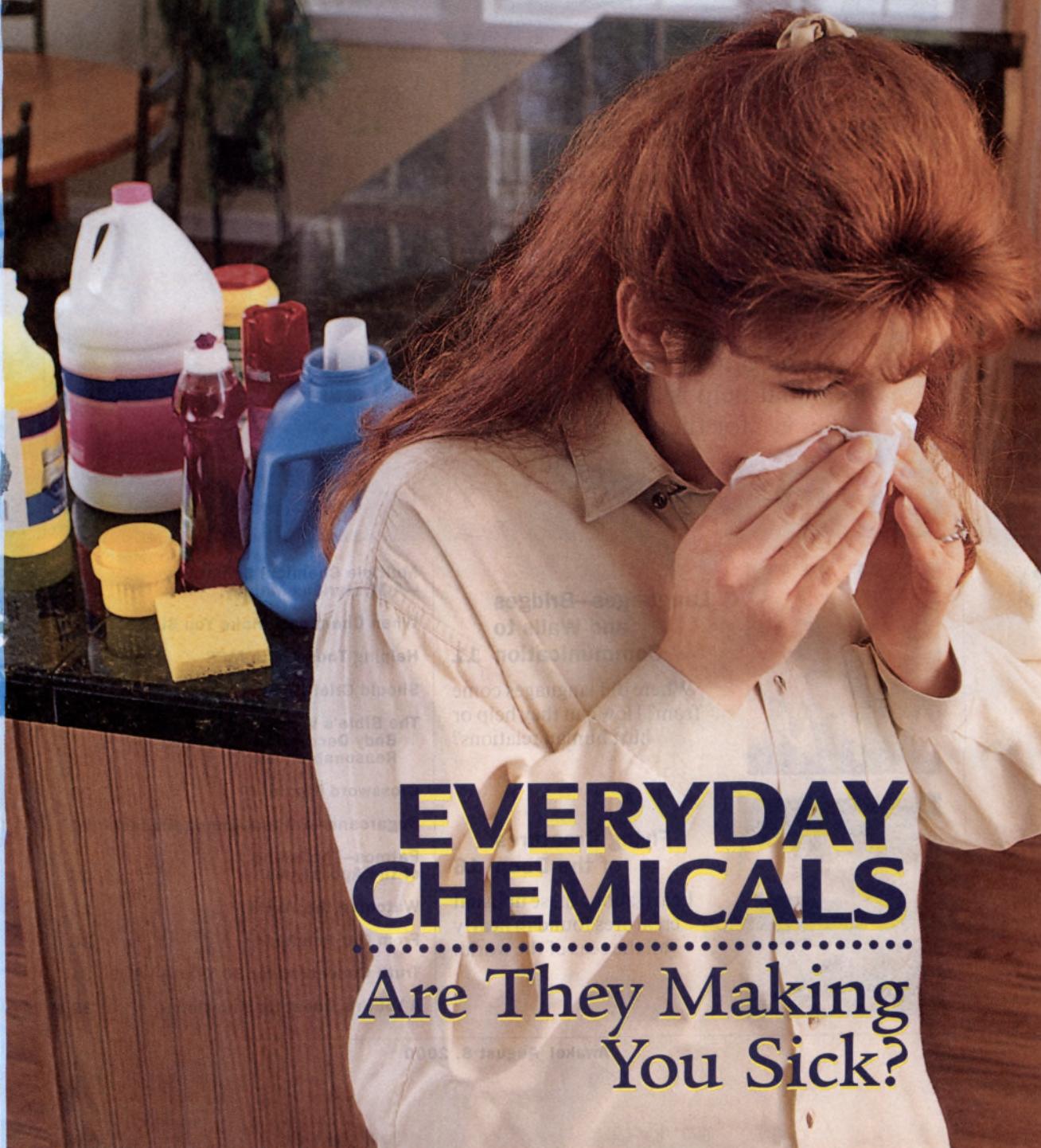


Awake!

August 8, 2000



EVERYDAY CHEMICALS

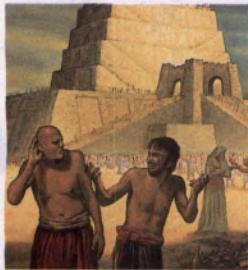
Are They Making
You Sick?

EVERDAY CHEMICALS **—Are They Making You Sick? 3-10**

Many people become sick when exposed to everyday chemicals used in household and other products. What help is available for them?



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Learn about these unusual creatures found in nearly all the seas of the world.

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Multiple Chemical Sensitivity

A Mysterious Malady

Pam's home was in a housing tract surrounded by cotton fields. Planes regularly dusted the fields with herbicides and pesticides; and the wind often carried chemical residues to nearby homes, including Pam's.

PAM began experiencing severe headaches and nausea, and her health deteriorated. In time, she was adversely affected by substances that seemingly had no relation to pesticides: perfumes, deodorants, body lotions, cleaning agents, paint, new carpet, tobacco smoke, room deodorizers, and other substances. Pam's symptoms are among those generally attributed to a baffling malady called multiple chemical sensitivity (MCS).*

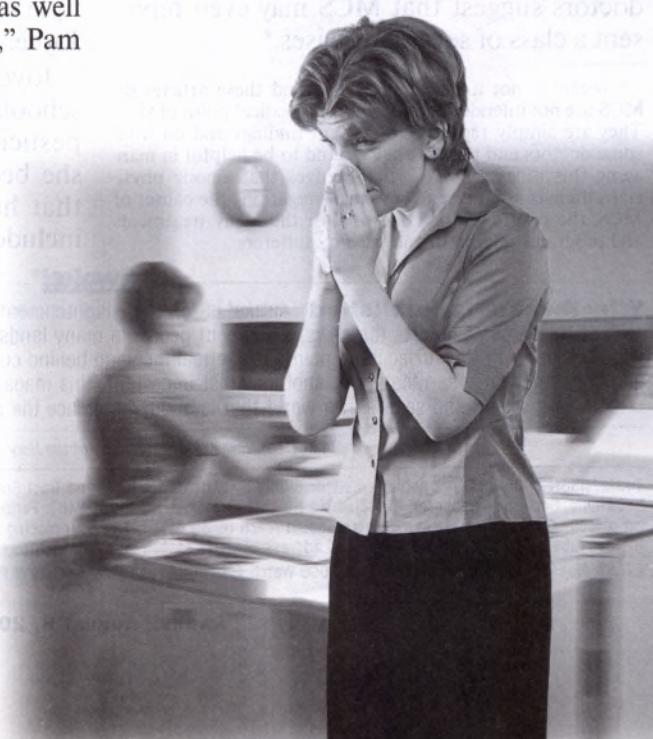
"When I come in contact with everyday chemicals, I start feeling very tired as well as disoriented, dizzy, and nauseated," Pam explained to *Awake!* "My body becomes bloated, and at times I experience shortness of breath, panic attacks with uncontrollable crying, heart palpitations, increased pulse rate, and fluid buildup in my lungs. This has even led to pneumonia."

While the symptoms seen in MCS vary somewhat from person to person, they may include head-

aches, extreme fatigue, muscle pain, joint pain, eczema, rashes, flu-like symptoms, asthma, sinus problems, anxiety, depression, memory problems, difficulty in concentrating, insomnia, irregular heartbeat, bloating, nausea, vomiting, intestinal problems, and seizures. Of course, many of these symptoms can also be caused by other illnesses.

MCS—A Growing Problem

In the United States, surveys among various groups of the population suggest that between 15 and 37 percent of the population consider themselves especially sensitive or allergic to common chemicals and chemical odors, such as car exhaust, tobacco smoke, fresh paint, new carpet, and perfumes. However, only 5 percent or fewer, depending on the age group surveyed, said that MCS had



* We have used the term "multiple chemical sensitivity" because of its widespread use. However, there are many other terms, including "environmental illness" and "chemical hypersensitivity syndrome." "Sensitivity" here refers to being affected by chemicals in amounts that do not appear to affect most people.

been diagnosed. About three quarters of these were women.

Many sufferers of MCS say that pesticides and solvents caused their condition. Both products are common in the environment, especially solvents. Solvents are volatile (highly evaporative) substances that disperse or dissolve other substances. They are

an ingredient in paints, varnishes, adhesives, pesticides, cleaning solutions.

In the following articles, we will examine MCS a little more closely, discuss what help is available for those who suffer from this condition, and see how sufferers and nonsufferers can cooperate to make life more pleasant for those who have MCS.



When Chemicals Make You Sick

MANY aspects of multiple chemical sensitivity (MCS) are puzzling. Understandably, there is considerable disagreement in the medical community as to the nature of the condition. Some doctors believe that MCS has a physical cause, others believe that it has a psychological cause, and still others point to both physical and psychological factors. Some doctors suggest that MCS may even represent a class of several diseases.*

**Awake!* is not a medical journal, and these articles on MCS are not intended to promote any medical point of view. They are simply reporting on recent findings and on what some doctors and patients have found to be helpful in managing this illness. *Awake!* acknowledges that among physicians there is no universal consensus regarding the causes of MCS, the nature of the condition, or the many treatments and programs offered to and used by sufferers.

Many patients with MCS say that an initial large exposure to a toxin such as a pesticide caused their condition; others point to repeated or chronic exposure to lower levels of toxin. Once MCS is acquired, sufferers react with various symptoms to a variety of seemingly unrelated chemicals that they previously tolerated, such as fragrances and cleaning products. Thus, the term "multiple chemical sensitivity." Take the case of Joyce.

Joyce contracted head lice while in school. Her head was then sprayed with a pesticide. Joyce's health deteriorated, and she became intolerant of many chemicals that had not bothered her before. These include household cleaners, air fresheners,

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

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fragrances, shampoos, and gasoline. "My eyes swell shut," says Joyce, "and my sinuses become infected, causing headaches and nausea so severe that I remain sick for days. . . . I have had pneumonia so many times that my lungs are scarred like those of a person who has smoked for 40 years—and I have never smoked!"

Chronic exposure to a lower level of toxin, which has also been suggested as a factor in MCS, may occur outdoors or indoors. In fact, in recent decades the rash of sicknesses in the wake of indoor air pollution has led to the coining of the term "sick-building syndrome."

Sick-Building Syndrome

Sick-building syndrome surfaced in the 1970's when to conserve energy, many naturally ventilated homes, schools, and offices were replaced with airtight, air-conditioned buildings. Insulation, treated wood, volatile adhesives, and synthetic fabrics and carpets were often incorporated into these buildings and their furnishings.

Especially when new, many of these products release low levels of potentially harmful chemicals, such as formaldehyde, into the recycled air. Carpets add to the problem by absorbing various cleaners and solvents and then releasing them over a long period of time. "Vapors from various solvents are the most prevalent of indoor air contaminants," says the book *Chemical Exposures*

—*Low Levels and High Stakes*. "Solvents," in turn, "are among the chemicals most frequently implicated by chemically sensitive patients," the book states.

While most people seem able to cope with the environment inside such buildings, some develop symptoms ranging from asthma and other respiratory-tract problems to headaches and lethargy. These symptoms generally disappear when the affected people leave that environment. But in some cases, "patients may develop multiple chemical sensitivities," says the British medical journal *The Lancet*. But why do some get sick from chemicals while others do not? This is an important question because some who seem unaffected may find it difficult to be understanding of those who become ill.

All of Us Are Different

It is good to remember that we all react differently to various agents, whether they be chemicals, germs, or viruses. Things that affect reactions include genetic makeup, age, gender, health status, medications we may be taking, preexisting disease, and lifestyle factors such as use of alcohol, tobacco, or drugs.

With medicinal drugs, for example, your uniqueness dictates "whether a drug will work and what its side effects might be," says *New Scientist* magazine. Some of these side effects can be serious, even resulting in death. Normally, proteins called enzymes

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clear out of the body chemicals that are foreign, such as the chemicals in drugs and the pollutants that are absorbed in daily activities. But if these "housekeeping" enzymes are defective, perhaps because of heredity, prior damage by toxins, or poor diet, foreign chemicals can build up to dangerous levels.*

MCS has been compared to a group of enzyme-related blood disorders called porphyrias. Often the way people with certain porphyrias react to chemicals, ranging from vehicle emissions to fragrances, is similar to the way people with MCS react.

The Mind Is Also Affected

One MCS sufferer told *Awake!* that certain common chemicals make her feel drugged. She said: "I have experienced personality changes—becoming angry, agitated, irritable, fearful, lethargic. . . . These symptoms can last anywhere from a few hours to several days." Afterward, she feels hung over and suffers from varying degrees of depression.

These effects are not unusual for people with MCS. Dr. Claudia Miller says that "more than a dozen countries report psychological problems after well-identified chemical exposures, whether it's insecticide exposure or sick building [syndrome]. . . . We know that workers exposed to solvents are more at risk of developing panic attacks and depression. . . . So we need to be very thoughtful and remember that perhaps the most sensitive organ system in the body to chemical exposures is the brain."

Although chemical exposure can lead to psychological problems, many doctors believe that the reverse is also true—psychological problems can contribute to

* A common example of an enzyme deficiency involves the enzyme lactase. Those with a lactase problem cannot assimilate the lactose in milk, and they become ill when they drink it. Other people have a deficiency in the enzyme that metabolizes tyramine, a chemical found in cheese and other foods. As a result, when they consume such foods, these people can develop migraine headaches.

the development of chemical sensitivities. Dr. Miller, mentioned above, and Dr. Nicholas Ashford, firm believers in physical causes of MCS, acknowledge that "psychosocial events, such as the death of a spouse or divorce, can suppress immune system function and may predispose certain people to being more sensitive to chemicals at low levels. Certainly, the relationship between psychological and physiological systems is an intricate one." Dr. Sherry Rogers, another believer in physical causes of MCS, states that "stress makes a person more chemically sensitive."

Is there anything MCS sufferers can do to improve their health or at least reduce their symptoms?

Help for Those With MCS

Although there is no known cure for MCS, many sufferers have been able to reduce their symptoms, and others have even been able to resume a reasonably normal life. What has helped them to cope? Some say that they have benefited by following their doctor's recommendation to avoid, as much as possible, chemicals that trigger their symptoms.* MCS sufferer Judy finds that avoidance works well for her. While recovering from the Epstein-Barr virus, Judy was overexposed to a pesticide used inside her home and subsequently developed MCS.

Like many with MCS, Judy reacts to a broad range of domestic chemicals. Thus, she does all her cleaning and laundry with pure soaps and baking soda. She finds vinegar most effective as a fabric softener. Her wardrobe and bedroom contain only natural fibers and fabrics. Her husband does not

* Those who believe that they suffer from MCS should seek professional help from a reputable physician. It would be unwise to make radical, and perhaps costly, changes to your life-style without first undergoing a thorough examination. Tests may reveal that only minor adjustments to your diet or life-style will reduce or even correct your symptoms.

Do You Need So Many Chemicals?

All of us should keep our exposure to *potentially toxic chemicals* to a minimum. This includes chemicals that we keep in the home. Says the book *Chemical Exposures*: "Indoor air contaminants appear to be among the most potent initiators and triggers of chemical intolerances. Complex mixtures containing low levels of hundreds of different volatile organic chemicals occur indoors."*

So ask yourself if you really need to use as many chemicals as you do, especially pesticides and products containing volatile solvents. Have you tried nontoxic alternatives? If you must use a potentially dangerous chemical, however, be sure never to handle it without taking *all* the necessary precautions. Also, be sure to store it in a safe place where children cannot reach it and where vapors it may give

* Ways to keep your home safe from a number of potential toxins were discussed in the December 22, 1998, issue of *Awake!*

off will do no harm. Remember, even chemicals in some sealed containers may give off vapors.

Chemical awareness also applies to what we put or spill onto our skin. Many chemicals, including fragrances, are absorbed into the bloodstream through the skin. Thus, skin patches are one means of administering certain drugs. So if you spill a toxic chemical onto your skin, "the first and most immediate treatment must be to thoroughly wash the chemical off the skin," says the book *Tired or Toxic?*

Many people with multiple chemical sensitivity are sensitive to fragrances. Ninety-five percent of the chemicals used in fragrances are synthetic compounds derived from petroleum. Acetone, camphor, benzaldehyde, ethanol, g-terpinene, and many other chemical ingredients are used. The health risks associated with these substances have been published—in the United States, for example, by the Environmental Protection Agency. The same is true of chemicals used in air fresheners. When environmental scientists study air fresheners, says the *University of California at Berkeley Wellness Letter*, they "study them as polluters, not improvers, of indoor air." Air fresheners do not eradicate bad odors; they mask them.

The book *Calculated Risks* states that "one of the most important concepts in toxicology [is that] all chemicals are toxic under some conditions of exposure."



keep his dry-cleaned clothes in their closet until they have aired out for weeks in a well-ventilated place.

Of course, in today's world it may not be possible for MCS sufferers to avoid *all* contact with problem chemicals. *American Family Physician* says: "The major disability from MCS is often the isolation and withdrawal experienced as the patient seeks to avoid chemical exposures." The article suggests that under medical supervision patients should work and socialize, gradually increasing their activity. At the same time, they should work at managing panic at-

tacks and heart palpitations by learning relaxation and breath-control techniques. The aim is to help patients gradually adjust to chemical exposures rather than eliminate chemicals from their life altogether.

Another important therapy is a good night's sleep. David, an MCS sufferer who is now virtually symptom free, attributes part of his recovery to sleeping in a bedroom where he gets plenty of fresh air. Ernest and his wife, Lorraine, both of whom suffer

from MCS, also find that "a good night's sleep helps considerably in coping with unavoidable chemical exposure during the day."

Good nutrition, of course, is always essential for maintaining or regaining good health. In fact, it has been hailed as "the single most important component of preventive health care." It stands to reason that for the body to regain health, at least to the extent possible, its systems must be working efficiently. Dietary supplements may help.

Exercise also contributes to good health. Additionally, when you perspire you help your body eliminate toxins through your skin. Also important are a good mental dis-

position and a sense of humor, along with being loved and showing love to others. In fact, "love and laughter" is the prescription one doctor gives all her MCS patients. Yes, "a heart that is joyful does good as a curer." —Proverbs 17:22.

Enjoying loving, happy companionship, however, can be a major problem for MCS sufferers who are unable to tolerate fragrances, cleaning agents, deodorizers, and other chemicals that most of us encounter in our daily activities. How do people with MCS manage under these circumstances? Equally important, what can others do to help those with MCS? The next article will discuss these matters.

Helping Those With MCS

A SENSITIVITY to common substances, whether colognes or cleaning agents, presents sufferers with more than a medical problem; it also presents them with a social problem. Humans are gregarious by nature, but multiple chemical sensitivity (MCS) forces many otherwise warm, fun-loving people into a lonely life-style. "I have had other health problems in the past," says Shelly, an MCS sufferer, "but this problem is the worst. The hardest part is the isolation."

Sadly, MCS sufferers are sometimes seen as oddities. One reason for this, of course, is that MCS is a complex phenomenon that the world has not yet come to terms with. But a lack of knowledge about MCS is no reason to be suspicious of those who have it.

The journal *American Family Physician* says: "These patients are truly suffering as a result of their symptoms."

Rather than looking askance at people with MCS because their malady is puzzling and poorly understood, a wise person ought to be governed by the principle at Proverbs 18:13: "When anyone is replying to a matter before he hears it, that is foolishness on his part and a humiliation." How much better it is to show Christlike love to all those who are ill, without partiality! We will never regret having shown such love, whatever medical science uncovers in the future.

Showing Christlike Love

Christlike love is like a diamond with beautiful facets to suit each occasion or

need. When a friend has MCS, our Christ-like love ought to sparkle with empathy, allowing us to put ourselves in his or her shoes. Also, love "does not look for its own interests"—or, we might say, its own rights. It puts the welfare of others first. It helps us

to be 'long-suffering, to bear all things, believe all things, and endure all things.' Such love "never fails."—1 Corinthians 13:4-8.

Mary does not have MCS, but some of her friends do. "Personally, I love perfume," Mary writes, "but I choose not to wear it

Showing Love for One Another

The following Bible principles may help you if a friend or a relative has multiple chemical sensitivity (MCS) or if you have it yourself:

"All things, therefore, that you want men to do to you, you also must likewise do to them."—Matthew 7:12.

"You must love your neighbor as yourself."—Matthew 22:39.

"Let us consider one another to incite to love and fine works, not forsaking the gathering of ourselves together, as some have the custom, but encouraging one another, and all the more so as you behold the day drawing near." (Hebrews 10:24, 25) We all need spiritual encouragement, especially when we are ill. Commendably, many Christians with MCS make the effort to attend congregation meetings in person; others who suffer more severely sometimes attend by means of a telephone hookup. In other instances, fragrance-free areas have been reserved at Kingdom Halls for people with MCS. But this may not always be possible or practical.

"Do not forget the doing of good . . . , for with such sacrifices God is well pleased." (Hebrews 13:16) Note that doing good often calls for personal

sacrifices. Are you prepared to make sacrifices to help someone with MCS? On the other hand, people with MCS need to be reasonable in their expectations of others. Christian elders, for example, cannot make rules about the use of perfumes and colognes, nor may they always be able to make announcements about it. Additionally, newly interested people and visitors wearing fragrances come to congregation meetings—and we welcome them. We certainly would not want to embarrass them or make them feel ill at ease over their use of fragrances.

"Seek peace and pursue it." (1 Peter 3:11) Obviously, health issues should not rob Christians of peace. "The wisdom from above is . . . peaceable, reasonable, . . . full of mercy," says James 3:17. Peaceable persons, whether they have MCS or not, would not be extreme or demanding in regard to the use or nonuse of chemical products. Likewise, reasonable persons who are "full of mercy" would also avoid insisting on their right to wear fragrances if they realized that these would affect the health of another person. In this way they demonstrate that they

too are seeking "peaceful conditions" and are "making peace." —James 3:18.

On the other hand, an inflexible, unreasonable attitude, whether on the part of an MCS sufferer or another person, is like a wedge that drives people apart. Such an attitude benefits no one and may even harm one's relationship with God. —1 John 4:20.

Christians, of course, have a tremendous asset—Jehovah's spirit. As they regularly petition Jehovah for his spirit, they develop its wonderful fruits, especially love—"a perfect bond of union." (Colossians 3:14) At the same time, they patiently allow that spirit to nurture Christlike qualities in others.—Galatians 5:22, 23.



when visiting with those with MCS." In her own way, in imitation of Jesus, Mary is saying, "I want to help." (Mark 1:41) Trevor developed MCS in infancy. His mother says: "People I have worked with have bent over backward to accommodate my son." Joy, one of Jehovah's Witnesses who lives in Australia and suffers greatly from MCS, says that she is encouraged by friends and relatives who visit her regularly and *show* that they understand her problems.

On the other hand, people with MCS should try to be patient with those who do wear fragrances in their presence. Ernest, quoted in the preceding article, said to *Awake!*: "Our illness is a burden we have to carry. Other people have their problems too, so we appreciate it when they help us with ours." Yes, inviting cooperation, not forcing it, is always the best policy. "When someone wearing perfume or cologne asks me why I'm not looking well," says Lorraine, "I tell her or him, 'I have a fragrance

problem, and it seems to be worse tonight.' To discerning people, that is often enough." Of course, that does not mean that if you suffer from MCS you cannot kindly remind friends that you need their help.

On the positive side, Pam, quoted earlier, writes: "All that we suffer now is just temporary." Why did Pam say "just temporary"? Because her Bible-based hope is that soon God's Kingdom will rid the earth of all suffering. It will even eradicate death—something that the most healthy person must eventually face.—Daniel 2:44; Revelation 21:3, 4.

Meanwhile, all who have to endure an illness for which there is no cure at present can look forward to the time when, under God's Kingdom rule, 'no person will say: "I am sick."' (Isaiah 33:24) As we endure whatever trials come upon us in this present system of things, let us all strive to be like Jesus and focus on the prize that is set before us.—Hebrews 12:2; James 1:2-4.

**People with MCS need friends
as much as others do**



LANGUAGES

Bridges and Walls to Communication

BY AWAKE! CORRESPONDENT IN MEXICO

“No history can give us an idea so exact of the vicissitudes of a people, of their social organization and their beliefs and feelings, as an analysis of their language.”

—MARTÍN ALONSO.

THROUGHOUT history, language—its origins, diversity, and dynamic nature—has fascinated scholars. Indeed, their fascination has even been preserved—just as most historical records have been—thanks to language itself. Undoubtedly, in language humans have their ultimate means of communication.

At the present time, some linguists estimate that about 6,000 or more languages are spoken in the world, not including local dialects. By far, the most widely spoken language is Mandarin Chinese, with more than 800 million speakers. The next four most spoken languages, not necessarily in this order, are English, Spanish, Hindi, and Bengali.

What happens when different cultures and, of course, their languages suddenly come into contact with one another? On the other hand, how does isolation of groups affect their language? Let us see how bridges—but also walls—to communication are built.

Pidgins, Creoles, and Lingua Francas

Colonization, trade between countries, and even confinement in concentration camps have caused people to feel the need to bridge the communication gap because of having no language in common. So they began using a reduced, or simplified, form of language. They took away grammatical complications, used fewer words, and limited

these to areas of common interest. In this way pidgins were created. Pidgin, as reduced as it may be, is a language with its own linguistic system. But if the need that generated it disappears, it may die.

When pidgin becomes the main language of a population, new words are added and the grammar is reorganized. It thus becomes a creole. Creoles, as opposed to pidgins, express the culture of a people. Today dozens of pidgins and creoles—based on English, French, Portuguese, Swahili, and other languages—are spoken in the world. Some have even become prominent languages within a country, such as Tok Pisin in Papua New Guinea and Bislama in Vanuatu.

Other bridges promoting communication are lingua francas. A lingua franca is a common language used by groups whose mother tongues are different. In the Central African Republic, for instance, speakers of various local languages can communicate by means of Sango. Among diplomats, English and

French are languages used as lingua francas. Pidgins are lingua francas, and creoles can be also.

In different regions inside a country, local varieties of the national language may be used, which are called dialects. The more isolated the region, the more marked the differences may be. In time, some dialects become so different from the original language of the area that they become another language. In some cases it is not easy for linguists to distinguish between a language and

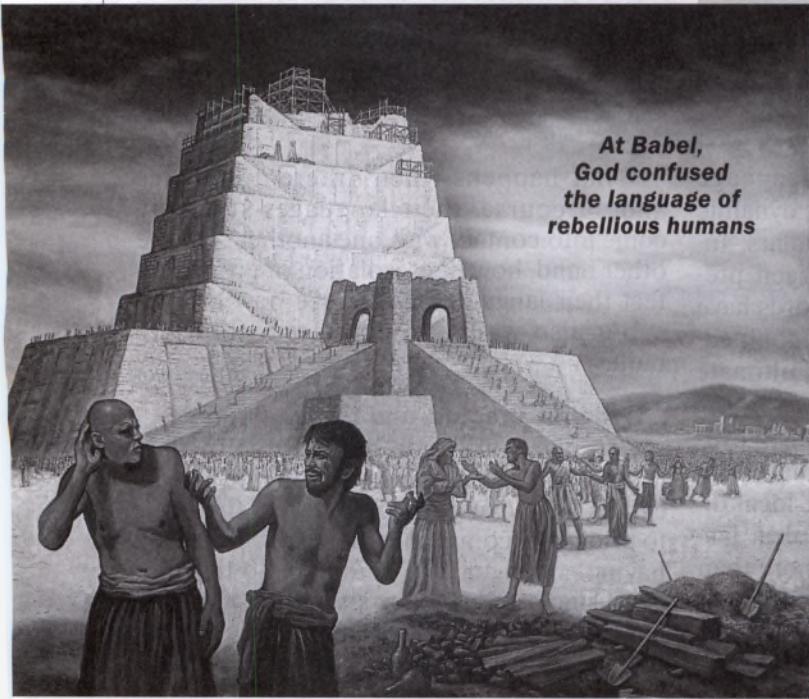
The Origin of Languages

The all-wise Creator, Jehovah God, has employed language in the heavenly angelic realm. (Job 1:6-12; 1 Corinthians 13:1) When he created humans, he implanted in them a vocabulary and the ability to expand it. There is no evidence of any primitive human language consisting of grunts and growls. On the contrary, consider

what the *Encyclopædia Britannica* explains about Sumerian, the oldest known written language: "The Sumerian verb, with its . . . various prefixes, infixes, and suffixes, presents a very complicated picture."

About the 20th century B.C.E., contrary to God's command to spread out and "fill the earth," humans made an effort to control all society at the Plains of Shinar, in Mesopotamia, and began building the religious Tower of Babel. Language diversity originated when God confused their common language, thwarting their dangerous and hurtful plans.—Genesis 1:28; 11:1-9.

The Bible record does not say that all languages descended from the original one. At Shinar, God introduced many new vocabularies and thought patterns, resulting in a variety of languages. Thus, efforts to trace a parent language from which all others developed have been in vain.



a dialect. Also, since languages change constantly, dialects sometimes die out from disuse, and with them dies a piece of history.

Language is a divine gift. (Exodus 4:11) The fascinating process of change in language shows how flexible this gift is. We may also learn from language that no one group of people is superior to another, for there is no such thing as an inferior language. Just as with other divine gifts, language is equally available to all people, no matter what their culture or the place where they live. Since the very beginning, languages of all peoples have been complete enough to serve their purpose. Each one of them is worthy of respect, regardless of how many people use it.

Historical and Social Factors

The gregarious nature of mankind is reflected in language. Thus, when there is contact between cultures—a common occurrence—the languages of those cultures retain evidence of such contact for generations.

For instance, through its many words of Arabic origin, Spanish, considered a modified version of Latin, retains a record of the eighth-century Muslim conquest of Spanish territory. The influence of Greek, French, English, and other languages on Spanish can also be traced. Moreover, in the Spanish spoken in America, traces remain of the ancient inhabitants of the continent. For example, Spanish there contains many words from the Nahuatl language of Aztec Central America.

Just as a mother tongue identifies individuals with a certain nation and even with a region, language usage can identify people with a group, such as a profession, a trade, cultural and sports groups, or even criminal organizations. The list is practically endless. Linguists call these special variations jargon or slang or sometimes even a dialect.

However, when there are animosities between nations and ethnic or cultural groups, language ceases to be a bridge. It can become a wall that adds to the divisions between people.

The Future of Languages

Communication is a complex matter. On one hand, the modern tendency is toward breaking down linguistic walls, primarily on account of mass media. According to the *Encyclopædia Britannica*, English is now spoken as a primary or a secondary language by 1 person in 7. Thus, it is the most widely used lingua franca in the world. People's use of it has allowed for wider communication and the exchange of beneficial information.

On the other hand, linguistic walls have contributed to division, hatred, and war. *The World Book Encyclopedia* states: "If all peoples spoke the same tongue, . . . goodwill would increase between countries." Of course, such goodwill would require a much more profound change than the mere use of a lingua franca. Only the wise Creator of language could cause all people to speak one language.

The Bible, God's main means of communication with humans, clearly shows that soon God will eliminate this present wicked system of things and replace it with a government ruling from heaven—his Kingdom. (Daniel 2:44) That government will unite all mankind in a peaceful, righteous new system of things here on earth.—Matthew 6:9, 10; 2 Peter 3:10-13.

Even now, a pure spiritual language—the truth about Jehovah God and his purposes—is uniting millions of people from all languages, nationalities, and former religions. (Zephaniah 3:9) Thus, it would seem logical that in his new world, God would further unite mankind by providing all peoples with one common language, reversing what he did at Babel.

Should Grief Be EXPRESSED?

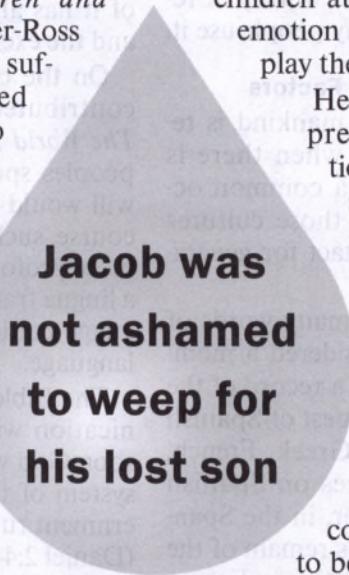
IN HER book *On Children and Death*, Dr. Elisabeth Kübler-Ross states: "Many, many adults suffer from never having resolved the hurts of their childhood. So children need to be allowed to grieve without being labeled crybaby or sissy, or hearing the ridiculous statement 'Big boys don't cry.'"

This approach contrasts with the philosophy in some lands of not allowing oneself to betray any emotion.

A Funeral Director's Experience

This contrast is illustrated by the remarks of Robert Gallagher, a New York funeral director interviewed by *Awake!* He was asked if he noted any difference in grief reactions between American-born individuals and immigrants from Latin countries.

"Certainly I do. When I started in this profession back in the 1950's, we had a lot of first-generation Italian families in our area. They were very emotional. Now we are dealing with their children and grand-



**Jacob was
not ashamed
to weep for
his lost son**

children at funerals, and much of the emotion has gone. They do not display their emotions so much."

Hebrews in Bible times expressed their grief and emotions. Note how the Bible describes Jacob's reaction when he was led to believe that his son Joseph had been devoured by a vicious wild beast: "Jacob, tearing his clothes and putting on a loincloth of sackcloth, mourned his son for a long time. All his sons and daughters came to comfort him, but he refused to be comforted. 'No,' he said 'I will go down in mourning to Sheol, beside my son.' And his father wept for him." (Genesis 37:34, 35, *The Jerusalem Bible*; italics ours.) Yes, Jacob was not ashamed to weep for his lost son.

Different Culture, Different Reaction

Of course, cultures differ. For example, in many parts of Nigeria, although families tend to have many children and death is a constant visitor because of various sicknesses, "there is an outpouring of grief

when a child dies, especially if it is the first child and more so if it is a boy," stated a writer with 20 years of experience in Africa. "The difference is that in Nigeria the grief is short and intense. It does not last for months and years."

In Mediterranean or Latin-American lands, people have been raised in an environment where spontaneous reactions are considered normal. There, joy and sadness are manifested publicly. Greetings are not limited to a handshake; they include a warm embrace. Likewise, grief is usually openly expressed in tears and lament.

Author Katherine Fair Donnelly says that a bereaved father "endures not only the psychological impact of losing his child but the fear of losing his masculine identity by publicly displaying his distress." However, she argues, "the

loss of one's child transcends the barrier of do's and don'ts for emotional behavior. The honest gut emotion of cleansing the soul with tears of grief is akin to lancing a wound to drain the infection."

So when it comes to grief, expressing it is more common in some lands than others. But it is not to be considered a sign of weakness to grieve and give way to tears. Even Jesus Christ "gave way to tears" over the death of his friend Lazarus, although Jesus knew that he would shortly resurrect him.
—John 11:35.



Flying Creatures of the Deep

Stingray

THEY glide gracefully within coastal waters and around islands of the sea. They can be found in the depths of the oceans, whether cold or warm, and even in some lakes and rivers. What are they? They are members of the ray family, creatures of the deep that appear to fly!

You don't have to be a deep-sea diver or a fisherman to enjoy the flying beauty of the ray, and you don't have to be in the water either. As Bart, a marine biologist, points out, beach goers are often treated to the sight of winged rays leaping out of the water.

There are several hundred species of rays, ranging in size from a few inches to many feet. You can see their resemblance to their relative the shark. Ray eggs, unlike those of most other fish, are fertilized inside the female's body. Skates, members of the ray family, lay the fertilized eggs, while other rays' eggs are hatched within the female and the young are born alive—miniatures of their parents.

Among the best known are the stingrays, which have a boneless body made of cartilage, with a fin on each side that extends from

the head to the base of the tail. Stingrays can be diamond-shaped or circular, or they may look like a kite with a tail. Their flattened bodies offer very little resistance to the water. Wavelike movements of their fins give them the power to glide through

the sea as if flying effortlessly. When not swimming, rays will lie hidden on the sandy bottom.

The eyes of stingrays are on the top of their head, while their mouth is underneath. They have hard teeth and a strong jaw, which enables them to tear into shells. This is why they are not a welcome sight at an oyster bed, as shellfish are their favorite food. Stingrays are themselves edible to humans and are sometimes used as a substitute for scallops in recipes.

People seem to fear stingrays, but their attitude changes when they learn the facts about them



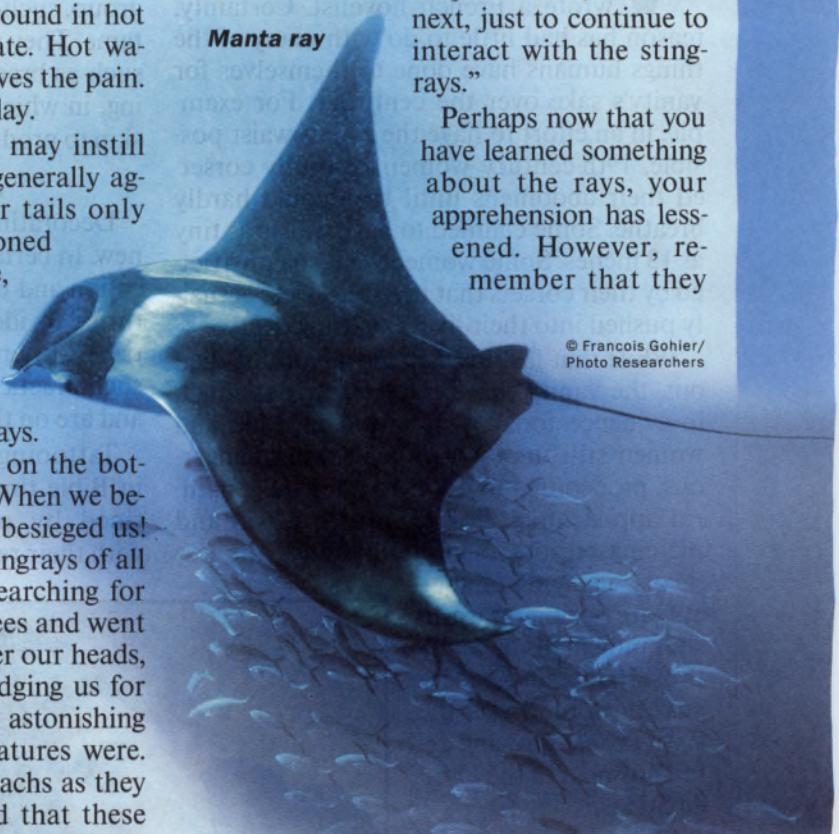
Their distinctive name stingray comes from the venomous spines on the upper side of their long tail. The tail is capable of inflicting a painful, poisonous stab if the ray is stepped on, mishandled, or threatened by enemies. The spines frequently break off deep in the wound, making them hard to remove, and they can cause serious infection if the wound is not treated properly. If you are ever stung by a ray, wash the area thoroughly with water—seawater if necessary. As soon as possible, soak the wound in hot water, as hot as you can tolerate. Hot water destroys the venom and relieves the pain. Then get to a doctor without delay.

Although their barbed tails may instill fear in you, stingrays are not generally aggressive and usually use their tails only when threatened. Bart, mentioned at the beginning of the article, found stingrays quite friendly when he and his wife swam with them in the Cayman Islands at a local spot known to be a feeding area for friendly rays. He reports: "We were kneeling on the bottom, in about 15 feet of water. When we began feeding them, the stingrays besieged us! There were probably 30 or 40 stingrays of all sizes surrounding our party. Searching for food, the rays started at our knees and went up our fronts and backs and over our heads, gently swimming along and nudging us for even a tiny bit of food. It was astonishing how docile these beautiful creatures were. They even let us rub their stomachs as they went over us." Bart mentioned that these rays have become so tame that in all the years that people have been swimming with them, there have been no recorded attacks.

Those of us who are not experienced divers can enjoy the rays in shallower water or at aquariums throughout the world. Many aquariums have petting pools with stingrays in them, but their barbs have been re-

moved as a precautionary measure. Says Ron Hardy, owner of Gulf World, in Panama City, Florida: "One of the best examples of the power of displaying live animals is our stingray petting pool. People seem to have a fear of stingrays—almost a phobia—but you should see their opinion change as they learn the facts from our narration! After they touch one, they start to admire the ray's grace and beauty. In fact, some miss the dolphin show, which is next, just to continue to interact with the stingrays."

Perhaps now that you have learned something about the rays, your apprehension has lessened. However, remember that they



© Francois Gohier/
Photo Researchers

often conceal themselves on the sandy bottom of shallow, warm waters. So while wading in such places, shuffle your feet instead of lifting them. In this way you will warn the rays of your approach and thus avoid stepping on a ray and perhaps feeling the sting of this beautiful flying creature of the deep.

Body Decoration —The Need for Reasonableness

VANITY is the quicksand of reason," wrote a French novelist. Certainly, reason has had little to do with many of the things humans have done to themselves for vanity's sake over the centuries. For example, in an effort to have the tiniest waist possible, 19th-century women painfully corseted their abdomens until they could hardly breathe. Some claimed to have waists as tiny as 13 inches. Some women were so constricted by their corsets that their ribs were actually pushed into their livers, causing death.

While that fashion fad has mercifully died out, the vanity that produced it is as much in evidence today as it was then. Men and women still undergo difficult, even dangerous, procedures in order to alter their natural appearance. For example, tattoo and piercing parlors, once the haunt of the less savory elements of society, are springing up in shopping malls and suburbs. In fact, in a recent year, tattooing was the sixth-fastest-growing retail business in the United States.

More radical forms of body decoration are also gaining ground, especially among young people. Extensive piercing of body parts—including nipples, noses, tongues, and even geni-

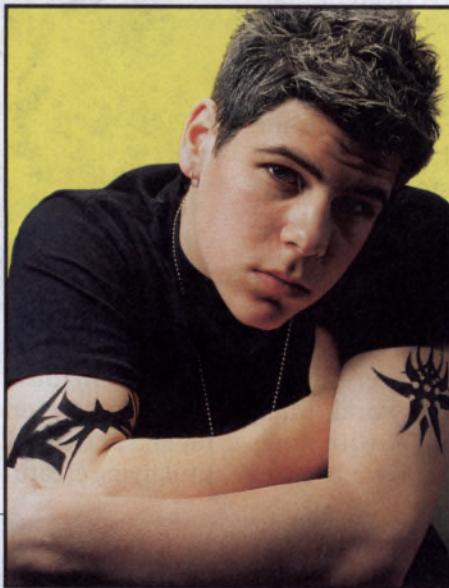
tals—is increasingly popular. For a smaller group, such extensive piercing is already too tame. They are trying more radical practices such as branding, cutting,* and body sculpting, in which objects are inserted under the skin to produce extravagant holes and ridges.

An Ancient Practice

Decorating or modifying the body is not new. In certain parts of Africa, ritual scarification and tattooing have been used for centuries to identify specific family groups or tribes. Interestingly, in many of these lands, such practices are now viewed with disfavor and are on the decline.

Tattooing, piercing, and cutting existed in Bible times. They were most often practiced by pagan nations in connection with their religion. Understandably, Jehovah forbade his people, the Jews, to imitate those pagans. (Leviticus 19:28) As God's own "special property," the Jews were thus protected from degrading false religious practices.—Deuteronomy 14:2.

* A clear distinction is made between cutting for medical or even aesthetic purposes and the compulsive cutting or mutilation many young people, especially teenage girls, practice. The latter is often a symptom of serious emotional stress or abuse, which may call for professional help.



Christian Freedom

Christians are not under the Mosaic Law, although it sets out certain principles that were carried over to the Christian congregation. (Colossians 2:14) They can thus express themselves within the bounds of propriety when it comes to the type of adornment they choose to wear. (Galatians 5:1; 1 Timothy 2:9, 10) However, this freedom is not without limits.—1 Peter 2:16.

Paul wrote, at 1 Corinthians 6:12: “All things are lawful for me; but not all things are advantageous.” Paul understood that his freedom as a Christian did not give him license to do whatever he wanted without consideration for others. Love for others influenced his behavior. (Galatians 5:13) Keep “an eye, not in personal interest upon just your own matters,” he urged, “but also in personal interest upon those of the others.” (Philippians 2:4) His selfless viewpoint serves as an excellent example to any Christian contemplating some form of body decoration.

Bible Principles to Consider

One of the mandates for Christians is to preach and teach the good news. (Matthew 28:19, 20; Philippians 2:15) A Christian would not want to let anything, including his appearance, distract others from listening to that message.—2 Corinthians 4:2.

While such decorations as piercings or tattoos may be popular among some people, a Christian needs to ask himself or herself, ‘What kind of a reaction would such a decoration provoke in the area where I live? Would I be associated with certain fringe elements of society? Even if my conscience were to allow it, what effect would my piercing or tattoo have on others within the congregation? Would they view it as an evidence of “the spirit of the world”? Might it cast doubt on my “soundness of mind”?’—1 Corinthians 2:12; 10:29-32; Titus 2:12.

Certain types of body modifications carry serious medical risks. Tattooing with unsanitary needles has been associated with the spread of hepatitis and HIV. Skin disorders sometimes result from the dyes used. Piercings can take months to heal and can hurt for much of that time. They can also produce blood poisoning, hemorrhaging, blood clots, nerve damage, and serious infections. Additionally, some procedures are not easily reversed. For example, depending on the size and the color, a tattoo can take several expensive and painful laser sessions to remove. Piercings may leave lifelong scars.

Whether or not an individual decides to accept these risks is a personal decision. But one who seeks to please God recognizes that becoming a Christian involves the offering of oneself to God. Our bodies are living sacrifices presented to God for his use. (Romans 12:1) Hence, mature Christians do not view their bodies as their exclusive property to be damaged or defaced at will. Especially those who qualify to take the lead in the congregation are known for their moderate habits, soundness of mind, and reasonableness.—1 Timothy 3:2, 3.

Developing and exercising the Bible-trained power of reason will help Christians avoid the extreme, masochistic practices of this world, which is so hopelessly “alienated from the life that belongs to God.” (Ephesians 4:18) They can thus let their reasonableness shine before all men.—Philippians 4:5.

IN OUR NEXT ISSUE

**Seeing More
Than Your Eyes Can See**

A Visit to “Russia’s Oldest City”

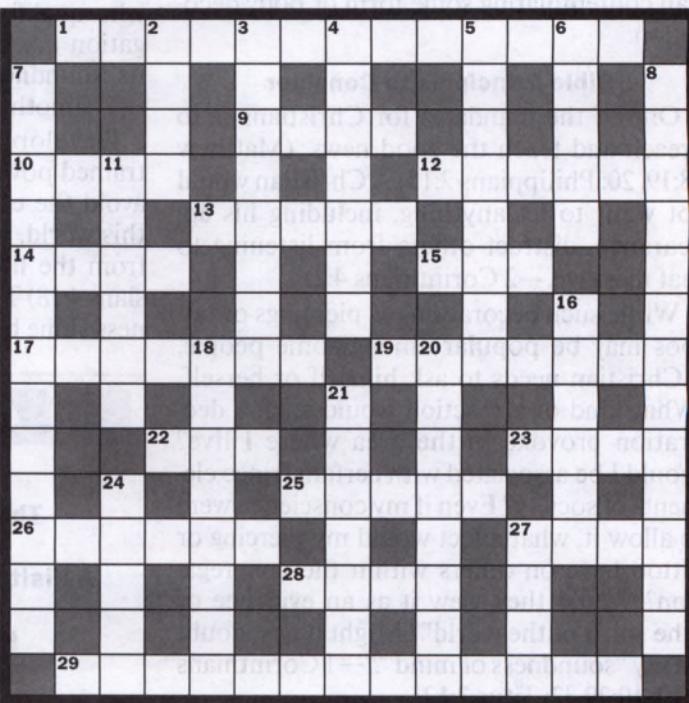
**How Can I Deal With
Sexual Harassment?**

CROSSWORD PUZZLE

Clues Across

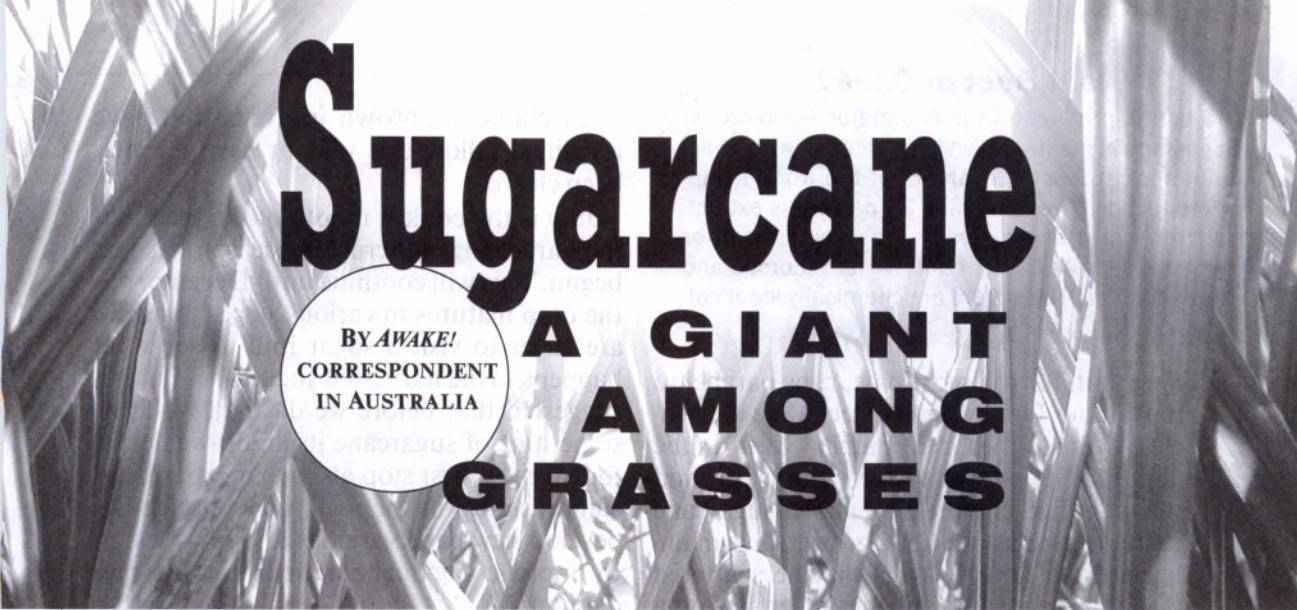
1. The apostle John's initial description of the person he saw "in the midst of the lampstands" [5 words] (Revelation 1:13)
 9. We should not let ourselves be conquered by this (Romans 12:21)
 10. Jesus said that "if someone under authority impresses you into service" for this distance, you should double it (Matthew 5:41)
 12. A Levite who attested by seal to Nehemiah's "trustworthy arrangement" (Nehemiah 9:38; 10:13)
 13. To enhance appearance by something beautiful in itself (1 Peter 3:5)
 14. What Abraham was called, signifying that he was the human father of the nation of Israel (Isaiah 51:1)
 15. A relative (Ruth 2:1)
 17. After David was made king, he used a cave at this location as his military headquarters in a campaign against the Philistines (2 Samuel 23:13)
 19. What Bath-sheba was doing when David first saw her (2 Samuel 11:2)
 22. Paul said that the hearts of the Corinthian Christians were inscribed "with spirit of a living God" and not with this (2 Corinthians 3:3)
 23. A wind from this direction dispersed the locusts of the eighth plague (Exodus 10:19)
 25. Father of the prophet Zephaniah (Zephaniah 1:1)
 26. Acting unfaithfully, Saul inquired of one (1 Chronicles 10:13)
 27. The port city where Paul changed boats as a prisoner bound for Rome (Acts 27:5)
 28. The wife of one's uncle (Leviticus 18:14)
 29. As he and his mother lacked support and protection, Jehovah took special interest in his welfare [2 words] (Exodus 22:22-24)
3. The name of the field, meaning "Field of Blood," that was bought by the priests with the money Judas threw into the temple (Acts 1:19)
 4. The 15th letter of the Greek alphabet
 5. Peter strongly rebuked Simon for offering money for the authority to impart holy spirit, stating that God gave it as this [2 words] (Acts 8:20)
 6. This royal descendant of David was an ancestor of Jesus' adoptive father, Joseph (Matthew 1:14)
 7. Jesus condemned the Pharisees as ones who built these for the same prophets that their forefathers killed [2 words] (Luke 11:47, 48)
 8. Expression indicating God's full control and power [3 words] (Exodus 15:6)
 11. This Christian "relative" of Paul was with him in Corinth during his third missionary tour and joined in sending greetings to the Christians in Rome (Romans 16:21)
 16. The age of Sarah when she gave birth to Isaac (Genesis 17:17)
 18. To become dispirited and enervated (Jeremiah 31:12)
 20. An ancient clan located in the area of Ataroth (Joshua 16:2)
 21. How Isaiah described Jehovah's "work," when He would "rise up" against His unfaithful people (Isaiah 28:21)
 24. This son of Shiza was an officer over 30 other Reubenites in David's army (1 Chronicles 11:42)
 27. The land to which Elimelech and his wife, Naomi, emigrated, where their son Mahlon married Ruth (Ruth 1:1-4)

Crossword Solutions Page 22



Clues Down

2. This bird, not suitable for eating under the Mosaic Law, is both a bird of prey and a scavenger (Leviticus 11:14)



Sugarcane

A GIANT AMONG GRASSES

BY AWAKE!
CORRESPONDENT
IN AUSTRALIA

WHAT would we do without sugar? It would be an exaggeration to say that the world would come to a stop—but many a diet would need to be changed dramatically if sugar were to disappear. Yes, today in most parts of the world, sugar intake has become part of daily life, making sugar production a worldwide industry.

Millions of people, from Cuba to India and from Brazil to Africa, grow and harvest sugarcane. In fact, at one time sugar production reigned supreme as the world's largest and most lucrative industry. It could be said that sugarcane has molded the world in a way that few other plants have.

Would you like to learn more about this remarkable plant? Then join us on a visit to a region in Queensland, Australia, where sugarcane is grown. Although this area is only a modest cane producer, efficient farming and processing methods have made it one of the world's leading exporters of raw sugar.

A Visit to Sugarcane Country

The air is hot and humid. The tropical sun beats down on a field of mature sugarcane. A large machine resembling a wheat harvester is slowly moving through the tall

crop of sugarcane, chopping the stalks in the harvesting process and depositing the cut cane into a trailer moving alongside. Sugar juice soon oozes from the severed cane, and a sweet, musty smell wafts through the air. The precious juice from this remarkable grass has begun its journey from the field to the sugar bowl on your table.

Not so long ago, the cane was cut laboriously by hand here in Australia as it still is in many countries where sugarcane is harvested. Imagine the scene. Workers are cutting cane by hand. A row of sweating cane cutters slowly advance through the field of sugarcane. With almost military precision, the workers gather clusters of upright cane stalks with one arm and then pull them firmly to one side to expose their common base. Swish, chop! Swish, chop! With muscular swings, workers wielding machetes sever the stalks close to the ground. Tossing them aside into neat rows, they move on to the next stool, or cluster, of cane. Worldwide, this situation is gradually changing, as more and more countries are now in the process of mechanization.

Australia's sugarcane country consists primarily of a coastal strip about 1,300 miles

All pictures on pages 21-4: Queensland Sugar Corporation

Is It Beet or Cane?

Sugar is produced from two major world crops. Sugarcane is mainly grown in tropical areas and accounts for at least 65 percent of the world's sugar production. The remaining 35 percent is extracted from sugar beets, which are grown in colder climates, such as Eastern and Western Europe and North America. The sugars are chemically identical.

long that, for the most part, runs parallel to the famous Great Barrier Reef. (See the article "A Visit to the Great Barrier Reef," in the June 8, 1991, issue of *Awake!*) The year-round warm, humid climate here allows sugarcane to thrive, and about 6,500 growers live mainly on small family farms that lie scattered along the coast like bunches of grapes on a vine.

After a long drive, we see in the distance the sugar city of Bundaberg, on Queensland's central coast. As we descend a small hill, a breathtaking panorama greets us—as far as the eye can see is a sea of waving sugarcane! And what variety in color! The various fields of cane are at different stages of maturity, so they form a patchwork mosaic in vivid tones of green and gold, with small patch-

CROSSWORD SOLUTIONS

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es of chocolate-brown in areas that have remained fallow this year or have recently been cleared.

July is the coolest month of the year, and the harvesting and crushing season has just begun. This will continue until December as the crop matures in various stages. Now we are eager to visit a sugar mill to see what happens to the harvested sugarcane. But it is suggested that before we do that, we learn something of sugarcane itself. So we decide to make our first stop at a sugar experiment station set up in the region. Here scientists develop new cane varieties and do research to improve sugarcane agriculture and production.

Its Origins and Cultivation

At the sugar research station, an obliging agronomist is happy to teach us something about sugarcane itself and explain how it is grown. Originally found in the rain forests of Southeast Asia and New Guinea, sugarcane is a giant of the grass family, which includes members as varied as lawn grass, cereal grains, and woody bamboos. All these plants manufacture sugar in their leaves through the process of photosynthesis. Yet, sugarcane differs in that it does so in prodigious amounts and then stores the sugar as sweet juice in its fibrous stalks.

Sugarcane cultivation was widely known in ancient India. There, in 327 B.C.E., scribes in Alexander the Great's invading armies noted that the inhabitants "chewed a marvelous reed, which produced a kind of honey without any help from bees." As world exploration and development gathered momentum during the 15th century, sugarcane production spread like wildfire. Today cane varieties number into the thousands, and over 80 countries contribute to an annual crop of about one billion tons.

In most parts of the world, planting is a very labor-intensive operation. Mature

sugarcane stalks are cut in lengths of about 16 inches and are planted in furrows about 5 feet apart. Each cutting, or set, grows a stool of about 8 to 12 cane stalks, which mature over a period of between 12 and 16 months. Walking through a dense field of mature cane can be an eerie experience. Cane stalks and thick foliage tower to a height of up to 13 feet. Could that rustling over there be just the wind, or is it perhaps a snake or a rodent? Just in case, perhaps it is time to retreat to the safety of open ground!

Research is being done to find ways to counter cane pests and diseases. Many of these efforts have met with some success, although not all. For example, in 1935, in an effort to eradicate the troublesome cane beetle, authorities introduced the Hawaiian cane toad into northern Queensland. Unfortunately, the cane toad preferred other abundant fare to cane beetles, bred prolifically, and has itself become a major pest throughout northeastern Australia.

You Burn Before Harvesting?

Later, after night falls, we watch in amazement as a local farmer sets fire to his mature crop of cane. Within seconds the small field becomes a major conflagration with flames leaping high into the night sky. Burning the cane helps remove unwanted leaves and other matter that may impede harvesting and milling operations. In recent times, however, there has been a growing trend to harvest without the spectacular preburn. This method is called green cane harvesting. Not only does it improve the sugar yield but it also leaves behind a protective mulch blanket on the ground, which, in turn, is helpful in combating soil erosion and weeds.

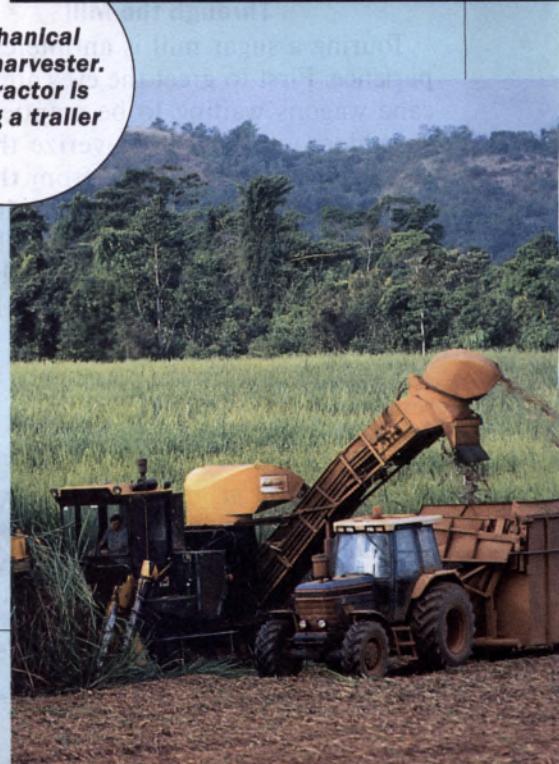
Although in many countries where sugarcane is grown today the crop is still harvested by hand, more countries are now harvesting with huge cane-cutting machines. These behemoths carve their way through

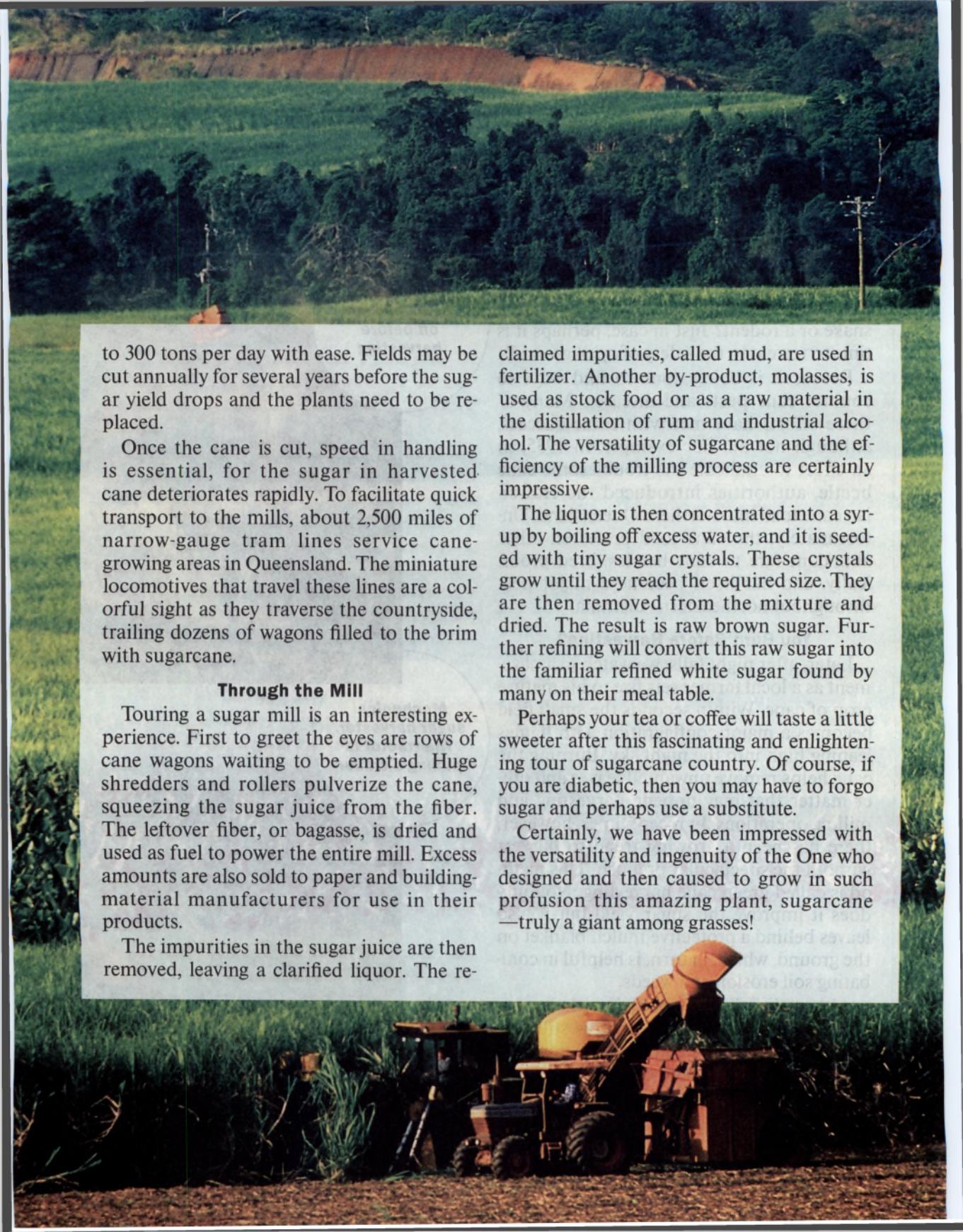
tall stands of sugarcane, topping and tailing the stalks and then automatically cutting them into short billets, or pieces, ready for processing at the mill. While one cane cutter may harvest an average of 5 tons of cane per day using the laborious hand-cutting method, cane-cutting machines can process up

**Sugarcane
being burned
off before
harvesting**



**Mechanical
sugar harvester.
The tractor is
pulling a trailer**





to 300 tons per day with ease. Fields may be cut annually for several years before the sugar yield drops and the plants need to be replaced.

Once the cane is cut, speed in handling is essential, for the sugar in harvested cane deteriorates rapidly. To facilitate quick transport to the mills, about 2,500 miles of narrow-gauge tram lines service cane-growing areas in Queensland. The miniature locomotives that travel these lines are a colorful sight as they traverse the countryside, trailing dozens of wagons filled to the brim with sugarcane.

Through the Mill

Touring a sugar mill is an interesting experience. First to greet the eyes are rows of cane wagons waiting to be emptied. Huge shredders and rollers pulverize the cane, squeezing the sugar juice from the fiber. The leftover fiber, or bagasse, is dried and used as fuel to power the entire mill. Excess amounts are also sold to paper and building material manufacturers for use in their products.

The impurities in the sugar juice are then removed, leaving a clarified liquor. The re-

claimed impurities, called mud, are used in fertilizer. Another by-product, molasses, is used as stock food or as a raw material in the distillation of rum and industrial alcohol. The versatility of sugarcane and the efficiency of the milling process are certainly impressive.

The liquor is then concentrated into a syrup by boiling off excess water, and it is seeded with tiny sugar crystals. These crystals grow until they reach the required size. They are then removed from the mixture and dried. The result is raw brown sugar. Further refining will convert this raw sugar into the familiar refined white sugar found by many on their meal table.

Perhaps your tea or coffee will taste a little sweeter after this fascinating and enlightening tour of sugarcane country. Of course, if you are diabetic, then you may have to forgo sugar and perhaps use a substitute.

Certainly, we have been impressed with the versatility and ingenuity of the One who designed and then caused to grow in such profusion this amazing plant, sugarcane —truly a giant among grasses!

Photo by Alan R. Goss



PATMOS

ONCE in a while, the people of Patmos gaze across the Aegean Sea toward a light flickering over the slopes of a mountain on the nearby island of Samos. Some say that the eerie light is static electricity, but religious residents of Patmos insist that they know better.

They run to tell the neighbors that they have received another sign from the island's most famous former resident, who was banished to this small Greek island just off the coast of Asia Minor almost 1,900 years ago.

That famous person was condemned, likely by Roman Emperor Domitian, to live on Patmos "for speaking about God and bearing witness to Jesus." There he heard God's voice, "like that of a trumpet," which said: "I am the Alpha and the Omega . . . What you see write in a scroll."—Revelation 1:8-11.

That scroll, or book, is the epilogue of the best-seller of all times. It has been described by some as one of the least understood works ever written—the Bible book named Revelation, or Apocalypse, the last book of the Bible. The writer was John, Jesus' apostle. The visions that John received regarding the wicked world's final cataclysm have interested readers for centuries.*

Patmos Today

Many visitors will agree that Patmos—the northernmost of the Dodecanese Islands—serves as the ideal backdrop for this book. Raised volcanic ramparts and plunging dark-shadowed chasms abut terraced green hills and flowering meadows that bake under the scorching Aegean sun.

To see how Patmos looks today, I sailed from Piraeus, the main port of Greece. After midnight, as the ferry came into the

The Island of the Apocalypse

BY AWAKE! CORRESPONDENT IN GREECE

fjord-shaped harbor of Skála—Patmos' port and largest town—the clouds parted and revealed the island in the light of a full moon.

The next morning, as I sipped bitter Greek coffee, I prepared to start exploring the island. The early morning scene revealed grandmothers, dressed in black from head to toe, trying to keep up with fleeing toddlers. A bearded fisherman sitting nearby beat his lunch—an octopus that he had just forked out of the water—against the cement quay to tenderize it.

Instead of boarding a boat, I decided to climb the mountainside behind Skála for

better views of the surrounding land.

After a short climb, I reached a rocky ledge overlooking the sea.

The sky was filled with wispy clouds, and the sun was just beginning to rise.

The view was breathtaking, with the island of Patmos visible in the distance.

I sat down on a large rock and took in the beauty of the scene.

As I looked out over the water, I couldn't help but think of the vision that John received on this very spot.

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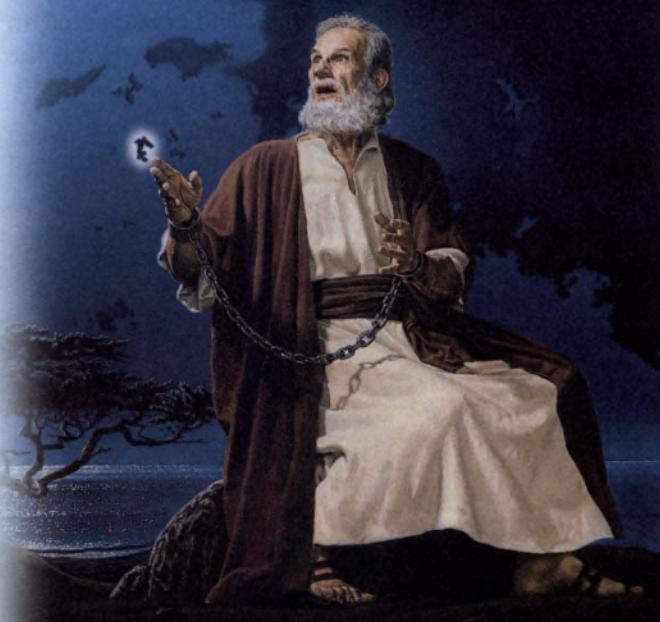
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I sat down on a large rock and took in the beauty of the scene.

* For a detailed explanation, see *Revelation—Its Grand Climax At Hand!*, published by the Watchtower Bible and Tract Society of New York, Inc.



a view of the entire island. The sight was remarkable. The island stretched out like a huge relief map adrift in the sea. Patmos gives you three islets in one—headlands that are joined by low isthmuses. One of these narrow strips of land is situated at Skála. The other is located at the aptly named Diakofti, meaning “Cut Apart,” near the unpopulated southern end of the island. Patmos is scarcely eight miles long, and at one point it is only a stone’s throw across.

Through Tempestuous Times

Patmos has been considered sacred almost since the first settlers arrived there about 4,000 years ago from Asia Minor. Those early residents chose the second-highest point on the island as the site for their temple to Artemis, goddess of hunting.

About 96 C.E., when the apostle John is thought to have been exiled to Patmos, it was under the heel of imperial Rome. In the fourth century, the island became part of the “Christianized” Byzantine Empire. Then, between the seventh and tenth centuries, it came to be dominated by Islam.

In time, Patmos came to be deserted and barren. Then, late in the 11th century, a Greek Orthodox monk began building the fortified monastery of “Saint” John on the site of the pagan temple of Artemis. Settlers gradually returned and constructed an array of white cubical houses at Hora, the

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town that still huddles against the monastery’s protective walls.

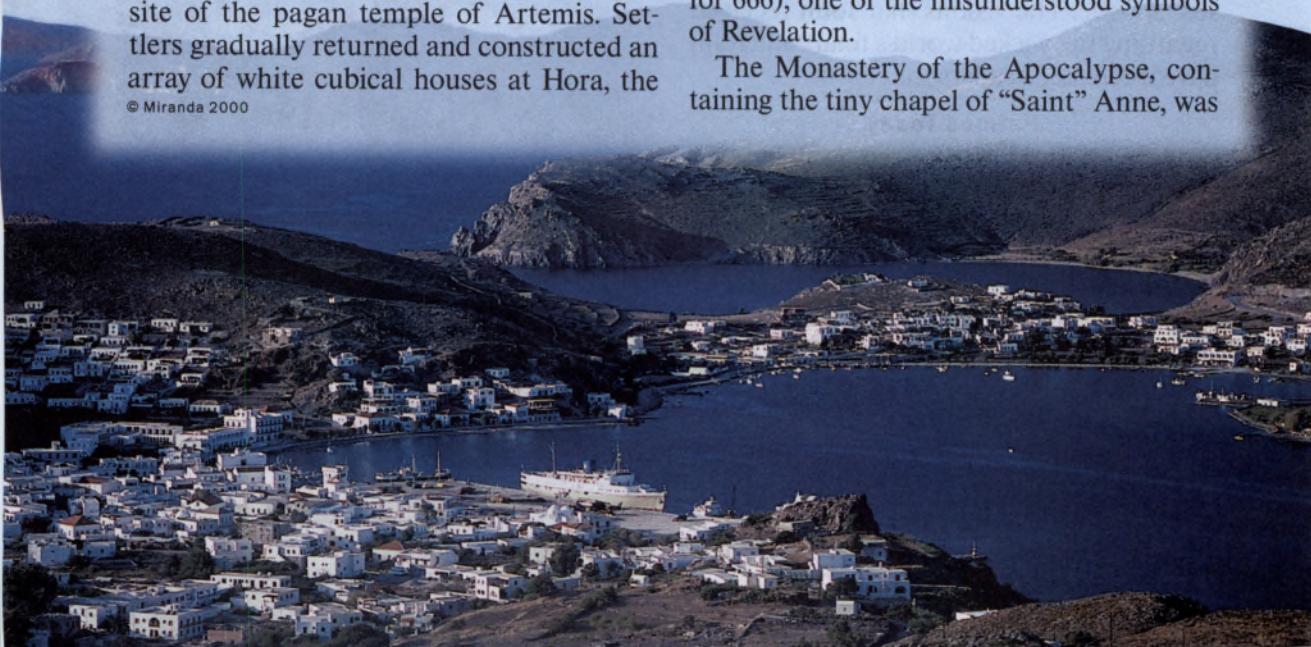
The island flirted briefly with glory during the late 1800’s, when some of its citizens owned one of the richest merchant fleets in the Mediterranean. That fleet was indirectly responsible for a new invasion. In the 1970’s, several of the world’s rich discovered the beauty and inexpensive real estate of what was basically a forgotten island. They remodeled many of the sea merchants’ old mansions, and this along with new port facilities helped put Patmos on the tourist map.

Patmos has so far escaped the tourist stampede that has nearly ruined other Greek islands. The main reasons are its lack of an airport and the monks’ insistence that it remain largely a holy precinct.

Mixing History and Tradition

Helping me to plan my exploration of the island, my waiter directed me to the 400-year-old cobblestone road behind the town of Skála, which leads up through a scented pine forest to what is believed to be John’s cave and also to the monastery of “Saint” John. On the outskirts of town, I passed an ominous graffiti freshly daubed in red on a stone wall: *“Ohi sto 666”* (Look out for 666), one of the misunderstood symbols of Revelation.

The Monastery of the Apocalypse, containing the tiny chapel of “Saint” Anne, was



built in 1090 to enclose the entrance of the grotto where tradition has it that John received his visions. I watched a lone woman kneel and attach a *tama* (offering) to the icon of "Saint" John. The Orthodox faithful, who believe the icon can perform miracles, offer it *tamata*—small metal likenesses of people, body parts, houses, and even cars and boats. I remembered having seen similar offerings made of clay near Corinth in the temple of the ancient Greek god-physician Asclepius. A mere coincidence?

Cultural Relics and Manuscripts

As I entered the courtyard of the monastery of "Saint" John, a friendly figure appeared from the dark labyrinth of corridors. "Papa Nikos" (Father Nick) took personal pride in showing several other tourists and me the monastery's treasures. The monastery, which owns much of Patmos, is one of the richest and most influential in Greece.

We strolled through a cool, candle-blackened chapel, where the remains of the monastery's founder lie, and then through the Chapel of the Virgin, built in part with stones from the temple of Artemis. In the museum, we saw a king's ransom in gold and jewels that had been donated by the czars; the monks' 11th-century deed to the island, signed by Byzantine Emperor Alexius I Comnenus; and a beautiful 6th-century fragment of the Gospel of Mark, written on purple vellum with silver rather than ink. In addition to this fragment, the monastery houses a large collection of Bible and theological manuscripts.

Island Sights

The island also has natural beauty to offer. A few miles south of Skála, a pristine beach curves along a protected bay. The beach is flat and featureless except for Kali-katsou, meaning "Cormorant," a boulder in the middle of the beach, which is five or six stories high and is riddled with caves like an enormous Swiss cheese.



The monastery of "Saint" John

The best way to enjoy Patmos is simply to ramble all over it. You may want to sit in the searing sun amid the nonexcavated ruins of the ancient acropolis at Kastelli and listen to distant sheep bells and the shepherd's shrill whistle. Or some afternoon when the Aegean spreads its gauzelike mist across the sky, you may want to sit and watch the beaches where boats departing in the evaporating mist look as if they were climbing into the sky.

On my last day there, a beautiful red setting sun magnified the town below. Out on the bay, lamp fishermen were readying small motorless boats, which are known as *gri-gri*, ducklings, because they are pulled in a line behind a mother ship.

The whole island seemed to glow. A chill wind and high waves tossed the *gri-gri* dangerously. A few hours later, I saw the boats again, from the deck of the ferry returning to Piraeus as it slid swiftly past their fishing grounds a mile or so offshore. The men had ignited the blindingly bright lights that they use to attract fish. That night, until they and the island behind them disappeared from view, the picture of an exiled John penning his visions at Patmos remained in my mind.

WATCHING THE WORLD

Living for the Millennium

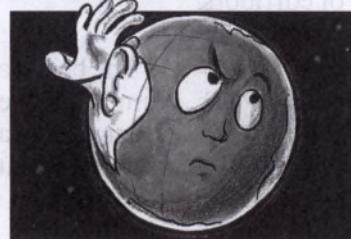
"It's pretty well established that people who are seriously ill will hang on to reach significant events," says Richard Suzman of the National Institute on Aging, in Bethesda, Maryland, U.S.A. "The mechanisms are something of a mystery but the phenomenon is very real." Having apparently willed themselves to see the year 2000, more than the average number of people died during the first week of the new year, reports *The Guardian* of London. In Britain, 65 percent more people died that week, and in New York City, deaths rose by over 50 percent, compared with the first week in 1999. Robert Butler, president of the International Longevity Center, said that these figures were reflected around the world. He added: "The will to live can be pretty powerful."

Navigation by Computer

Thanks to electronic technology, ships may no longer need masses of paper charts in order to navigate, notes *The Daily Telegraph* of London. In November 1999, the International Maritime Organization, through the German hydrographic office, for the first time gave permission for a solely computer-based ship navigation system. In place of paper charts, the computer offers two electronic versions—a scanned facsimile of the paper chart and a digitized version known as a vector chart. A key advantage of the electronic chart is that it shows the

ship's true location at all times. And, by overlaying a radar plot on the computer screen, navigators have an extra check on hazards in their way. One shipmaster, enthusiastic about this development, said: "It lightens our load . . . so we can concentrate more on pilotage, traffic movements, other ships and, when approaching a harbour, what our pilot is doing."

Extraterrestrials Unlikely



"In the last few decades, a growing number of astronomers have promulgated the view that alien civilizations are likely to be scattered among the stars," states *The New York Times*. "This extraterrestrial credo has fueled not only countless books, movies and television shows . . . but a long scientific hunt that uses huge dish antennas to scan the sky for faint radio signals from intelligent aliens." That search will most likely fail, say two prominent scientists, Dr. Peter D. Ward and Dr. Donald C. Brownlee, authors of the book *Rare Earth*. New findings in astronomy, paleontology, and geology, they say, show "that Earth's composition and stability are extraordinarily rare" and that conditions elsewhere are unsuitable for complex life-

forms. "We have finally said out loud what so many have thought for so long—that complex life, at least, is rare," said Dr. Ward. Adds Dr. Brownlee: "People say the Sun is a typical star. That's not true. Almost all environments in the universe are terrible for life. It's only Garden of Eden places like Earth where it can exist."

Bible Translated Into More Languages

"The Bible continues to be the most translated book in the world," notes the Mexican newspaper *Excelsior*. According to the German Bible Society, the Bible was translated into another 21 languages in 1999, making it now available at least in part in 2,233 languages. Of these, "the Old Testament and the New Testament have been translated in their entirety into 371 languages, 5 more than in 1998." Where are all these languages found? "The greatest diversity of translations is found in Africa, with 627, followed by Asia, with 553, Australia/Pacific, with 396, Latin America/Caribbean, with 384, Europe, with 197, and the United States, with 73," says the paper. Still, "the Bible has not been translated into even half the languages spoken on earth." Why not? Because relatively few people speak those languages, and translating the Bible into them is a challenge. Also, many people are bilingual, and if the Bible is not printed in one of their languages, they can read it in another.

Dumped Ammunition

Italian fishermen have recently been hauling in catches that they would have preferred not to make—chemical weapons. According to Valerio Calzolaio, under secretary to the Italian Ministry of the Environment, "from 1946 until the '70's . . . , the regular practice for disposing of obsolete munitions was to dump them in the sea." It is estimated that there are some 20,000 bombs lying on the bed of the Adriatic, off the east coast of Italy. By 1997, 5 Italian fishermen had died and 236 had required hospitalization as a result of the effects of lethal chemicals leaking from corroded munitions that they brought up in their nets. Adding to the problem, an undisclosed number of bombs were jettisoned into the same waters by warplanes during the recent Balkan conflict, and some of these have already been "caught" in fishing nets. The Italian waters are not the only ones affected. It is estimated that 100,000 tons of chemical weapons lie on the bed of the Baltic Sea, and similar dumping areas are known to exist in the coastal waters of Japan, the United States, and Great Britain.

Inflated Figures

"Don't always believe what you read in the papers," states *The Economist*. Journalists "are not infallibly accurate." This is particularly true when statistics are involved, especially those regarding disasters. Why? "In the fog of war, or of peacetime catastrophe, it is, of course, impossible to know for certain how many people have died or been hurt," the article says. To satisfy people's curiosity, journalists give estimates, often

high ones, and "seldom reduce their estimates as time goes by." The reason? "Journalists want to promote their stories, editors their papers, aid workers their agencies. Even government officials may want to curry sympathy." The magazine recommends that readers "be-ware—of spurious accuracy, of manifest inflation, and of journalists' persistent tendency to exaggerate." It adds: "Whatever the power of the press in general, when it comes to killing people, the pen is truly mightier than the sword."

Use Caution With Pets



According to the French daily *Le Monde*, 52 percent of households in France have pets. However, a recent study by a group of veterinarians at the Institute of Comparative Animal Immunology, in Maisons-Alfort, France, shows that fungi and parasites carried by France's 8.4 million cats and 7.9 million dogs are responsible for various diseases in pet owners. These include ringworm, roundworm, scabies, leishmaniasis, and toxoplasmosis. The latter can cause miscarriages or fetal malformations in pregnant women. The report also mentions the many allergic reactions caused by household pets and the infections that result from dog bites—about 100,000 a year in France.

Oral Ecosystem

"Stanford University scientists have discovered 37 new and unique organisms in one of the most diverse ecosystems on earth: the human mouth," reports *The Toronto Star*. This increases the known types of oral bacteria to over 500, "a diversity so large that it may rival that of tropical rain forests, often seen as the pinnacle of biological richness." Is the bacteria harmful? After discovering the new organisms in oral plaque, microbiologist Dr. David Relman stated: "Such diversity is quite reassuring because it provides for biological stability and protection." The *Star* adds that most types of bacteria "are thought to provide comfort, protection and nourishment." Only a few cause problems such as tooth decay, gum disease, and bad breath.

Wars on the Rise

"The number of wars continued to increase" in 1999, reports the German newspaper *Siegener Zeitung*. The Study Group for Research Into War Causes, at the University of Hamburg, counted 35 armed conflicts in 1999, 3 more than the year before. Of them, 14 were in Africa, 12 were in Asia, one was in Europe, and the others were in the Middle East and Latin America. An end to warfare is not in sight, said the study group. In fact, "eight wars appeared on this year's list for the first time, among them the violent conflicts in Chechnya, Nepal, Kyrgyzstan, and Nigeria." One reason is that some causes for conflicts can simmer under the surface for a long period of time before they erupt into armed conflict or full-scale war.

FROM OUR READERS

Cystic Fibrosis Thank you for the article "Living With Cystic Fibrosis." (October 22, 1999) Although I am only 17 years old and don't have any serious problems with my health, Jimmy Garatziotis' story stunned me. It helped me to think about many things, including how necessary it is to appreciate what you have. In spite of his tormenting sickness, Jimmy continues to be cheerful and to have strong faith in Jehovah's promises. I pray that Jimmy and Deanne continue to have the strength to cope with their trials.

E. Z., Russia

Superstition I am not one of Jehovah's Witnesses, but I have been reading your publications for two years. I would like to thank you for the series "Does Fate Control Your Life?" (August 8, 1999) and "Superstitions—Why So Dangerous?" (October 22, 1999). I was once fatalistic and superstitious because of my upbringing. But now I think you are telling the truth regarding true Christianity.

N. D., France

The articles on superstition offended me. I am a devout Roman Catholic, and one of the articles refers to passengers' making "the sign of the cross" as a superstition. Catholics do so as part of their prayer for a safe journey. This is a core precept of our faith and can hardly be considered a superstition.

S. W., United States

It cannot be denied that many perform the sign of the cross with little thought of religious devotion. When asked why he made the sign of the cross on the playing field, an Australian football player admitted: "I suppose it's just a superstition in a way." Not surprisingly, this ritual has had superstitious overtones from the begin-

ning. "The Catholic Encyclopedia" says: "From the earliest period it has been employed in all exorcisms and conjurations as a weapon against the spirits of darkness." —ED.

Drugs I want to thank you for the series "Are Drugs Taking Over the World?" (November 8, 1999). Swept along by the influence of friends, my father is enslaved to drugs and alcohol. Home is not a place of refuge but a place where I am often threatened. Despite everything, I will never stop inviting my parents to experience the joys of worshiping God.

M. L., Italy

Once a week a police officer comes to my school and talks about things like drugs and alcohol. I decided that the next time he came to our class, I would give him the articles on drugs. He was very impressed with them and read parts of them to the class. My whole class benefited from the articles!

C. D., United States

Disabled Child The story of Rosie Major, "We Learned to Rely on God Through Adversity" (November 22, 1999), touched me deeply. We used to live in the city, but I did not like the way it was affecting my oldest daughter. So we found a place in the country. Everything was going great until I lost my \$56,000-a-year job. Here we are in the country with three kids and a mortgage to pay. Talk about stress! But after reading Rosie Major's story, my economic problem seemed so unimportant that I felt ashamed. There are so many people out there who really need God's help! Can I have a subscription to *The Watchtower* and *Awake!*?

M. F., United States

We were happy to fill this reader's request.
—ED.

Truth Concealed for 50 Years—*Why?*



Rum is a small island of the Inner Hebrides, off the west coast of Scotland. Some 70 years ago, its owner granted botanist John Heslop Harrison, a university

professor and member of Britain's prestigious Royal Society, permission to study its plant life.

During the ensuing years, Harrison reported finding many rare species there, plants that had only been seen growing hundreds of miles farther south. Harrison was enthusiastically acclaimed, his achievements adding greatly to his reputation. But as his list grew, so did the skepticism of other botanists.

In 1948, John Raven, a Cambridge classics don and keen amateur botanist, accepted the challenge to investigate. But his report was never published. Instead, it was hidden away, and only in 1999 were its contents revealed. Why? Because Raven proved that Harrison was a fraud. As the magazine *New Scientist* reported, the plants had been cultivated elsewhere and secretly transferred to Rum.

Raven had a natural feel for plants in their habitat and soon spotted among the roots of several of Harrison's "discoveries" weeds that were common in England but rare on Rum.

Other plants were infected by a gnat that had been reported in only two locations in Britain —one being Harrison's garden in England. Further evidence came from the roots of a plant, which held particles of quartz —a long way from any natural quartz on Rum.

There was yet more. Harrison's pronouncements on the island's butterflies and beetles were known to be fraudulent. *The Sunday Telegraph Magazine* noted that one Rum resident confided: "The professor kept something up his sleeve—either a butterfly or a plant—to discover every year." So why was Harrison never exposed?

Researcher Karl Sabbagh concludes that the decision to take no action was a kindness to protect Harrison's family, but the fact that Harrison was a powerful man, dangerous to cross, would have been taken into account too. Sabbagh also observes that an exposé "could have brought the entire botany profession into disrepute."

A 16-year-old high-school student in the Czech Republic wrote the branch office of Jehovah's Witnesses in Prague the following letter of appreciation.

"By chance I came in touch with your magazine *Awake!*! I do not know how long it has been affecting this big world, but I think its public acceptance must be enormous. At first glance it is astonishing how much information and how many facts are included in the articles. The true stories and the counsel that *Awake!*

A Youth's Quest for Knowledge

contains open the eyes of one who is not acquainted with everyday problems and risks.

"I admire the magazine not only because it is so instructive but also because it has a bird's-eye view with respect to peoples and races. . . . By this letter I would like to express how important your endeavor to write for us is. I thank you on behalf of all readers who, like myself, admire your work. Please send me further issues of your magazine *Awake!* . . . Please also send me the brochure *What Is the Purpose of Life? How Can You Find It?*"

