The first will be held May 18-20, and the last, September 14-16. Likely, one of these three-day gatherings—Friday through Sunday—will be at a city not far from your home.

In most places, the program will begin each day with music at 9:30 a.m. The welcoming address on Friday will be followed by talks on the Bible themes “Kingdom Teaching Bears Fine Fruitage,” “Stirred by ‘the Magnificent Things of God,’ ” and “Find Delight in Jehovah’s Righteousness.” The morning session will conclude with the keynote address, “Completely Equipped as Teachers of God’s Word.”

The first talk of the afternoon, “Cleansed as a People for Fine Works,” will be followed by the three-part symposium “Teaching Ourselves While Teaching Others.” This will stress the importance of practicing what one preaches in connection with morality, personal Bible study, and the need to resist the Devil’s efforts to mislead us. The talk “Abhor the Worldly Plague of Pornography” will follow. Then the day’s program will conclude with a discussion of Isaiah chapter 60, entitled “Jehovah Beautifies His People With Light.”

Saturday’s talks “Finding Refreshment Under Christ’s Yoke,” “Imitate the Great Teacher,” and “Are You Willing to Serve Others?” will focus on the need to follow Christ’s example. Two hour-long sym-

posiums entitled “Ministers Through Whom Others Become Believers” and “Benefit More Fully From Theocratic Education” will also be featured on Saturday. The morning symposium will provide suggestions on making disciples, and the afternoon presentation will highlight ways we can benefit more fully from Bible study and attendance at Christian meetings. The morning program will conclude with a discussion of baptism, after which there will be opportunity for qualified individuals to be baptized. Many will be anxious to hear Saturday afternoon’s concluding talk, “New Provisions for Our Spiritual Advancement.”

The Sunday morning program includes a three-part symposium that discusses the book of Malachi and provides fine application to situations in our day. This will be followed by a full-costume drama about the rebellion of Korah, Dathan, and Abiram against the God-given authority of Moses. Afterward, a talk will highlight the message conveyed in the drama. The afternoon program will feature the public address entitled “Who Are Teaching All Nations the Truth?”

Surely you will be enriched spiritually by being present all three days. For the location nearest your home, contact the local Kingdom Hall of Jehovah’s Witnesses or write the publishers of this magazine. The addresses of all convention locations in the United States, Britain, Canada, Ireland, and Malta are listed in the February 15, 2001, issue of *The Watchtower*.