

Awake!

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May 22, 1998

Are We
Changing Our
Weather?

Man-made
global
warming
is
causing
more
extreme
weather
around
the
world.
The
increasing
amount
of
greenhouse
gases
in
the
atmosphere
trap
heat
from
the
sun,
making
the
Earth
warmer.
This
is
happening
faster
than
anytime
in
millions
of
years.

As a result,
the
Earth's
climate
is
changing.
This
means
that
the
weather
is
becoming
more
extreme
and
unpredictable.

**Are We
Changing Our
WEATHER?**



Are We Changing Our Weather?

3-10

Many scientists fear that earth's climate is becoming warmer and that such a change could spell disaster in the coming century. Are their fears justified? If so, are humans to blame? Do we need to worry about the future of our planet?

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Many youths imitate movie stars, musicians, and athletes. Does your choice of role models really matter?



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The Hawaiian Islands evoke visions of tropical paradise, sunny beaches, and balmy trade winds. How did they get there?

Dept. of Interior, National Park Service

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Talk About the WEATHER

WHEREVER you live and whoever you are, the weather affects your life. If the day promises to be hot and sunny, you put on light clothing. If it is cold, you reach for a coat and a hat. Rain? You grab your umbrella.

At times, the weather delights us; at other times, it disappoints us. Occasionally, it becomes a killer in the form of hurricanes, tornadoes, droughts, blizzards, or monsoons. Love it or hate it, revile it or ignore it, weather is always there, influencing our lives from the day we are born until the day we die.

Someone once quipped: "Everybody talks about the weather, but nobody does anything about it." Indeed, it has always seemed that the weather is beyond our power to change in any way. Increasingly, however, many scientists no longer believe that. They say that the spewing of carbon dioxide and other gases into our atmosphere is bringing about a change in our long-term weather patterns—our climate.

According to the experts, what is the nature of this coming change? Probably the most authoritative answer comes from the Intergovernmental Panel on Climate Change (IPCC), which drew on the expertise of more than 2,500 climatologists, economists, and risk-analysis specialists from 80 countries. In their 1995 report, the IPCC concluded that the earth's climate is becoming warmer. During the next century,

if things continue as they are, it is possible that the temperature could increase by as much as 6.3 degrees Fahrenheit.

While a few extra degrees may not sound like much to worry about, a small temperature change in the world's climate could be disastrous. The following is what many foresee for the coming century.

Regional extremes in weather. In some areas, droughts could become longer, while in others, rainfall could become heavier. Storms and floods could become more severe; hurricanes, more damaging. Though millions already die as a result of floods and famine, global warming could make the death toll much higher.

Increased risk to health. Heat-related illness and death could soar. According to the World Health Organization, global warming could also extend the range of insects bearing tropical diseases, such as malaria and dengue. In addition, reduced freshwater supplies because of changes in regional rainfall and snowfall could cause an increase in some waterborne and foodborne diseases and parasites.

Natural habitats threatened. Forests and wetlands, which filter our air and water, could be put at risk by warmer temperatures and changes in rainfall. Forest fires could be more frequent and more intense.

Rising sea levels. Those living in low

coastal areas would have to move unless costly projects were undertaken to hold back the sea. Some islands would be completely submerged.

Are such fears justified? Is the earth's climate becoming warmer? If so, are humans

to blame? With so much at stake, it is not surprising that experts fiercely debate these questions. The next two articles examine some of the issues involved and address the question of whether we need to worry about the future of our planet.



Chaotic WEATHER

IN A variety of ways, most of us rely on carbon-based fuels. We drive cars and other vehicles powered by gasoline or diesel fuel. We use electricity generated by power plants that consume coal, natural gas, or oil. We burn wood, charcoal, natural gas, and coal to cook or keep warm. All these activities add carbon dioxide to the atmosphere. This gas traps heat from the sun.

We also add other heat-trapping greenhouse gases to the atmosphere. Nitrous oxide is added from nitrogen fertilizers used in agriculture. Methane is emitted by rice paddies and cattle feedlots. Chlorofluorocarbons

(CFCs) result from the manufacturing of plastic foams and from other industrial processes. CFCs not only trap heat but also destroy earth's stratospheric ozone layer.

With the exception of CFCs, which are now regulated, these heat-trapping gases are being emitted into the atmosphere at ever-increasing rates. This is due, in part, to the growing numbers of people on earth, along with the growth of energy use, industrial activity, and agriculture. According to the Washington-based Environmental Protection Agency, humans presently spew six billion tons of carbon dioxide and other green-

Awake!

Why Awake! Is Published *Awake!* is 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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The Kyoto Protocol

In December 1997 more than 2,200 delegates from 161 countries met in Kyoto, Japan, to hammer out an agreement, or protocol, to do something about the threat of global warming. After more than a week of discussions, the delegates resolved that developed countries should cut emissions of greenhouse gases to an average of 5.2 percent below 1990 levels by the year 2012. Penalties for violators of the agreement would be determined later. Assuming that all nations adhere to the treaty, how much difference will a 5.2-percent decrease make? Evidently, very little. *Time* magazine reported: "It would take a 60% reduction to make much of a dent in the greenhouse gases that have been building up in the atmosphere since the start of the industrial revolution."

house gases into the atmosphere each year. These greenhouse gases do not simply vanish; they can linger in the atmosphere for decades.

Scientists are generally quite confident about two things. First, in recent decades and centuries, the amount of carbon dioxide and other greenhouse gases in the atmosphere has increased. Second, over the last hundred years, the average surface temperature of the earth has increased between 0.5 and 1.1 degrees Fahrenheit.

The question arises, Is there a connection between global warming and the human-induced buildup of greenhouse gases? Some scientists say probably not, pointing out that the increase in temperature falls within the range of natural variation and that the sun may be responsible. However, many climate experts agree with the wording of a report by the Intergovernmental Panel on Climate Change. It stated that the increase in temperature "is unlikely to be entirely natural

in origin" and that "the balance of evidence suggests that there is a discernible human influence on global climate." Yet, uncertainty remains about whether human activities are warming the planet—especially about how quickly the world may warm in the 21st century and exactly what the consequences might be.

Uncertainties Bring Debate

When climatologists predict a future greenhouse effect, they rely on climate models run on the world's fastest and most powerful computers. However, the earth's climate is determined by an extremely complex interaction of the earth's rotation, atmosphere, oceans, ice, land features, and the sun. With so many factors coming into play on such a vast scale, it is impossible for any computer to predict with certainty what will happen 50 or 100 years from now. *Science* magazine noted recently: "Many climate experts caution that it is not at all clear yet that human activities have begun to warm

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the planet—or how bad greenhouse warming will be when it arrives.”

Uncertainties make it easy to deny that there is any threat. Scientists who are skeptical of global warming, along with powerful industries that have an economic interest in maintaining the status quo, argue that the present state of knowledge does not justify what could be costly corrective action. After all, they say, the future may not be as bad as some people think.

Environmentalists counter by saying that scientific uncertainties should not lull policymakers into complacency. While it is true that the future climate may not be as bad as some fear, it is also possible that the situation could be even worse! Moreover, they reason that not knowing for sure what will happen in the future does not mean that nothing should be done to minimize the risk. People who quit smoking, for example, do not first demand scientific proof that if they continue smoking, they will without fail develop lung cancer 30 or 40 years later. They stop because they recognize the risk and want to minimize or eliminate it.

What Is Being Done?

Since there is so much debate about the scale of the problem of global warming—and even as to whether a problem exists at all—it is not surprising that there are differing views on what to do about it. For years environmental groups have promoted widespread use of pollution-free energy sources. Power can be harnessed from the sun, the wind, rivers, and underground reservoirs of steam and hot water.

Environmentalists have also urged governments to pass laws to reduce emissions of heat-trapping gases. Governments have responded on paper. For instance, in 1992, at the Earth Summit in Rio de Janeiro, Brazil, representatives of about 150 countries signed a treaty affirming their commitment to re-

duce greenhouse-gas emissions, particularly carbon dioxide. The goal was that by the year 2000, greenhouse emissions from industrialized nations would be reduced to 1990 levels. While a few have made progress in this direction, most rich countries are not even close to keeping their modest pledge. Instead of cutting back, most nations are producing more greenhouse gases than ever! In the United States, for example, it is thought that by the year 2000, carbon dioxide emissions are likely to be 11 percent higher than they were in 1990.

More recently, there have been moves to put “teeth” into international agreements. Instead of making cutbacks voluntary as in the 1992 accord, there are calls to set greenhouse emission targets that are mandatory.

The Cost of Change

Political leaders yearn to be viewed as friends of the earth. However, they also keep an eye on the consequences that change may bring to the economy. Since, according to *The Economist* magazine, 90 percent of the world relies on carbon-based fuel for energy, to move away from using it would bring big changes; and the cost of change is fiercely debated.

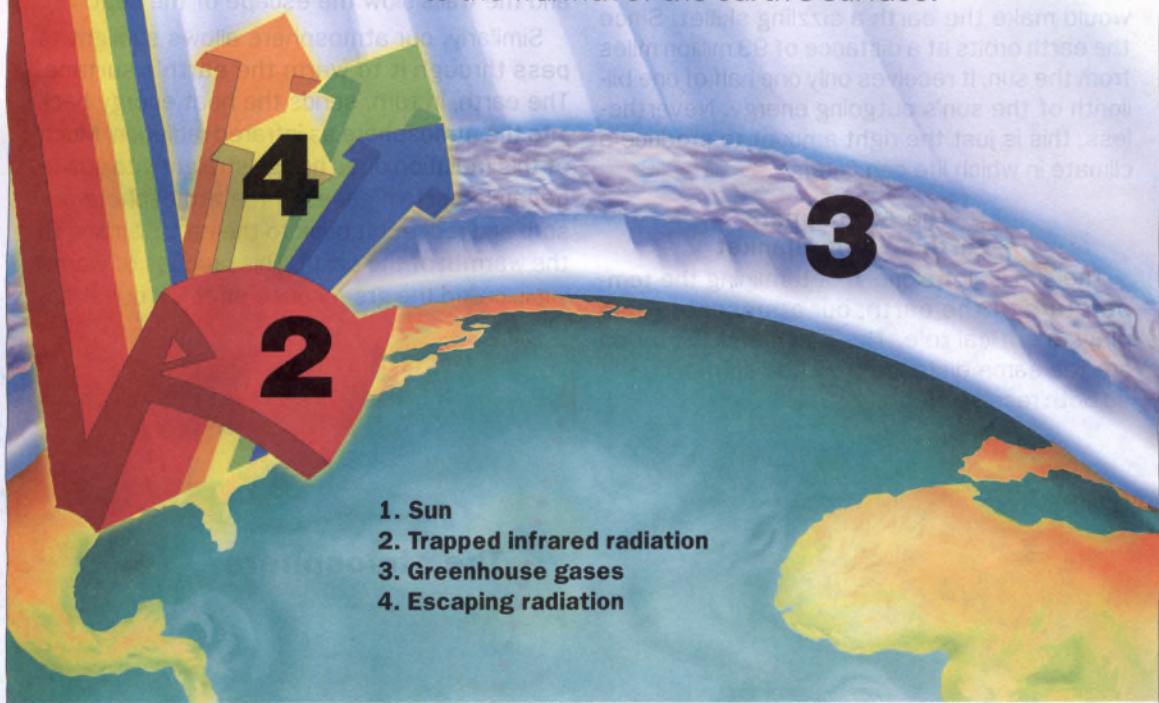
What would it cost to reduce greenhouse emissions by the year 2010 to 10 percent below what they were in 1990? The answer to that depends on whom you ask. Consider views in the United States, the country that spews more greenhouse gases into the atmosphere than any other. Industry think tanks warn that such a reduction would cost the U.S. economy billions of dollars every year and put 600,000 people out of work. In contrast, environmentalists say that achieving the same goal could save the economy billions of dollars each year and generate 773,000 new jobs.

Despite calls by environmental groups for immediate action, there are powerful indus-

1

The Greenhouse Effect Illustrated

The Greenhouse Effect: The earth's atmosphere, like the glass panes in a greenhouse, traps the sun's heat. Sunlight warms the earth, but the heat that is created—carried by infrared radiation—cannot easily escape the atmosphere. Instead, greenhouse gases block the radiation and send some of it back toward the earth, thus adding to the warmth of the earth's surface.



1. Sun
2. Trapped infrared radiation
3. Greenhouse gases
4. Escaping radiation

tries—automobile manufacturers, oil companies, and coal producers, to name a few—that use their considerable funds and influence to downplay the threat of global warming and to exaggerate the economic impact of a shift away from the use of fossil fuels.

Debate continues. If, however, humans are altering climate and do nothing about it but talk, the saying that everybody talks about the weather but nobody does anything about it will take on an ominous new meaning.

1

Sun

Forces That Govern Climate

If we are to understand the current debate over global warming, we need to understand some of the awe-inspiring forces that make our climate what it is. Let us consider some basics.

1. The Sun—Source of Heat and Light

Life on earth depends on the immense nuclear furnace we call the sun. Larger than a million earths, the sun provides an ever-reliable supply of heat and light. A decline in the sun's output would encase our planet in ice; an increase would make the earth a sizzling skillet. Since the earth orbits at a distance of 93 million miles from the sun, it receives only one half of one billionth of the sun's outgoing energy. Nevertheless, this is just the right amount to produce a climate in which life can flourish.

2. The Atmosphere —Earth's Warm Blanket

The sun is not alone in determining the temperature of the earth; our atmosphere also plays a critical role. The earth and the moon are the same distance from the sun, so both receive propor-

tionately about the same amount of heat from the sun. Nevertheless, while the average temperature of the earth is 59 degrees Fahrenheit, the moon averages a chilly zero degrees Fahrenheit. Why the difference? The earth has an atmosphere; the moon does not.

Our atmosphere—earth's swaddling band of oxygen, nitrogen, and other gases—holds some of the sun's warmth and lets the rest escape. The process is often compared to a greenhouse. A greenhouse, as you probably know, is a structure with walls and a roof made of glass or plastic. Sunlight enters easily and heats the interior. At the same time, the roof and the walls slow the escape of the heat.

Similarly, our atmosphere allows sunlight to pass through it to warm the earth's surface. The earth, in turn, sends the heat energy back into the atmosphere as infrared radiation. Much of this radiation does not go straight into space because certain gases in the atmosphere absorb and redirect it back to the earth, adding to the warmth of the earth. This process of warming is called the greenhouse effect. If our atmo-



sphere did not trap the sun's heat in this way, the earth would be as lifeless as the moon.

3. Water Vapor

—The Most Essential Greenhouse Gas

Ninety-nine percent of our atmosphere is made up of two gases: nitrogen and oxygen. Though these gases play a vital role in complex cycles that support life on earth, they play almost no direct role in regulating the climate. The job of climate regulation falls to the remaining 1 percent of the atmosphere, heat-trapping greenhouse gases, which include water vapor, carbon dioxide, nitrous oxide, methane, chlorofluorocarbons, and ozone.

The most crucial greenhouse gas—water vapor—is not usually thought of as a gas at all, since we are used to thinking of water in its liquid form. Yet, each molecule of water vapor in the atmosphere is packed with heat energy. For example, when vapor in a cloud cools and condenses, heat is released, causing powerful convection currents. The dynamic movement of water vapor in our atmosphere plays a critical and complex role in determining both weather and climate.

3 Water vapor (H_2O)

4. Carbon Dioxide—Essential to Life

The gas talked about most frequently in discussions about global warming is carbon dioxide. It is misleading to condemn carbon dioxide as simply a pollutant. Carbon dioxide is a vital ingredient in photosynthesis, the process by which green plants make food for themselves. Humans and animals breathe in oxygen and breathe out carbon dioxide. Plants take in carbon dioxide and release oxygen. It is, in fact, one of the provisions of the Creator that make life possible on earth.* However, having too much carbon dioxide in the atmosphere would apparently be like throwing an extra blanket on a bed. It could make things warmer.

A Complex Array of Forces

The sun and the atmosphere are not alone in determining climate. Also involved are oceans and ice caps, surface minerals and vegetation, earth's ecosystems, an array of biogeochemical processes, and the earth's orbital mechanics. The study of climate involves nearly all earth sciences.

* Almost all life on earth draws energy from organic sources, thus depending directly or indirectly upon sunlight. However, there are organisms that thrive in the darkness on the ocean floor by drawing energy from inorganic chemicals. Rather than photosynthesis, these organisms use a process called chemosynthesis.

4 Carbon dioxide (CO_2)



The Coming CLIMATE

THE pollution of our atmosphere is but one of the environmental problems that humans have created. Others include massive deforestation, the destruction of animal species, and the pollution of rivers, lakes, and oceans. Each of these problems has been carefully analyzed, and proposals have been made to correct them. Since the problems are global, they call for global solutions. There is widespread agreement on the problems and what might be done to correct them. Year after year, we hear calls to action. Year after year, little is done. All too often policymakers lament the problems and agree that something must be done but add, in effect, "not by us, not right now."

In 1970 on the original Earth Day, demonstrators in New York City carried a large sign. The sign depicted planet Earth screaming "Help!!" Will anyone respond to that plea? God's Word provides the answer: "Do not put your trust in nobles, nor in the son of earthling man, to whom no salvation belongs. His spirit goes out, he goes back to his ground; in that day his thoughts do perish." (Psalm 146:3, 4) The psalmist next points to the Creator, for He alone has the power, wisdom, and will to solve *all* the complex problems facing humanity. We read: "Happy is the one . . . whose hope is in Jehovah his God, the Maker of heaven and earth, of the sea, and of all that is in them." —Psalm 146:5, 6.

The Creator's Loving Promise

The earth is a gift from God. He designed and created it, along with all the complex

and marvelous mechanisms that make the earth's climate a pleasant one. (Psalm 115: 15, 16) The Bible states: "[God] is the Maker of the earth by his power, the One firmly establishing the productive land by his wisdom, and the One who by his understanding stretched out the heavens. At his voice there is a giving by him of a turmoil of waters in the heavens, and he causes vapors to ascend from the extremity of the earth. He has made even sluices for the rain, and he brings forth the wind from his storehouses."—Jeremiah 10:12, 13.

The Creator's love for humankind was described by the apostle Paul to the people of ancient Lystra. He said: "[God] did not leave himself without witness in that he did good, giving you rains from heaven and fruitful seasons, filling your hearts to the full with food and good cheer."—Acts 14:17.

The future of the planet does not depend on the efforts and treaties of humans. Concerning the climate, the One having the power to control it promised his ancient people: "I shall also certainly give your showers of rain at their proper time, and the land will indeed give its yield, and the tree of the field will give its fruit." (Leviticus 26:4) Soon people will enjoy such conditions earth wide. Never again will obedient humans dread destructive storms, tidal waves, floods, droughts, or any other natural disaster.

Waves, wind, and weather will all be a delight. People may still talk about the weather, but they will not do anything about it. In the future of God's making, life will be so glorious that they will not need to.

Amaranth FOOD FROM THE AZTECS

BY AWAKE! CORRESPONDENT IN MEXICO

ALEGRIÁ, a nutritious candy whose Spanish name is translated "joy" or "happiness," is commonly found in the colorful booths of Mexican food markets. It is made from the seeds of amaranth, a tropical plant with bright-red flowers. The candy is held together with unprocessed honey and is occasionally decorated with walnuts, pine nuts, and raisins. Amaranth seeds can also be ground into cereal or flour, which is used to make breads and cakes.

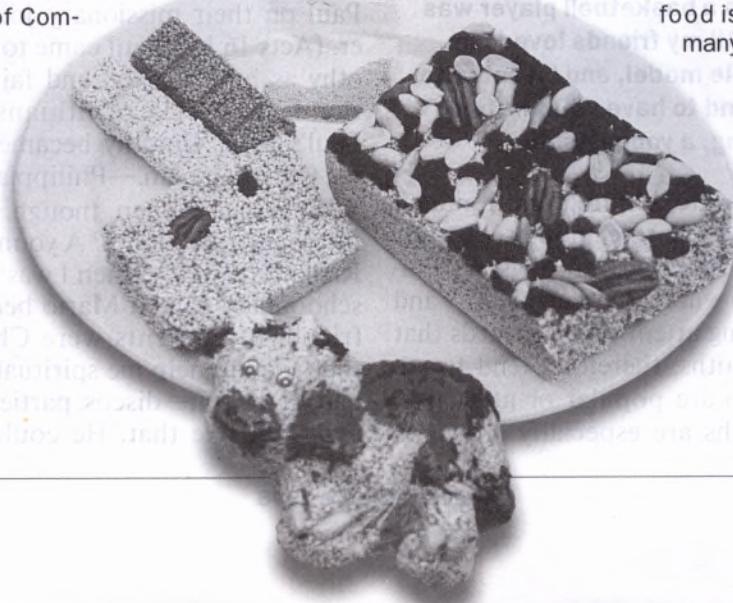
The Aztecs made tortillas and tamales out of amaranth flour. In addition, amaranth played a prominent part in their religious rites. *The News of Mexico City* said: "In one of their many rituals, the Aztecs would dip a piece of amaranth bread in the blood of one of their captured and [slain] enemies and eat it." Another custom involved mixing ground amaranth seed with corn and honey and fashioning the concoction into small idols or deities. These idols were later eaten in a ritual that resembled the Catholic sacrament of Communion.

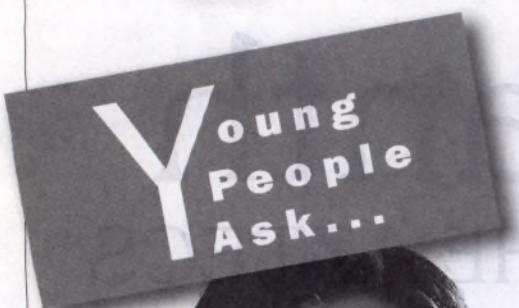
Both of these practices outraged the Spanish conquistador Hernán Cortés and moved him to outlaw the cultivation and consumption of amaranth. Anyone who dared disobey his order was either killed or had the offending hand amputated. Thus, what was at that time one of the most important crops in Mexico almost disappeared.

However, amaranth managed to survive, and somehow it migrated from Central America to the Himalayas. Over the last century, it has become a staple food among the mountain tribes of China, India, Nepal, Pakistan, and Tibet.

Back in Mexico, researchers have recently been trying to isolate the seed's protein to produce amaranth milk, a beverage similar in nutritional value to cow's milk. Their goal is to use it to fortify foods and drinks for those who cannot afford to buy eggs, milk, fish, or red meat.

In spite of amaranth's turbulent history, this versatile, nutritious food is still enjoyed by many people today.





Who Should Be My Role Model?

His talent as a basketball player was awesome. All my friends loved him. He was my role model, and I wanted to be like him and to have what he had.

—Ping, a young Asian.

PEOPLE who are admired and imitated are often called role models. Author Linda Nielsen observed: "Youngsters imitate people with whom they can identify and who are receiving attention or rewards that they covet." Youths, therefore, tend to admire peers who are popular or attractive. But many youths are especially drawn to

movie stars, musicians, and athletes as role models.

Of course, the public image of most celebrities is often little more than an elaborate fiction, a carefully orchestrated scheme designed to hide flaws, to invite adulation and, above all, to *sell!* Ping, quoted earlier, admits: "I bought all my basketball hero's videos and wore his brand of clothes and shoes." Some youths dress like their TV or sports idols, wear their hair like their idols, and even walk and talk like their idols.

Role Models—Good and Bad

"But what's the harm in admiring someone?" you ask. That depends upon whom you admire. The Bible says: "He that is walking with wise persons will become wise, but he that is having dealings with the stupid ones will fare badly." (Proverbs 13:20) The Bible does not encourage us to be followers of humans. (Matthew 23:10) But it does tell us to be "imitators of those who through faith and patience inherit the promises." (Hebrews 6:12) The writer of those words, the apostle Paul, set a fine example for early Christians. Thus, he could say: "Become imitators of me, even as I am of Christ." —1 Corinthians 11:1.

A young man named Timothy did just that. He developed a close friendship with Paul on their missionary journeys together. (Acts 16:1-4) Paul came to think of Timothy as his "beloved and faithful child in the Lord." (1 Corinthians 4:17) With Paul's help, Timothy became an outstanding Christian man.—Philippians 2:19-23.

What can happen, though, if you choose the *wrong* role model? A young man named Richard relates: "When I was 15 years old, a schoolmate named Mario became my best friend. My parents were Christians, and they tried to help me spiritually. But Mario had all the fun—discos, parties, motorbikes, and stuff like that. He could do what he

wanted, when he wanted. Not me. So when I was 16, I told my parents that I wanted to stop being a Christian, and I did."

Are there similar dangers in viewing celebrities and sports heroes as role models? Yes, there are. Now, there's nothing wrong with admiring the skill of an athlete, an actor, or a musician. But ask yourself, 'What kind of example do these people set in their personal lives?' Are not many sports heroes, musicians, and other performers known for their indulgence in sexual immorality, drugs, and alcohol? Is it not also true that many live unhappy, unfulfilling lives, in spite of their money and fame? When you look at things from this point of view, what good could possibly come from imitating such ones?

True, copying a celebrity's hairstyle, clothes, or speech may seem like a little thing. But it can be the first step in allowing the world to "squeeze you into its own mould." (Romans 12:2, Phillips) That mold may seem pleasant at first. But if you fully succumb to its influence, it can mold you in ways that are sure to bring you into conflict with God. "Friendship with the world is enmity with God," says the Bible at James 4:4.

How a Good Role Model Can Help You

Imitating someone who sets a good example, however, can have a *positive* impact on your life! Among fellow Christians, you can find many who are "an example . . . in speaking, in conduct, in love, in faith, in chasteness." (1 Timothy 4:12) True, you have to exercise caution in choosing associates, even



Associating with reputable older ones can help you

in the Christian congregation. (2 Timothy 2:20, 21) But usually it's not hard to figure out who in the congregation are truly "walking in the truth." (2 John 4) The principle at Hebrews 13:7 states: "As you contemplate how their conduct turns out imitate their faith." For most of your peers, how their conduct will turn out remains to be seen. But there are older ones in the congregation who have proved their faithfulness, and it's wise to get to know them.

'Get to know *older ones*?' you may ask. Granted, this may not sound too appealing at first. But recall the relationship Timothy had with his older friend the apostle Paul. Paul saw Timothy's potential and encouraged him to "stir up like a fire the gift of God" in him. (2 Timothy 1:6) Wouldn't it be beneficial to have someone to help and encourage you, someone urging you to nurture your God-given gifts?

A youth named Bryan found this to be so. He was battling feelings of inferiority when he became acquainted with an older, single

ministerial servant in the congregation. Says Bryan: "I admire his loving concern for others, including me; his zeal for the ministry; and his fine talks." Bryan is already benefiting from the personal attention he has received from this older Christian. He frankly admits: "It has helped me change from being what I was before—a shy and dead personality."

Parents as Role Models

The book *Adolescence—Generation Under Pressure* says that parents are "the single most important external influence in aiding or hindering the average adolescent in arriving at a satisfactory identity." Without that clear sense of direction and identity, the book adds, young people "will become like a rudderless ship, changing course with each passing wave."

This advice reflects what the disciple James wrote over 1,900 years ago, as recorded at James 1:6: "Let him keep on asking in faith, not doubting at all, for he who doubts is like a wave of the sea driven by the wind and blown about." You probably know some youths who are just like that. They tend to live for today's thrills, with no thought of tomorrow.

Are you blessed with having God-fearing parents who set a good example in the congregation? If so, are you yielding to their influence? Or are you fighting them every step of the way? True, your parents are not perfect. But do not blind yourself to their good qualities—qualities you will do well to imitate. "I have great admiration for my parents," writes a young Christian named Jarrod. "Their enduring zeal in the ministry, the way they have faced economic hardships, and the encouragement they gave me to share in the full-time ministry, all had a good effect on me. My parents have always been my role models."

The Best Role Model

When the Gallup survey organization asked some youths in the United States who

they thought was the greatest person in history, most chose American political figures. Only 6 percent chose Jesus Christ. However, the Bible tells us that Jesus Christ left a perfect "model for [us] to follow his steps closely." (1 Peter 2:21; Hebrews 12:3) He encourages his disciples to learn from him. (Matthew 11:28, 29) But just how do you go about doing that?

Get thoroughly acquainted with the life of Jesus. Try reading the Gospel accounts all the way through, along with the book *The Greatest Man Who Ever Lived*.^{*} Observe the way Jesus taught, the compassionate way he dealt with people, and the courage he showed when under pressure. You will find that Jesus is the very best role model you could possibly follow.

The more you become familiar with the perfect role model, the less you will be drawn to unwholesome peers or celebrities. Do you recall Ping and his admiration for a sports hero? Ping still enjoys a game of basketball from time to time, but he has come to see that it is foolish to model himself after celebrities.

And what about Richard? His choice of role model led to his abandoning the Christian faith. However, Richard came to know a young man in his 20's, named Simon, who was one of Jehovah's Witnesses. "Simon befriended me," says Richard, "and helped me see that one can enjoy life without compromising Bible principles. I quickly developed a respect for Simon, and his example played a large role in my coming back to the congregation and dedicating my life to Jehovah. I'm much happier now, and my life has real meaning."

Yes, your choice of role models really matters!

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Return of the Great White Bird

BY A WAKE! CORRESPONDENT IN JAPAN

WITH stick in hand, the men set out to beat the beautiful white birds to death, one by one. The birds were albatross. The men: Hanemon Tamaoki and his accomplices. The place: Torishima, an island some 400 miles south of Tokyo. The year was 1887.

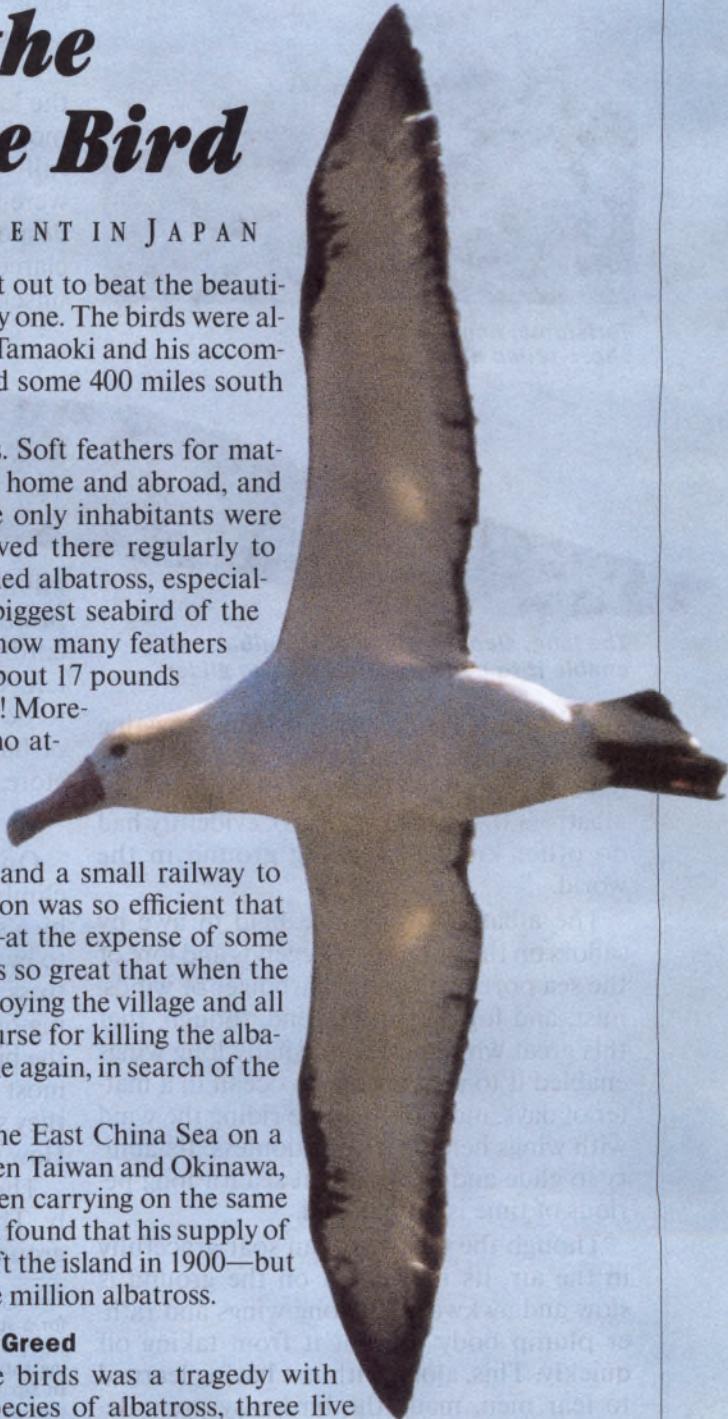
Tamaoki had planned this for years. Soft feathers for mattresses were in great demand both at home and abroad, and Torishima was a remote island whose only inhabitants were the thousands of albatross that arrived there regularly to breed. Among them was the short-tailed albatross, especially attractive to Tamaoki. It was the biggest seabird of the Northern Hemisphere. Just imagine how many feathers covered a plump body that weighed about 17 pounds and had a wing span of over eight feet! Moreover, this bird was docile and made no attempt to flee even when endangered.

Tamaoki brought as many as 300 workers to the island to help kill and pluck the birds. They built a village and a small railway to transport the dead birds. The operation was so efficient that Tamaoki soon became very wealthy—at the expense of some five million birds. The devastation was so great that when the island's volcano erupted in 1902, destroying the village and all its inhabitants, some viewed it as a “curse for killing the albatross.” Even so, the next year, men came again, in search of the birds that were left.

Almost a thousand miles away in the East China Sea on a group of desolate, rocky islands between Taiwan and Okinawa, a man named Tatsushiro Koga had been carrying on the same lucrative business. Like Tamaoki, Koga found that his supply of birds evaporated rapidly. Finally, he left the island in 1900—but not before he had eliminated some one million albatross.

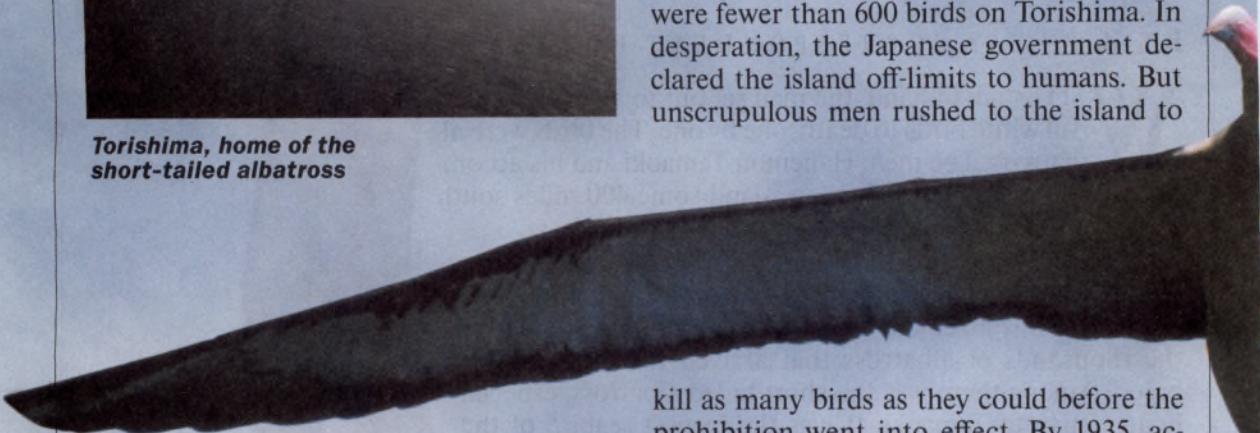
A Tragic Result of Greed

That wholesale destruction of the birds was a tragedy with dire consequences. Of the various species of albatross, three live





Torishima, home of the short-tailed albatross



The long, slender wings of the albatross enable it to be the world's master glider

in the North Pacific, with principal nesting grounds on the islands plundered by Tamaoki and Koga. One of them, the short-tailed albatross (*Diomedea albatrus*), evidently had no other known breeding ground in the world.

The albatross was once held in awe by sailors on the open seas. Legends and lore of the sea portray it as the harbinger of winds, mist, and fog. It is no legend, though, that this great white bird's unusually long wings enabled it to soar across an ocean in a matter of days, most of the time riding the wind with wings held nearly motionless. Its ability to glide and to remain at sea for long periods of time is unmatched.

Though the albatross can soar gracefully in the air, its movement on the ground is slow and awkward. Its long wings and rather plump body prevent it from taking off quickly. This, along with not having learned to fear men, made the bird easy prey. Be-

cause of that, people gave it names like gooney bird or mollymawk.*

Irresponsible people who were fueled by the knowledge that dead albatross generate money continued the extermination gleefully. A survey revealed that by 1933, there were fewer than 600 birds on Torishima. In desperation, the Japanese government declared the island off-limits to humans. But unscrupulous men rushed to the island to

kill as many birds as they could before the prohibition went into effect. By 1935, according to one expert, only 50 birds were left. Finally, the short-tailed albatross had to be declared extinct. What a tragic result of human greed! But a big surprise was in store.

The Return Begins

One evening in January 1951, a man climbing on Torishima's rocks was startled by a sudden clacking. He found himself eye to eye with albatross! The short-tailed albatross had somehow survived and was breeding on Torishima again. This time, though, the birds were nesting on sloping ground almost impossible for humans to reach. And they seemed to have a new wariness of man. How nature lovers must have rejoiced!

The Japanese government moved swiftly. They planted pampas grass to make the ground firmer for nests and prohibited hu-

* "Gooney" was originally 'goney,' the Old English word for a stupid person . . . 'Mollymawk,' also 'mollyhawk,' or just plain 'molly,' comes from the Dutch 'mallemok,' meaning a stupid gull." (*Birds of the World*, by Oliver L. Austin, Jr.) In Japanese the term *ahodori*, meaning "fool bird," replaced the old name meaning "great white bird."

mans from going to Torishima. The albatross was declared a national treasure and became an internationally protected bird.

Since 1976, Hiroshi Hasegawa, of Japan's Toho University, has been studying the birds and now visits the island three times a year to survey them. He told *Awake!* that by ringing the birds' legs with a different color each year, he has discovered that only once in three or four years do short-tailed



Short-tailed albatross have made a comeback on Torishima

albatross return to their place of birth to breed. They breed first at six years of age and lay just one egg each time. Therefore, even with an average life span of 20 years, it takes a long time to increase their numbers. Of the 176 eggs laid on Torishima during the winter of 1996/97, only 90 hatched.

What do albatross do the rest of the time? Hasegawa says that little is known about this. They definitely avoid land and people. Do albatross follow and land on ships? That is mere legend with no evidence to support it, according to Hasegawa. He is quite sure, he says, that "Japanese albatross don't land on ships." But he adds that elsewhere in the world, "some birds may hang around for a short time if they are fed." Most of the time, they do what they do best—mount favorable air currents and roam the vast ocean. When they are tired, they sleep afloat on the sea. They eat squid, flying fish, crab, and shrimp. The birds that Hasegawa has ringed are regularly spotted in the Bering Sea and the Gulf of Alaska. And in 1985 the sighting of a short-tailed albatross off the California coast—the first time in

nearly a century—caused quite a stir among bird-watchers there.

What of the Future?

On the positive side, short-tailed albatross are steadily increasing in number. Last May, Hasegawa estimated that there were "over 900 including the chicks." He added: "By the year 2000, we should have over 1,000 birds on Torishima alone, with over 100 chicks being born each year." Thrilling, too, is the fact that in 1988, after 88 years, they were seen breeding again in the East China Sea. The birds have chosen a rocky outpost in disputed territory, which should ensure safety from human interference for a while.

The wrongs of a hundred years ago are gradually being righted. Or are they? Researchers often find that when they catch the birds for banding, they panic and vomit. Out of their stomachs come bits of plastic, disposable cigarette lighters, and other refuse that people are carelessly dumping into their feeding ground, the ocean.

Will human folly drive the great white bird to the brink once again?



Five Ways to Improve the Quality of Your Life



BY AWAKE! CORRESPONDENT IN CENTRAL AFRICAN REPUBLIC



Plant a garden



INFLATION, sickness, malnutrition, poverty—these problems are widespread in developing lands. And there is no immediate solution in sight, at least from a human point of view. If you live in a developing land, is there *anything* you can do to improve the quality of your life? Yes, there is! Following are five suggestions that you may find helpful and practical.

Number 1: Plant a Garden

"He that is cultivating his own ground will have his sufficiency of bread," says the Bible at Proverbs 28:19. Indeed, it may surprise you to see how much can be produced on a fairly small plot of land. In his book *Le jardin potager sous les tropiques* (The Vegetable Garden in the Tropics), author Henk Waayenberg claims that a plot of land measuring 500 to 1,000 square feet can produce enough vegetables to feed a family of six!

Why spend your resources on things that you can grow yourself? Depending on the soil and the climate, it may be possible to grow items like okra, peppers, spinach, parsley, lemongrass, green onions, cassava, pumpkins, sweet potatoes, sugar-cane, tomatoes, cucumbers, and corn right next to your house. At the very least, such a garden can supplement your family's diet, and you may even have some excess produce that you can sell.

If you have sufficient land, you might also consider planting a variety of fruit trees. In some cases, a single fruit tree can produce more fruit than

you and your family can eat. Learning about composting—the process of recycling dead organic matter and putting it to use as fertilizer—will help you to improve your food production. Trees can do more than produce food and extra income for your family. Well-placed trees can also give shade, clean the air, and make your surroundings more beautiful and pleasant.

What, though, if you know little about gardening? Do you have friends, neighbors, or acquaintances who have experience in this regard? Then why not ask them for help or advice? It may also be possible for you to purchase or borrow some books on gardening.—See the article “Why Not Grow a Vegetable Garden?” in the May 22, 1974, issue of *Awake!*

Number 2: Buy in Bulk

Do you buy basic items like flour, rice, and oil in small quantities? If so, you may be wasting a large part of your budget. Instead, if at all possible, try buying such food items in bulk, sharing the cost with two, three, or more families. Buying in bulk can also save you money when certain fruits or vegetables are in season. In some cases, you may even be able to buy things wholesale.

Number 3: Learn the Art of Food Preservation

Buying in bulk raises the question of how to store perishable items. Drying food is one popular and practical method. A great number of women in Africa make a living by drying fruits, okra, beans, squash, pumpkin seeds, and herbs. Drying does not require any special equipment. The item can be placed on a clean surface or hung up, perhaps covered by a thin cloth to discourage flies. The air and sun will do the rest.—See the article “Can You Get By for Less?” in the August 8, 1975, issue of *Awake!*

Number 4: Try Small-Scale Breeding

Is it possible for you to raise your own chickens, goats, pigeons, or other animals? In many places meat has become a luxury item. But with a little help from others, you can learn how to

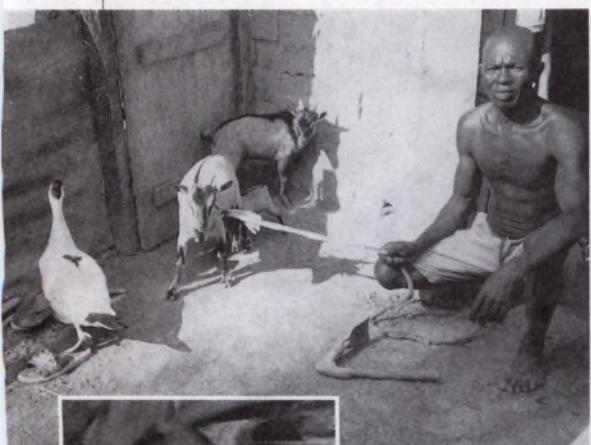


Buy in bulk



**Learn the art of
food preservation**





Try small-scale breeding



Maintain proper hygiene



raise a small flock of animals. Do you enjoy eating fish? Well, you might try learning how to make a small fish pond. Meat, eggs, and fish contain iron, calcium, vitamins, minerals, and protein—vital to your family's health.

Number 5: Maintain Proper Hygiene

Hygiene is also important to your family's health. Unclean conditions attract rats, flies, and cockroaches—the cause of all sorts of sicknesses. Maintaining proper hygiene will cost you time and effort. But the cost of cleanliness is less than the cost of medicine and doctor bills. Standards of cleanliness may differ to some extent from person to person and from country to country. However, there are a few general principles that are applicable everywhere.

Take, for example, toilet facilities. In rural areas these are often allowed to be filthy and dilapidated and are a major source of illness and disease. Local health workers may be able to provide you with instructions on how to build a hygienic latrine or outhouse at very little cost.

What about your home itself? Is it neat and well kept? Does it smell clean? What about your kitchen? Is it tidy and clean? Food must be clean and cooked properly to be healthy. Germs and parasites abound in polluted water. So filter or boil water before using it. Rinse eating utensils with boiling water, and wash your hands thoroughly before handling food. Store water in clean, sealed containers.

Dogs, cats, chickens, and goats should not be allowed to roam in a kitchen—not if you want to maintain sanitary conditions. Nor should rats and mice be allowed to run over pots and pans, contaminating your food. A simple rattrap might eliminate the problem.—See “Meeting the Challenge of Cleanliness,” in the September 22, 1988, issue of *Awake!*

Ultimately, only God's Kingdom will fully solve all of mankind's problems. (Matthew 6:9, 10) In the meantime, however, these simple suggestions may help you to improve the quality of your life.



Your Fingernails

Do You Take Care of Them?

By Awake! correspondent in Sweden

If SOMEONE asked you, "May I have a look at your nails?" how would you react? Would you gladly show your well-kept nails, or would you immediately hide your hands behind your back? You might have good reason to hide your nails. Maybe they just do not look nice, or perhaps you are a nail biter. Knowing more about the marvelous anatomy of our nails will help us to appreciate them better and can motivate us to take good care of them.

Your nails are mainly made up of hardened dead cells containing the fibrous protein keratin. The rate at which fingernails grow varies from finger to finger and from person to person. Nails grow at an average rate of about 0.12 inches per month. Nails left to grow without cutting may reach a considerable length. According to *The Guinness Book of World Records 1998*, an Indian man let the five nails on his left hand grow to a combined length of 241 inches. His thumbnail measured 55 inches.

A Complex Structure

At first glance you may think of the nail as just one piece, the nail plate. You might therefore be surprised to learn that nails

may be considered to have a number of major visible parts as well as some that you cannot see. Let us take a closer look at the nail structure.

1. *Nail plate*. This is the hard structure we normally refer to as the nail. The nail plate consists of two layers, the upper and the lower. The cells in these two parts are arranged differently and grow at different speeds. The upper surface is smooth, while its inner surface has parallel crests that correspond to ridges on the nail bed. These ridges are unique in each individual and may serve as a means of identification.

2. *Lunule*. This is the half-moon shaped whitish part at the base of the nail plate. Not all fingers have a visible lunule. The nail grows from a small area of living tissue at the base of the nail plate, called the matrix. This is the most vital part of the nail unit. The lunule is the end of the nail matrix and, as such, the visible part of the *living nail*. The rest of the nail plate is composed of dead cells.

3. *Nail folds, proximal and lateral*. These refer to the skin surrounding the nail plate. This skin is called the nail fold because it does not end at the nail plate but folds under and covers the emerging nail plate. These skin folds protect and support the surrounding areas of the nail.

4. Eponychium. This is the tiny strip of the skin fold that appears to end at the base of the nail plate. At times, this is referred to as the cuticle.

5. Cuticle. The true cuticle is a tiny extension underneath the eponychium. It is a colorless layer of shed skin that adheres to the surface of the dorsal nail plate.

6. Free edge. The part of the nail plate that grows beyond the fingertip.

7. Hyponychium. Found underneath the free edge of the nail, this tissue forms a watertight seal that protects the nail bed from infection.

Their Usefulness

Our nails are useful in many ways, such as for scratching. They come in handy when peeling an orange, undoing a knot, or manipulating small objects. Furthermore, the nails support and protect the sensitive and fragile fingertips.

Not to be overlooked is the aesthetic significance of the nails. Our nails may reflect good—or poor—grooming habits. They play an important role in ordinary gestures, and if well kept, they may beautify our hands. Without them, we would be hampered in our daily life, and our hands would look incomplete.

Right Care Makes Them Stronger

As part of our wonderful body, our nails should be properly cared for. If you have a

serious nail disorder, you should see your doctor. As a matter of fact, at the tip of your fingers, you may have signs of some physical problem. Yes, it is claimed that some physical ailments can be determined by looking at your nails.

Would an extra intake of calcium or vitamins make nails stronger? In answering this question, Professor Bo Forslind, a researcher on the subject of nails at the Karolinska Institute in Stockholm, Sweden, told *Awake!*: “There is no evidence available to support that view. Analyses of the calcium content in normal nails show only traces of this element.”

What definitely helps to keep your nails strong and flexible, though, is water. As mentioned before, nails contain keratin. These keratin strands need water to be flexible. Professor Forslind gives an example: “Although a piece of your nail may be flexible when you first cut it, the same nail clipping will be very brittle when it has dried overnight.” Moisture will keep your nails flexible and strong. But where does this moisture come from? The nail plate appears solid, but it is permeable. Moisture from the nail bed moves upward through the nail plate to its surface, where it evaporates. What can be done to prevent the nails from drying out and to keep your nails strong? Professor Forslind says: “Daily treatment with oil will be beneficial.”

Caring for Their Growth and Beauty

Since the nail grows from the matrix, proper care of this part of the nail is essential. Stimulating the matrix by regular massaging with cream or oil can benefit the nail plate. In addition, putting a drop of oil under the free edge of the nails can also be helpful, as it keeps the nail from drying out.

The way you file or cut your nails can make them strong or weak. It is recom-

IN OUR NEXT ISSUE

The End of Poverty Nears

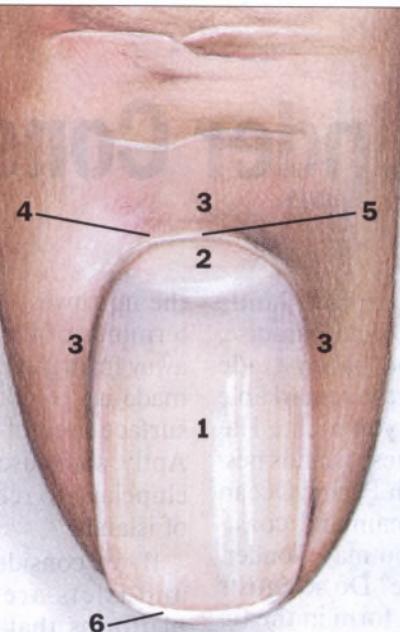
Is Celibacy a Requirement for Christian Ministers?

My Choice Between Two Fathers

mended that you file your nails from the side toward the middle. Keep in mind that filing the corners away will weaken the nail. This will create a pointed nail, which is the weakest shape of all, since it has no support on the sides. For strong short nails, it is recommended that you let your nails grow straight out to about 1/16 inch at the sides and file a round shape that follows the contour of the fingertip.

Some women might like to have their nails a little longer. But here is a word of caution. Nails that are too long might attract undue attention as well as stop you from doing ordinary work. So keep a balanced view of the length of your nails. If you do, your nails will be an asset and make a good impression on others.

Never, say the experts, pick your nails with a sharp tool.



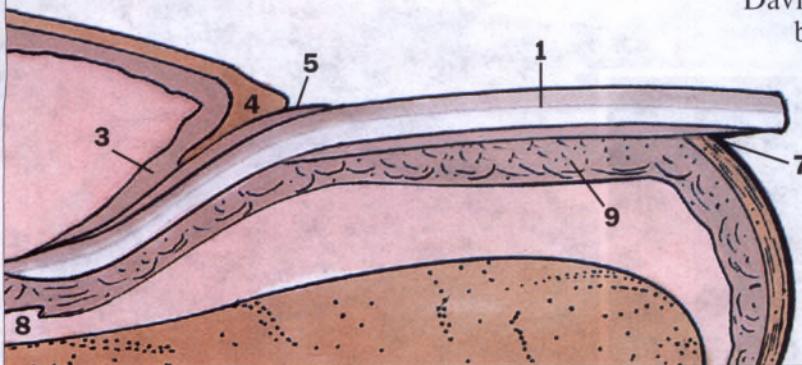
- 1. Nail plate;**
- 2. lunule;**
- 3. nail folds,
proximal and lateral;**
- 4. eponychium;**
- 5. cuticle;**
- 6. free edge;**
- 7. hyponychium;**
- 8. matrix;**
- 9. nail bed**

This can cause damage to the hyponychium, the tissue underneath the free edge of the nail. This tissue forms a tight seal protecting the nail underneath. If this area is damaged, the nail might even separate from the nail bed and become infected. To clean under the nails, use a very soft brush.

Strong and healthy nails are somewhat the result of inherited factors. That is why some people have strong and flexible nail plates, while others have dry or brittle nails. Whatever the condition of your nails, you *can* improve their looks with modest and regular care. Yes, understanding the structure, function, and proper care of the nail unit gives you the know-how. Using such information wisely will produce good results.

The fingernails are indeed a marvelous part of the human body. Their structure and function bear witness to the ingenious mind behind them. King

David of ancient times humbly expressed his admiration for his Creator, as recorded at Psalm 139: 14: "I shall laud you because in a fear-inspiring way I am wonderfully made. Your works are wonderful, as my soul is very well aware."



Islands Under Construction

HAWAII." The Hawaiian Islands evoke visions of tropical paradise, sunny beaches, and balmy trade winds. But were you aware of the remarkable isolation of these islands? If you locate Hawaii on a map, you will find these islands nestled in the center of the North Pacific Ocean—about as far away from mainland coastlines as you can get! Thus, you may wonder, 'How did the islands get there? Do scientists believe that more islands will form in the future? What can these islands tell us about the very earth beneath our feet?

The Hawaiian Archipelago

Most people who visit Hawaii become familiar with the chain of eight islands that extends from northwest to southeast, the largest of which are Kauai, Oahu, Molokai, Lanai, Maui, and Hawaii. Smaller Niihau is west of Kauai, and Kahoolawe is southwest of Maui. The island of Hawaii, also called the Big Island, spans more than 4,000 square miles, whereas little Kahoolawe covers just 45 square miles. In addition, the island chain includes another 124 much smaller islands, or islets, that extend even farther to

the northwest. Midway, near the northwest terminus of the chain, is nearly 1,600 miles away from the Big Island! The islets, largely made up of coral and sand, form a total surface area of only three square miles. Aptly, some use the name Hawaiian Archipelago to refer to the entire group of islands.

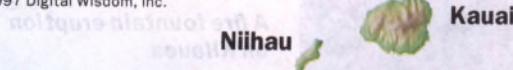
If we consider that the islands and islets are based on broad platforms that rise, on the average, more than 15,000 feet above the surrounding seafloor, we begin to appreciate that they are merely the exposed tips and crowns of huge mountains. In fact, when measured

An eruption on Kilauea

Volcanoes: Dept. of Interior, National Park Service

A line of fire fountains on the east rift of Kilauea





from their base on the ocean floor, Mauna Kea and Mauna Loa on the island of Hawaii rise some 33,000 feet. Thus, they are in a sense the world's tallest mountains!

Building an Island

Let us examine further the island of Hawaii. Geologists have determined that the Big Island consists of five large coalesced volcanoes. Most visitors are familiar with the three largest—Mauna Kea, which is considered to be dormant and boasts the highest point in Hawaii, 13,796 feet above sea level; Mauna Loa, which is 13,678 feet and is the largest Hawaiian volcano in volume; and Kilauea, which is the youngest volcano and is located on the southern flank of the island. In addition, Kohala volcano forms the northwest tip of the island, and Hualalai rises above the Kona coast.

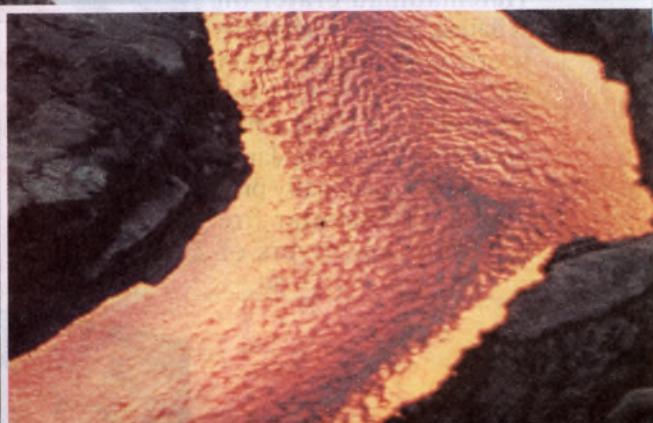
Each volcano grew by the out-

Hawaiian Islands



pouring and stacking of many thousands of lava flows. Eruptions begin underwater, where the lava quickly quenches, forming rinds and tongue-shaped flows that when stacked up look like piles of pillows. When the growing volcano emerges above the water, the lava flows take on a different appearance. Volcanologists use the Hawaiian terms "pahoehoe" for fluid flows having smooth, billowy, andropy surfaces and "aa" for lava that is rough, jagged, and rubbly. The volcano develops into a broad, gently sloping mountain that resembles in form the shields carried by ancient Roman warriors. Large craters develop at the volcano summit when magma, or molten rock, erupts or withdraws from cavities near the surface. Also, the magma reservoir inside the volcano exerts pressure. This pressure pushes part of the volcano seaward, opening up large sets of cracks. Finally, as in the case of Mauna Kea, the eruptions of a shield volcano become more explosive,

A lava river on Mauna Loa





**A curtain of fire on
Mauna Loa**

producing cone-shaped heaps of volcanic cinders that dot the volcano.

Mauna Loa and Kilauea have proved to be among the most active volcanoes in the world. Historical accounts from native Hawaiians, missionaries, scientists, and others indicate that 48 eruptions have taken place on Mauna Loa since 1832 and more than 70 eruptions on Kilauea since 1790. These eruptions have lasted anywhere from hours to years. The longest on record was a lava lake in Halemaumau crater on Kilauea, which was active nearly continuously from the early 1800's to 1924. Presently, Kilauea has been erupting since January 1983, occasionally producing spectacular fire fountains and rivers of

Top left and bottom right: Dept. of Interior, National Park Service



**A fire fountain eruption
on Kilauea**

lava that have flowed into the sea.

Because of their typically fluid lava, most Hawaiian eruptions have been nonexplosive or only mildly explosive. In rare instances, however, groundwater mixes with magma, resulting in steam explosions. In 1790, such an eruption killed about 80 people when a band of native warriors and their family members became engulfed in hot gases and burning cinders spewed from Kilauea.

Moving Islands

Recorded history over the past 200 years indicates that only the two southeasternmost islands, Hawaii and Maui,

U.S. Geological Survey

**A lava lake
on Kilauea**



have been active. This puzzling situation moved scientists to study the rock history of the island chain further. Trapped within the lava are minute amounts of a radioactive form of potassium and its decay product, argon, which they could measure in the laboratory to estimate rock ages. Such investigation revealed a systematic, northwestward aging of the entire Hawaiian Archipelago over many millions of years.

Since Hawaiian eruptions have been occurring more in the southeastern part of the island chain, does this mean that the source of magma beneath them has been moving too? In actuality, geologists have determined that the magma source, which they call a hot spot, is stationary. Instead, the floor of the Pacific Ocean has been moving over the hot spot, carrying the island volcanoes away from the hot spot like piles of rocks on a moving conveyor belt. This same movement grinds the Pacific seafloor against neighboring continental masses and other parts of the seafloor, causing many of the great earthquakes that occur along the Pacific Rim. If you live in Hawaii, your home has crept about three inches to the northwest since last year!

Scientists suggest that other hot spots like the one beneath Hawaii account for many of the volcanoes around the world, both on land and in the sea. Most of these hot spots also show evidence of migrating eruptions, which means that the earth's surface has likely been shifting where you live as well.

Formation of New Islands . . .

Since hundreds of thousands of years have been required to build the large volcanoes on the Big Island, we might expect that the island has been moving away from the hot spot during this time. New volcanoes and islands should then develop above the hot spot as it encounters unaffected seafloor. Has a poten-

tial successor to the volcanoes of the Big Island already manifested itself?

Indeed it has. A volcanically active underwater mountain, Loihi, is growing south of the island of Hawaii. Don't expect it to emerge from the sea soon, however. It still needs to rise another 3,000 feet, which may take tens of thousands of years.

. . . And Destruction of Old Islands

The stout volcanic shields and rugged lava flows making up the Hawaiian Islands appear deceptively secure from resubmergence into the ocean. But small islets and drowned seamounts northwest of Hawaii tell a different story. The sands and coral reefs of Midway and Kure islands, for instance, are built on large volcanic mountains whose tops are now hundreds of feet below sea level. Why do volcanic islands disappear?

The islands gradually give way to steady erosion brought about by stream runoff, wave action, and other forces. The islands also sink under their own weight as they depress the ocean floor. Steep cliffs along the sides of some islands indicate another process by which volcanic islands decay—landslides. Sonar images of the undersea flanks of the islands reveal huge landslides that stretch for tens of miles out onto the seafloor.

Hot Spot in Action

On the island of Hawaii, visitors to the Hawaii Volcanoes National Park can see for themselves the ever-changing landscapes produced by hot-spot volcanic activity. Scientists of the Hawaiian Volcano Observatory, located on the rim of Kilauea crater, monitor ongoing and threatening eruptions. Their studies have led to greater insight into how volcanoes work and how the surface of the earth has been shifting. With awe, we can appreciate that mighty geologic forces have formed and shaped the Hawaiian Archipelago—this magnificent chain of islands in the middle of the Pacific Ocean.

WATCHING THE WORLD

Better Than Human Intervention

Ten years after a storm felled 15 million trees in England in 1987, it was found that woodland areas undisturbed by human intervention had experienced the most prolific regrowth, reports *The Daily Telegraph*. Where trees had been blown down, more light reached the ground. This caused saplings and shrubs to grow to a height of 20 feet, and insects, birds, and plants have also proliferated. Many fallen oak and yew trees did not rot as expected, and their timber, now seasoned, has tripled in value. Says conservationist Peter Raine: "More damage was done by well-intentioned cleaning up [by humans] than by the storm itself. Many of the trees planted that autumn were planted hurriedly, badly, and they died."

Work, Strain, and Heart Attacks

Mental strain at work is the second most important risk factor for heart and circulatory problems, with smoking the first, reports the *Frankfurter Rundschau*. Summarizing a survey carried out by the Federal Institute for Occupational Safety and Health, in Berlin, Germany, the report says: "Those most at risk are employees whose latitude to make decisions is very limited and whose job offers little variety. Should they also be under pressure during their leisure time, for instance because they are building their own house or nursing a sick relative, then the risk of

a heart attack increases to almost nine times." One expert urges that employees be allowed greater latitude in decision making. "Just one discussion a month among all workers in a department could improve matters."

'World's Most Efficient Transportation'

When you are traveling less than five miles in an urban setting, a bicycle may be faster than a car, reports *The Island*, of Colombo, Sri Lanka. The international environmental group Friends of the Earth call the bicycle "the most



efficient form of transportation on Earth." They point out that a bicycle can cover as many as 1,500 pollution-free miles on the food energy equivalent of just one gallon of gasoline, notes the report. It adds that bicycle use also provides health benefits.

Bullies Abound

A survey coordinated by Rome's La Sapienza University reveals that many students face forms of bullying that include insults, abuse, petty theft, physical aggression, and threats. The offenses were especially noted in Rome, where over 50 percent of both boys and

girls had suffered episodes of bullying within a three-month period. "During deeper conversations," explained researcher Anna Costanza Baldry, "many girls recounted episodes of even serious molestation that they had not reported, both because of fear and . . . because they consider certain kinds of behavior to be normal," said the Italian newspaper *La Repubblica*.

Bullying is not confined to children. *The Irish Times* reports that many adults experience bullying at their place of work, mostly by their superiors. "Verbal aggression, criticism of people's work and the circulation of rumours about them are the favourite ploys of workplace bullies," it said. "Humiliation and the setting of unrealistic work targets were also common." Bullying is linked to psychological effects that include "anxiety, irritability, depression, paranoia, stress, loss of confidence, loss of self-esteem and withdrawal," says the *Times*. In extreme cases this kind of bullying can lead to "breakdown or even suicide."

Cesarean or Normal Birth?

Brazilian doctors and mothers often prefer cesarean section to normal birth. The doctor finds that "he can handle more births, can earn more money in his office, and does not have to lose his weekend," reports *Véja* magazine. Mothers "choose not to go through the normal birth procedure, in order to avoid pain (however, there is much more pain in

volved in recuperating from a cesarean birth), and they believe the procedure will be aesthetically beneficial to the body (which it is not)." In public hospitals, a third of all births are by cesarean, and in some private hospitals, the rate is as high as 80 percent. "Childbirth has become a commercial product," says Dr. João Luiz Carvalho Pinto e Silva, head of obstetrics at the University of Campinas. "People often forget that contrary to normal birth, a cesarean is surgery. There is greater loss of blood, anesthesia time is longer, and the possibility of infection increases." According to the doctor, "cesareans should be done only in three cases: when the life of the patient or of the baby is in danger, when there are no signs of labor, or when there are sudden complications," says *Veja*.

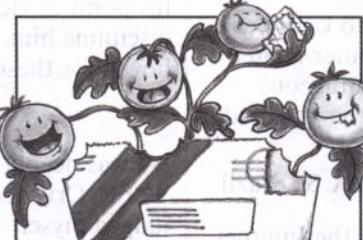
Religious Devotion in Greece Wanes

The Athens newspaper *Ta Nea* recently published a poll on religion in Greece similar to one it had conducted in 1963. The results show a decline in religious devotion in that country. A generation ago, 66 percent said that they go to church at least two or three times a month, compared with less than 30 percent in the recent poll. More than two thirds of the 965 adults polled in the greater Athens area said that the church served society "a little" or "not at all," reports Reuters news service. Writing in *Ta Nea*, respected Greek pollster Elias Nikolopoulos spoke of "a gradual secularization of Greek society," noting that there is now "wariness and

resentment" toward the church in Greece.

Feed Your Junk Mail to the Tomatoes

What might a post office do with 500 tons a month of un-deliverable junk mail, including catalogs and other advertisements? The Dallas-Fort Worth, Texas, post office has begun sending much of it to be turned into compost. The compost



is being used to grow tomatoes and marigolds, reports *The New York Times*, and the results have been promising. The bacteria that convert the shredded junk mail into compost are fed stale beer and soft drinks, waste products of beverage manufacturers. The beer and soda contain sugar, on which the bacteria thrive. Says Joel Simpson, vice president of the composting company conducting the experiment: "The same things that make us fat make those bacteria fat and happy."

Help for Those With Skin Disorders

"Many people who suffer from skin disorders do not seek treatment because of embarrassment and can spend years 'suffering in silence,'" reports *The Irish Times*. Highlighting their plight, Dr. Gillian Murphy says: "I have patients with psoriasis, whose skin literally falls off when they take their

clothes off, and they feel so unclean and embarrassed they won't stay in a hotel or go to the hairdressers." Bill Cunliffe, professor of dermatology at Leeds University, adds: "Acne affects people physically and mentally. There is the notion that it is dirty and infectious. If two people [are] present for interview with the same capabilities, the one without acne will get the job." Cunliffe says that he has had some patients so distraught over having acne that they've attempted suicide. Doctors at a recent Congress of the European Academy of Dermatology and Venereology in Dublin, Ireland, emphasized the need to seek early treatment. "It is a terrible problem for some people," said one doctor, "but it is important to remember that there are very good treatments available."

Parent Talk—More Than Soothing Sounds?

Parents who playfully babble to their babies may be giving them much more than tender affection, some scientists say. Patricia Kuhl, of the University of Washington, and her coworkers studied infant-directed speech of three different languages—Russian, Swedish, and English. It seems that parents' highly exaggerated speech patterns not only get their baby's attention but also serve as a basis for the baby to learn that language. "By 6 months of age," says *Science* magazine, "babies learn to categorize vowel sounds, paying attention to distinctions that are meaningful in their native language, such as the difference between 'ee' and 'ah,' while ignoring meaningless variations."

FROM OUR READERS

Internet I am studying computer engineering, and I want to compliment you on the series "The Internet—Is It for You?" (July 22, 1997) The articles were concise, informative, and scientifically accurate. You did not endorse the pointless prejudice and alarm that has surrounded the Internet. On the other hand, you did not hide the real dangers.

L. E., Italy

I teach computer classes, and to keep myself up-to-date, I often buy computer-related magazines. Not one has been courageous enough to talk so openly about the pros and cons of the Internet.

A. A. S., Brazil

I had been hearing a lot about the Internet lately, but I could not understand it clearly. Your series explained the subject in a very simple and easy-to-follow way.

A. H., India

You wrote in a way that even readers with little or no knowledge of the World Wide Web could easily understand. You also helped us to pause and calculate the expense of using this service.

E. K., Ethiopia

Getting Blamed I am 15 years old, and the article "Young People Ask . . . Why Is It Always My Fault?" (July 22, 1997) made tears roll down my face. I am the baby of the family and get picked on all the time. Thank you for writing about this.

N. H., United States

Rift Valley I was exceptionally pleased to read, many times, the article "The Great Rift Valley." (July 22, 1997) It was like taking a safari. My husband worked in Africa, and I was able to take a trip to the southern part of Tanzania. My face was glued to the window of our Land Rover. Everything is so vivid and

colorful in Africa; it made an indelible impression on my mind.

B. S., Canada

Thriving Children I want to thank you for the splendid series "Help Your Children to Thrive." (August 8, 1997) I found it very useful and encouraging. I have a three-year-old boy, and this article helped me to understand his point of view and to improve the way I discipline him. My profound thanks go to Jehovah for these articles.

P. S., Italy

I was deeply touched by the article "Harsh Words, Crushed Spirits." All my life I have judged myself severely. I am pleased to find that instead of severely judging, you lovingly try to help all those who have lived through so much suffering. May Jehovah continue to bless you and guide the writing of articles that are so beneficial and soothing.

L. D., Canada

I hope that the articles will open the eyes of others to the root cause of much of the inner turmoil that many of us have suffered. Thank you for addressing this subject.

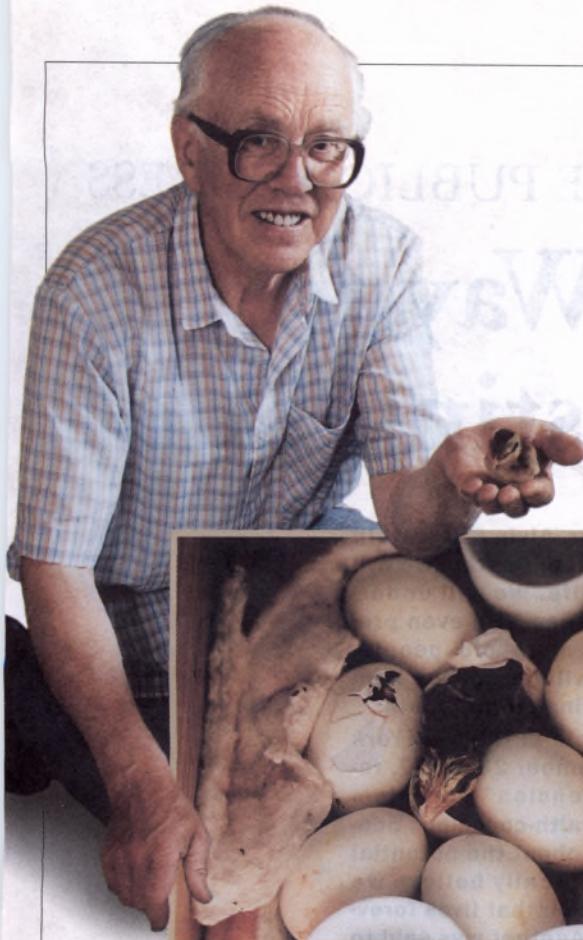
L. B., United States

Articles like these help me to accomplish my work as a teacher in a nursery school in a better way. A thousand thanks for keeping us up-to-date and helping us to improve.

G. R., Mexico

The articles gave me some hope. I came from a dysfunctional family and often find it hard to feel worthy of serving Jehovah and caring for my little girl. I will do my best to apply the suggestions in the article. Thanks for caring.

A. A., United States



My Bees Hatched Chicks!

enheit in their beehive. So I took the eggs and placed them on a bed of cotton on top of the brood chamber inside one of my beehives. Then I put two cups of water near them to help keep the "nest" humid. I turned the eggs over every day, thus imitating the broody hen.

After a few days, I heard distinct peeps coming from several of the eggs. A short time later, a wet little chick broke out of its shell! I immediately picked it up and put it under the hen who had deserted her eggs. Happily, she accepted it. Soon she had a brood of 12 downy little chicks to look after, thanks to the busy bees.—Contributed.

I LIVE on a small farm in the north of Sweden. Recently, when two of my hens started incubating eggs, I took notice of their actions. A couple of days after the first chicks were hatched, some of them went out for a stroll and happened to pass by the other hen. Presuming that the chicks belonged to her, she immediately got up, left her eggs, and began to gather them under her. The chicks did not seem to care which hen took care of them.

I tried to get the hen to return the "stolen" chicks and resume sitting on her own eggs, but my efforts were futile. I was just about to throw the abandoned eggs into the trash when I stopped and thought, 'There might still be life in them!' Then I got an idea.

A large colony of bees maintains a constant temperature of about 93 degrees Fahr-



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Roland Berggren,
Västerbottens-Kuriren,
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COME, HEAR THE FREE PUBLIC ADDRESS “The Only Way to Everlasting Life”

Nearly 20 years ago, Dr. Alvin Silverstein wrote in his book *Conquest of Death*: “We will unravel the essence of life. We will understand . . . how a person ages.” He even predicted: “There will be no more ‘old’ people, for the knowledge that will permit the conquest of death will also bring eternal youth.”

More recently, an article in *The New York Times Magazine* of September 28, 1997, reported on the “life extension” optimism shared by a number of health-conscious people who are enthusiastic about the potential of today’s technology. “I really believe we could be the first generation that lives forever,” said one enthusiast. Another was said to be “blithely confident . . . that genetic augmentation techniques will become available in time to save [this generation] by halting aging, maybe reversing it.” Does such optimism surprise you?

Do you believe that man through his technology will conquer death? Or is there another way to live forever? Millions worldwide are convinced that everlasting life can truly be realized. Learn how by accepting the invitation to hear the thrilling discourse “The Only Way to Everlasting Life,” which will be featured at the “God’s Way of Life” District Convention of Jehovah’s Witnesses. You may listen to it at a location near your home, for beginning this month, it will be delivered at hundreds of conventions throughout the world.