

awake!

September 22, 1996

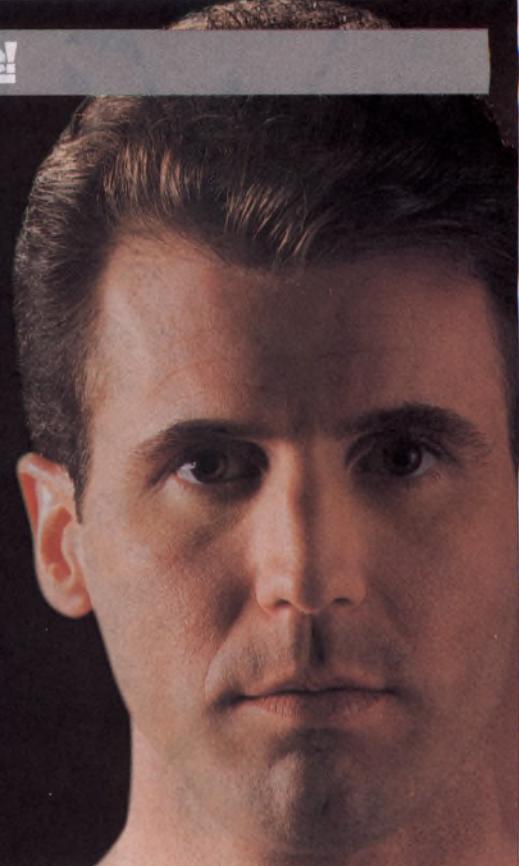


**ARE WE ACCOUNTABLE
FOR OUR ACTIONS?**

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Are We Accountable for Our Actions? 3-10

There is a tendency today to justify unacceptable behavior with the plea, "It's not my fault!" There are also many who contend that we are genetically disposed to adopt deviant life-styles and therefore are simply doing what comes naturally.



Use Medicines Wisely 11

Little wonder that Africans have great faith in medicines. Vaccines have reduced their death toll dramatically.



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It is so fantastically beautiful! What can be done to save it?

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Fiji Visitors Bureau

"It's Not My Fault"



HOW often today do you hear someone say, 'I'm sorry. It was my fault. I am totally responsible!?' Rarely is such simple honesty heard anymore. In fact, in many cases, even when a fault is admitted, every effort is made to shift the blame onto someone else or onto extenuating circumstances over which the wrongdoer claims he had no control.

Some even point an accusing finger at their genes! But is this plausible? The book *Exploding the Gene Myth* questions the aims and effectiveness of some aspects of gene research. Australian journalist Bill Deane, in his review of the book, draws this thoughtful conclusion: "Social determinists seem recently to have begun to believe they have found almost infallible evidence to support their philosophy that nobody should be held accountable for their actions: 'He couldn't help cutting her throat, Your Honour—it's in his genes.'"

Not Really a New Trend

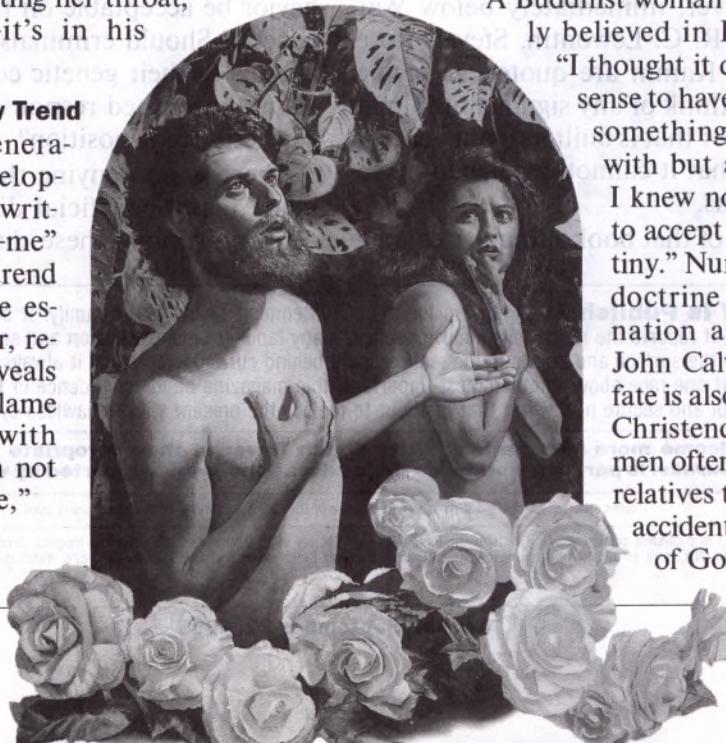
With this generation rapidly developing into what one writer calls the "not-me" generation, this trend may appear to be escalating. However, recorded history reveals that passing the blame on to others, with the excuse "I am not really to blame," has been around since man's be-

ginning. The reaction of Adam and Eve after their first sin, eating the fruit that God had proscribed, was a classic example of blame-passing. The Genesis account reports the conversation that took place, with God speaking first: "From the tree from which I commanded you not to eat have you eaten?" And the man went on to say: 'The woman whom you gave to be with me, she gave me fruit from the tree and so I ate.' With that Jehovah God said to the woman: 'What is this you have done?' To this the woman replied: 'The serpent—it deceived me and so I ate.'" —Genesis 3:11-13.

Ever since that time, humans have invented various forms of belief and have searched for exotic excuses that would exonerate them from any real accountability for their actions. Notable among these was the ancient belief in fate.

A Buddhist woman who sincerely believed in Karma said:

"I thought it did not make sense to have to suffer for something I was born with but about which I knew nothing. I had to accept it as my destiny." Nurtured by the doctrine of predestination as taught by John Calvin, belief in fate is also common in Christendom. Clergymen often tell grieving relatives that a certain accident was the will of God. Then, too,



some well-meaning Christians blame Satan for everything that goes wrong in their lives.

Now, we are beginning to witness behavior without accountability that is legally and socially sanctioned. We live in an age of increasing rights and diminishing responsibilities of the individual.

Research into human behavior has produced supposed scientific evidence that some feel could give free rein to behavior

ranging from immorality to murder. This is a reflection of society's eagerness to shift blame onto anything or anyone except the individual.

We need answers to questions such as these: What has science actually discovered? Is human behavior solely determined by our genes? Or do both internal and external forces control our behavior? What does the evidence really show?

Are We Predestined by Our Genes?



WE USED to think our fate was in the stars. Now we know, in large measure, our fate is in our genes." So said James Watson, quoted in the beginning of the book *Exploding the Gene Myth*, by Ruth Hubbard and Elijah Wald. However, immediately below Watson's quote, R. C. Lewontin, Steven Rose, and Leon J. Kamin are quoted as saying: "We cannot think of any significant human social behavior that is built into our genes in such a way that it cannot be shaped by social conditions."

The jacket of that book summarizes some

of its contents and opens with the crucial question, "Is human behavior genetic?" In other words, is human behavior determined entirely by the genes that mediate the heritable biological characteristics and traits of the organism? Should certain immoral behavior be acceptable on the basis that it is genetic? Should criminals be dealt with as victims of their genetic code, being able to claim diminished responsibility because of a genetic predisposition?

There is no denying that scientists have made many beneficial discoveries in this century. Among these discoveries is fasci-

Awake!

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nating DNA, the so-called blueprint of our genetic makeup. The information the genetic code holds has intrigued scientists and laymen alike. What has research in the field of genetics really discovered? How are findings used to support the modern doctrine of preprogramming or predestination?

What of Infidelity and Homosexuality?

According to an article published in *The Australian*, some genetic research asserts that "infidelity is probably in our genes. . . It appears that our cheating hearts are meant to be that way." Just imagine what havoc this attitude could wreak on marriages and families by creating a loophole for anyone who wants to claim diminished responsibility for a promiscuous life-style!

Regarding homosexuality, *Newsweek* magazine carried the headline "Born or Bred?" The article stated: "Science and psychiatry are struggling to make sense of new research that suggests that homosexuality may be a matter of genetics, not parenting. . . In the gay community itself, many welcome the indication that gayness begins in the chromosomes."

The article then quotes Dr. Richard Pillard, who said: "A genetic component in sexual orientation says, 'This is not a fault, and it's not your fault.'" Further strengthening this "no fault" argument, Frederick Whitam, a researcher in homosexuality, observes that "there is a tendency for people, when told that homosexuality is biological,

to heave a sigh of relief. It relieves the families and homosexuals of guilt. It also means that society doesn't have to worry about things like gay teachers."

Sometimes, so-called evidence that homosexual tendencies are determined by genes is presented by the media as factual and conclusive rather than as a possibility and inconclusive.

The *New Statesman & Society* magazine puts cold water on some of the flair for rhetoric: "The dazzled reader may well have overlooked the sketchiness of the actual hard physical evidence—or, indeed, the total absence of a basis for the scientifically egregious [flagrant] claim that promiscuity 'is encoded in the male genes and imprinted on the male brain's circuitboard.'" In their book *Cracking the Code*, David Suzuki and Joseph Levine add their concern about current genetic research: "While it is possible to argue that genes influence behavior in a general sense, it is quite another matter to show that a *specific* gene—or pair of genes, or even a score of genes—actually control *specific* details of an animal's responses to its environment. At this point, it is fair to ask whether anyone has found, in the strict molecular sense of locating and manipulating, any stretches of DNA that affect specific behaviors predictably."

Genes for Alcoholism and Criminality

The study of alcoholism has fascinated many genetic researchers over the years.

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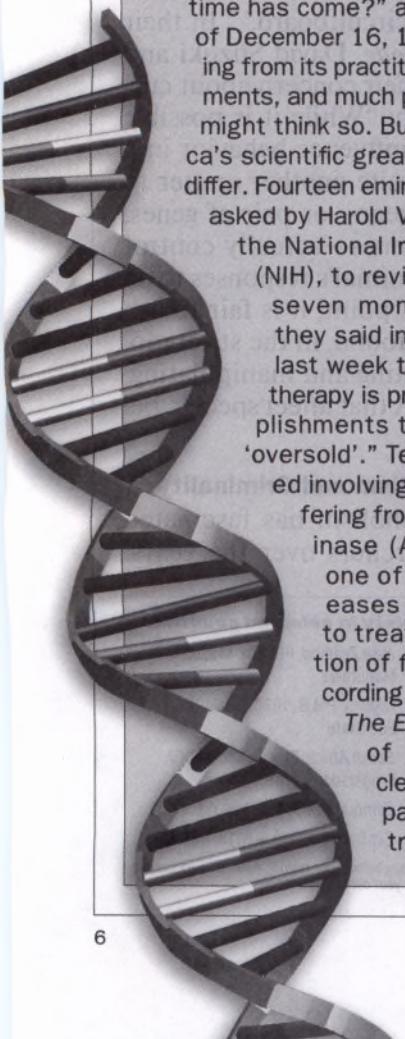
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Some claim that studies have shown that the presence of or the lack of certain genes is responsible for alcoholism. For example, *The New England Journal of Medicine* reported in 1988 that "during the past decade, three separate investigations have produced conclusive evidence that alcoholism is a heritable trait."

Gene Therapy—Have Expectations Been Fulfilled?

What about gene therapy—injecting corrective genes into patients to cure them of inborn genetic diseases? Scientists had high expectations a few years ago. "Is gene therapy a technology whose time has come?" asks *The Economist* of December 16, 1995, saying: "Judging from its practitioners' public statements, and much press coverage, you might think so. But a panel of America's scientific great and good begs to differ. Fourteen eminent scientists were asked by Harold Varmus, the head of the National Institutes of Health (NIH), to review the field. After seven months of cogitation they said in a report published last week that, although gene therapy is promising, its accomplishments to date have been 'oversold'." Tests were conducted involving 597 patients suffering from adenosine deaminase (ADA) deficiency or one of a dozen other diseases thought amenable to treatment by the addition of foreign genes. "According to the panel," says

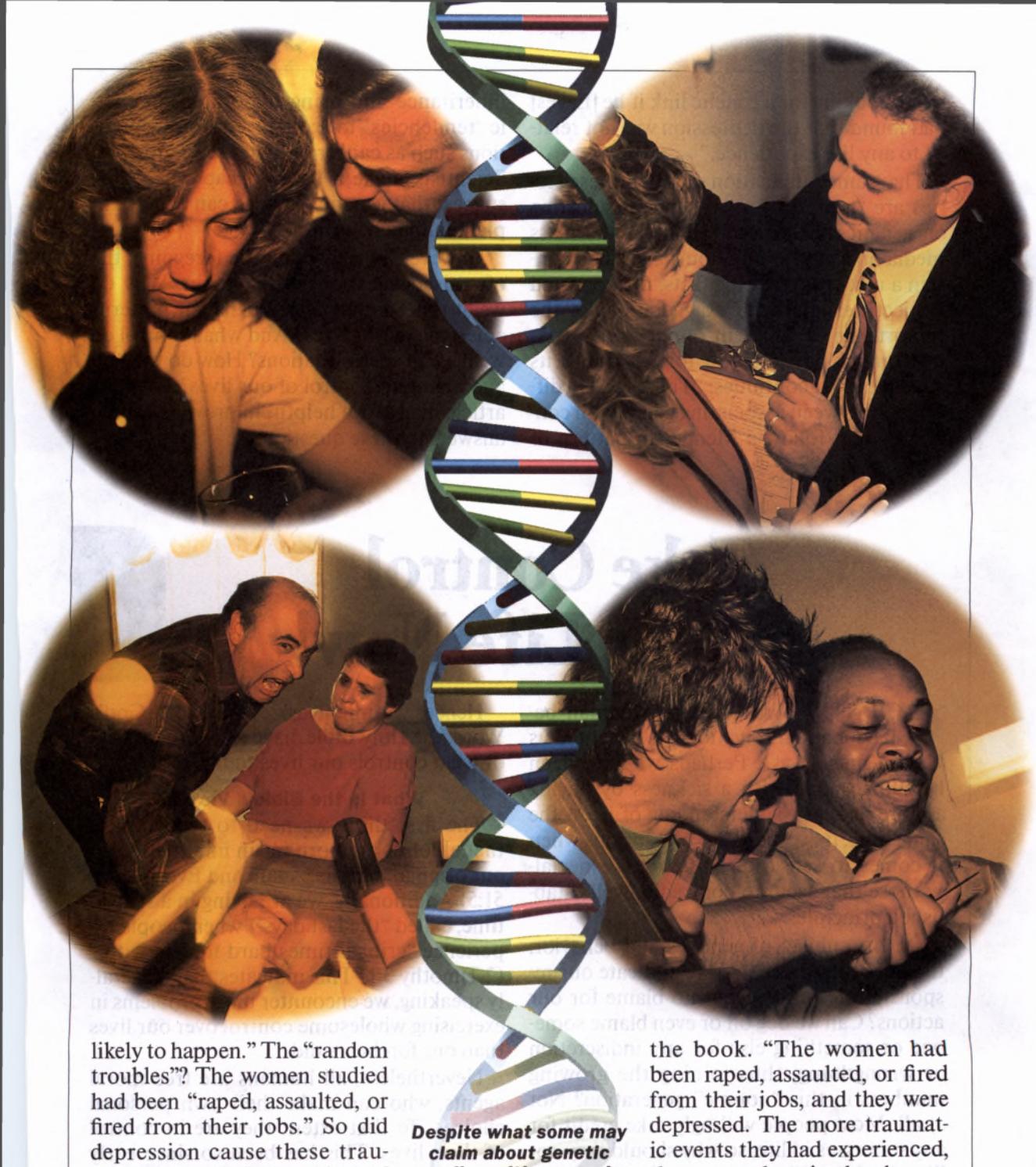
The Economist, "not one of the patients has clearly benefited from participation in such a trial."

However, some specialists in the field of addiction are now challenging the view that alcoholism is influenced largely by biological factors. A report in *The Boston Globe* of April 9, 1996, stated: "There is no alcoholism gene in sight, and some researchers acknowledge that the most they will probably find is a genetic vulnerability that allows some people to drink too much without getting tipsy—a trait that may predispose them to alcoholism."

The New York Times reported on a conference at the University of Maryland entitled "The Meaning and Significance of Research on Genetics and Criminal Behavior." The idea of a criminal gene is attractively simple. Many commentators seem eager to jump on the bandwagon. A science writer in *The New York Times Magazine* said that evil may be "embedded in the coils of chromosomes that our parents pass to us at conception." An article in *The New York Times* reported that the constant discussion of genes for criminality creates the impression that crime has "a common origin—an abnormality of the brain."

Jerome Kagan, a Harvard psychologist, predicts that the time will come when genetic tests will identify children who have a violent streak. Some people suggest that there may be hope for controlling crime through biological manipulation instead of through social reform.

The language used in reports on these speculations about the genetic basis for behavior is often vague and unsure. The book *Exploding the Gene Myth* tells of a study by Lincoln Eaves, a behavioral geneticist, who said that he found evidence of a genetic cause for depression. After surveying women considered to be prone to depression, Eaves "suggested that [the women's] depressive outlook and manner may have made such random troubles more



likely to happen." The "random troubles"? The women studied had been "raped, assaulted, or fired from their jobs." So did depression cause these traumatic events? "What kind of reasoning is that?" continues

Despite what some may claim about genetic predisposition, people can choose how they act

the book. "The women had been raped, assaulted, or fired from their jobs, and they were depressed. The more traumatic events they had experienced, the more chronic the depression. . . . It might have been

worth looking for a genetic link if he [Eaves] had found that the depression was not related to any life experience."

That same publication says that these stories are "typical of most current reporting on genetics [behavioral], both in the mass media and in scientific journals. They contain a mix of interesting facts, unsupported conjectures, and wild exaggerations of the importance of genes in our lives. A striking thing about much of this writing is its vagueness." It continues: "There is a big difference between associating genes with conditions that follow a Mendelian pattern of

inheritance and using hypothetical genetic 'tendencies' to explain complex conditions such as cancer or high blood pressure. Scientists make a further leap when they suggest that genetic research can help to explain human behaviors."

However, in view of all the foregoing, the oft raised questions still remain: Why do we at times find changed behavior patterns emerging in our lives? And what control do we have in such situations? How do we gain and maintain control of our lives? The next article may prove helpful in providing some answers to these questions.

Take Control of Your Life Now!



SCIENTIFIC research into human behavior and motivation has benefited us in many ways. Perhaps we have been helped to cope with a sickness by having a more in-depth understanding of it. At the same time, it is prudent to be cautious when it comes to sensational theories, especially those that seem to contradict well established principles.

On the subject of genetics and behavior, the questions arise: Can we abdicate our responsibilities and accept no blame for our actions? Can we beg off or even blame someone or something else for any indiscretion or wrongdoing, thus joining the growing numbers in this "not-me" generation? Not at all. Most people willingly take credit for any successes in life, so why should they not likewise be willing to accept responsibility for their mistakes?

Hence, we might ask, What does God's Word, the Holy Bible, have to say about who or what controls our lives today?

What Is the Bible's View?

The first thing we need to recognize is that all of us are born in sin inherited from our original parents, Adam and Eve. (Psalm 51:5) Additionally, we are living in a special time, called "the last days," when people experience "critical times hard to deal with." (2 Timothy 3:1) This indicates that, generally speaking, we encounter more problems in exercising wholesome control over our lives than our forebears did.

Nevertheless, all humans are free moral agents, who can make their own personal choices. To that extent they are in control of their lives. This has been so since early times and can be seen in the words of Joshua to the nation of Israel: "Choose for your-

Studying the Bible can give us strength to overcome deeply ingrained weaknesses

selves today whom you will serve.”—Joshua 24:15.

The Bible acknowledges that Satan the Devil has been cast from the heavens and now, more than ever, exerts strong influence for bad on the entire human race. It also tells us that even in the days of the apostle John, the whole world was lying in the power of the wicked one. (1 John 5:19; Revelation 12:9, 12) However, just as Almighty God does not control our every action or predetermine us to an end that only he knows, we should not lay the blame directly on Satan for every one of our mistakes or failures. The balancing Scriptural truth is that “each one is tried by being drawn out and enticed by his own desire. Then the desire, when it has become fertile, gives birth to sin.” (James 1:14, 15) The apostle Paul wrote these inspired words: “Do not be misled: God is not one to be mocked. For whatever a man is sowing, this he will also reap.”—Galatians 6:7.

So Jehovah God holds us individually accountable for our actions. We must be careful not to try to excuse ourselves because of our genetic makeup and inherited imperfections. God held the violent, homosexual community of ancient Sodom and Gomorrah accountable for their corrupt acts. Obviously, he did

Bible study can help us to hold true to God's moral standards



not consider the inhabitants as poor, unfortunate creatures who because of some presumed genetic flaw could not help being wicked. In similar fashion, the people living in the days of Noah had many evil influences around them; nevertheless, they had to make a choice, a personal decision, if they were to survive the Deluge soon to occur. A few made the right choice. Most did not.



The Hebrew prophet Ezekiel confirms that personal control is required if we are to merit God's favor: "As for you, in case you have warned someone wicked and he does not actually turn back from his wickedness and from his wicked way, he himself for his error will die; but as for you, you will have delivered your own soul."—Ezekiel 3:19.

The Best Help Available

Of course, all of us need help to exercise personal control in our everyday life, and for many of us, this is quite a challenge. But we need not despair. Although our inherited sinful leanings are unacceptable to God, if we want to modify our behavior, he will provide us with the best help available—his holy spirit and his inspired truth. Despite any genetic predisposition we may have and any external influences that may affect us, we can "strip off the old personality with its practices, and clothe [ourselves] with the new personality, which through accurate knowledge is being made new according to the image of the One who created it."—Colossians 3:9, 10.

Many Christians in the Corinth congregation made dramatic changes in their behavior. The inspired record tells us: "Neither fornicators, nor idolaters, nor adulterers, nor men kept for unnatural purposes, nor men who lie with men, nor thieves, nor greedy persons, nor drunkards, nor revilers, nor extortioners will inherit God's kingdom. And yet that is what some of you were. But you have been washed clean, but you have been sanctified, but you have been declared righteous in the name of our Lord Jesus Christ and with the spirit of our God."—1 Corinthians 6:9-11.

So if we are struggling with our imperfections, let us not give in to them. Many modern-day Christians have proved that

with Jehovah's help, they were able to 'be transformed by making their minds over and prove to themselves the good and acceptable and perfect will of God.' They feed their minds on whatever things are true, righteous, chaste, lovable, virtuous, praiseworthy; and they "continue considering these things." They take in solid spiritual food and through use of it have their perceptive powers trained to distinguish both right and wrong.—Romans 12:2; Philippians 4:8; Hebrews 5:14.

It is heartening to know of their struggles, their temporary failures, and their eventual success with the help of God's holy spirit. God assures us that changing our behavior often involves the heart and its desire: "When wisdom enters into your heart and knowledge itself becomes pleasant to your very soul, thinking ability itself will keep guard over you, discernment itself will safeguard you, to deliver you from the bad way."—Proverbs 2:10-12.

Therefore, if you want to make everlasting life your goal—life without the troubles of the wicked world and free from debilitating imperfections—'exert yourself' in taking control of your life now and be guided by heavenly wisdom. (Luke 13:24) Avail yourself of the help of Jehovah's holy spirit so that you can produce the fruit of self-control. Make it your heart's desire to bring your life into harmony with God's laws, and heed the advice: "More than all else that is to be guarded, safeguard your heart, for out of it are the sources of life." (Proverbs 4:23) Getting hold of "the real life" in God's new world—in which Jehovah God will correct all genetic deficiencies on the basis of faith in the ransom sacrifice of Jesus Christ—is worth all the efforts you make to control your life in this world!—1 Timothy 6:19; John 3:16.

Use Medicines Wisely

BY AWAKE! CORRESPONDENT IN NIGERIA

THE woman complained that she had a headache and a pain in her stomach. The doctor spoke with her briefly. He then prescribed a three-day course of injections for malaria, paracetamol (acetaminophen) to stop the headache, two drugs to ease what may have been a stomach ulcer, tranquilizers for her anxiety, and finally, for good measure, a course of multivitamins. The bill was expensive, but the woman did not object. She left happy, confident that the drugs would solve her problems.

Such consultations are not unusual in West Africa. A survey in one large nation there showed that health-care workers in public health centers prescribe an average of 3.8 different drugs per patient per visit. To many people, in fact, a good doctor is one who prescribes plenty of medicine.

Perhaps the West African confidence in medicine is understandable when you consider what the health situation used to be. Over 40 years ago, author John Gunther wrote about earlier times: "This Slave Coast not only . . . killed blacks; it killed whites too, and is the part of Africa known to legend as the 'White Man's Grave.' The undisputed king of the Guinea Coast was, for centuries, the mosquito. Yellow fever, blackwater fever, malaria, were this king's chosen and malign weapons. The sinister deadliness of the West Coast climate is not a matter of remote record, but a living memory. A favorite anecdote describes the consular officer who, not too long ago, found himself assigned to Nigeria and asked about his pension. 'Pension?' his chief in the Colonial Office replied. 'My dear fellow, nobody who goes to Nigeria ever lives long enough to be retired.'"

Times have changed. Today, there are drugs to combat not just the diseases spread

by mosquitoes but many other diseases as well. Vaccines alone have dramatically reduced the death toll from measles, whooping cough, tetanus, and diphtheria. Thanks to vaccines, smallpox has been wiped out. Polio too may soon be a disease of the past.

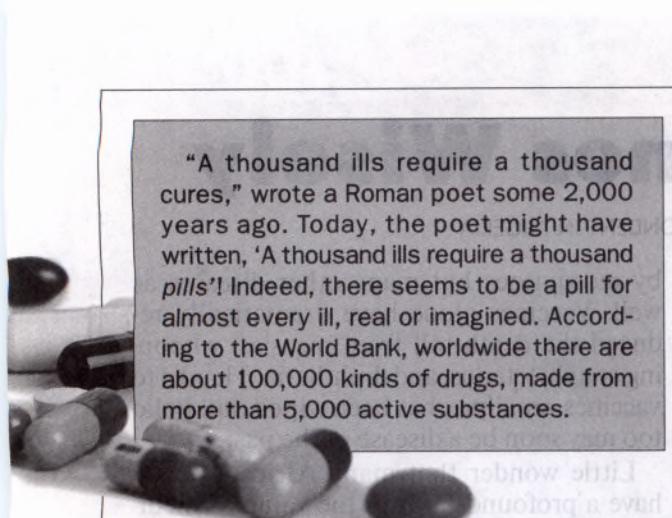
Little wonder that many Africans today have a profound faith in the value of medicine. Of course, such faith is not limited to West Africa. In the United States, doctors write more than 55 billion prescriptions every year. In France people buy an average of 50 boxes of pills each year. And in Japan the average person spends over \$400 (U.S.) annually on medical drugs.

Benefits Versus Risks

Modern drugs have done much to help humanity. When used correctly, they promote good health, but when used incorrectly, they can injure and even kill. In the United States, for example, about 300,000 people are hospitalized each year because of adverse reactions to medical drugs, and 18,000 die.

To use drugs wisely, it is important to recognize that there is always an element of risk. Any drug, even aspirin, can cause harmful side effects. The likelihood of side effects is greater if you take several drugs simultaneously. Food and drink also influence how a drug works in your body and can intensify or neutralize its effect.

There are other risks. You may have an allergic reaction to a certain drug. If you do not take drugs as prescribed—the right dose for the right length of time—they probably will not help you and can even harm you. The same result may occur if your doctor prescribes the wrong drug or unnecessary drugs. You also risk harm if you take expired, substandard, or fake drugs.



"A thousand ills require a thousand cures," wrote a Roman poet some 2,000 years ago. Today, the poet might have written, 'A thousand ills require a thousand pills'! Indeed, there seems to be a pill for almost every ill, real or imagined. According to the World Bank, worldwide there are about 100,000 kinds of drugs, made from more than 5,000 active substances.

To minimize the risks, you should know as much as possible about any drug that you take. You can benefit greatly by knowing the facts.

Antibiotics—Strengths and Weaknesses

Since their development about 50 years ago, antibiotics have saved the lives of millions of people. They have subdued dreadful diseases, such as leprosy, tuberculosis, pneumonia, scarlet fever, and syphilis. They also play a key role in the healing of other infections.

Dr. Stuart Levy, professor of medicine at Tufts University Medical School in the United States, said: "[Antibiotics] have revolutionized medicine. They are the single agent that has most altered medical history." Says another medical authority: "They are the cornerstone on which modern medicine is built."

However, before you rush to your doctor and ask for a supply, consider the down side. Antibiotics, when used improperly, can do you more harm than good. This is because antibiotics work by attacking and destroying bacteria in the body. But they do not always destroy *all* the harmful bacteria; certain strains of bacteria withstand the attack. These resistant strains not only survive but multiply and pass from person to person.

Penicillin, for example, was once highly effective in knocking out infection. Now, partly because of increasingly resistant strains of bacteria, drug companies market several hundred different varieties of penicillin.

What can you do to avoid problems? If you really need antibiotics, make sure they are prescribed by a qualified doctor and are obtained from a legitimate source. Do not pressure your doctor into quickly prescribing antibiotics—he or she may want you to have lab tests to make sure that the one prescribed is the right one for your illness.

It is also important for you to take the right dose for the right length of time. You should take the entire course of antibiotics, even if you feel better before it is finished.

Are Injections Better Than Tablets?

"I want an injection!" These words are heard by many health workers in developing countries. The basis for such a request is the belief that the medication is injected directly into the bloodstream and provides a more powerful cure than do tablets or pills. In some countries it is common to see unlicensed 'injection doctors' at markets.

Injections carry risks that pills and tablets do not. If the needle is not clean, the patient can be infected with hepatitis, tetanus, and even AIDS. A dirty needle can also cause a painful abscess. Dangers are increased if the injection is given by an unqualified person.

If you really need an injection, make sure it is administered by someone who is medically qualified. For your protection, always make sure that both needle and syringe are sterile.

Fake Drugs

The global pharmaceutical industry is big business, bringing in about \$170 billion (U.S.) each year, according to the World Health Organization (WHO). Eager to exploit the situation, unscrupulous people have produced counterfeit medicine. Counterfeit drugs look like genuine drugs—so

do their labels and packages—but they are worthless.

While fake medicines are everywhere, they are particularly common in the developing world, and they bring tragic consequences. In Nigeria, 109 children died of kidney failure after swallowing painkilling syrup containing industrial solvent. In Mexico, burn victims suffered raging skin infections from supposed remedies that contained sawdust, coffee, and dirt. In Burma, scores of villagers may have died of malaria as a result of taking a fake drug that did not fight malarial fever. "The most at risk," states WHO, "are, once again, the poorest, who sometimes think it is a good bargain when they buy what seems to be an efficient medicine produced by a respectable company."

How can you protect yourself from fake drugs? Make sure that what you buy is from a reputable source, such as a hospital pharmacy. Do not buy from street peddlers. A pharmacist in Benin City, Nigeria, warns: "To street dealers, selling drugs is just a business. They dispense drugs as though they were sweets or biscuits. The drugs they peddle are often outdated or fake. These people don't know anything about the drugs they are selling."

The Problem of Poverty

The medical treatment that a person receives is often determined by how much money he has. To cut costs and save time, people in developing countries may bypass the doctor and go directly to the pharmacy to buy drugs that by law require a prescription. Because they have used the drug before or because friends recommend it, they know what they want for their illness. But what they want may not be what they need.

People try to cut costs in other ways too. A doctor has a lab test done and prescribes a certain medicine. The patient carries the prescription to the pharmacy but finds the cost

The Sensible Use of Medication

1. Do not use outdated drugs.
2. Buy from a reputable source. Do not buy from street peddlers.
3. Make sure you understand and follow the instructions.
4. Don't use drugs prescribed for another person.
5. Don't insist on injections. Drugs taken by mouth often work just as well.
6. Keep medicines in a cool place, out of the reach of children.

is high. So rather than looking for extra money, people will often purchase a cheaper drug or buy only some of the medicine prescribed.

Do You Really Need Medication?

If you really need medicine, find out what you are taking. Do not feel embarrassed to ask the doctor or the pharmacist questions about the drug prescribed. You have a right to know. After all, it's your body that may suffer.

If you do not use your medication correctly, you may not get well. You need to know how much to take, when to take it, and how long to take it. You also need to know what foods, drinks, and other medicines or activities to avoid when taking it. And you need to be aware of possible side effects and what to do if they occur.

Keep in mind, too, that drugs do not provide the answer to every medical problem. You may not need drugs at all. *World Health* magazine, a WHO publication, states: "Only use a medicine when it is needed. Rest, good food and lots to drink are often enough to help a person get better."

CORAL

In Danger and Dying

NOWHERE is the ocean clearer than in the Tropics. Crystal clear. Blue crystal. The white sandy bottom 50 feet below seems so close you could touch it! Put on swim fins and a face mask. Adjust your snorkel as you slip into the warm water, bubbles clouding the view for a moment. Then look below. There! See the large red and blue parrot fish biting on coral and spitting out bits, which become part of the sandy bottom. Suddenly, a silvery rainbow of tropical fish—red, yellow, blue, orange, purple—flashes by. Life is in motion everywhere. It overwhelms your senses.

This is the coral jungle. It rises from the sandy bottom below, reaching out with thousands of living arms. Just ahead is a magnificent stand of elkhorn coral, over 20 feet tall and about as wide. Some 75 feet away are staghorn coral, smaller than the elkhorn, their slimmer branches filling the area like a forest. How aptly these corals are named—looking, for all practical purposes, like animal horns! Fish and other marine life find food and shelter in their branches.

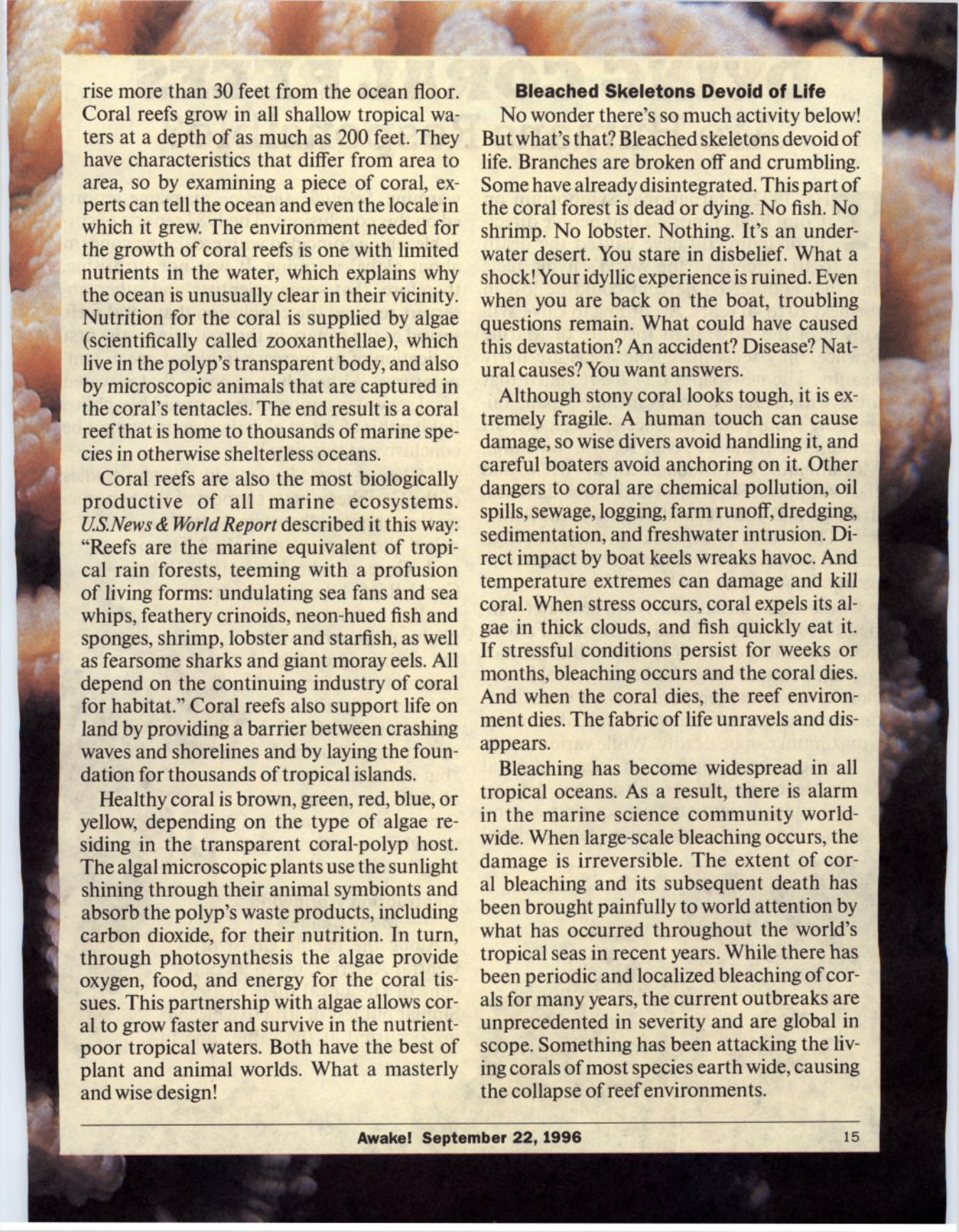
Once thought to be made up of plants, coral is now known to be a limestone formation made by communities of animals called polyps. Most polyps are small, less than one inch in diameter. The soft-bodied coral polyp links itself to its neighbor with mucus-covered tissue. The coral looks like stone in the daytime, since the polyps withdraw into their skeletons. But it is transformed at night as their extended tentacles wave gently, giving the reef a soft, fuzzy appearance. The stony “tree” the polyps share is their combined skeleton, cemented together by

the extraction of calcium carbonate from the seawater.

Each type of coral community constructs its own unique skeletal shape. Throughout the world, there are over 350 different types of coral, with astounding shapes, sizes, and colors. Their common names remind you of objects on land—tree, pillar, table, or umbrella coral—or of plants—carnation, lettuce, strawberry, or mushroom coral. See that large brain coral? It's easy to see how it got its name!

This underwater jungle teems with life, from microscopic plants and animals to rays, sharks, large moray eels, and turtles. And here are some fish you may never have heard of—bright yellow clown fish, purple Beau Gregories, black-and-white Moorish idols, orange trumpet fish, dark blue surgeonfish, indigo hamlets, or brown and tan lion-fish. And how about barbershop shrimp, painted lobsters, or scarlet hawk fish? All colors, all sizes, all shapes. Some beautiful, some bizarre—but all interesting. See, there's an octopus hiding behind that pillar coral! It's dining on a clam it has opened. As in jungles on land, a tremendous variety of life is interwoven in the fabric of this marine world, all dependent on its diversity. Coral's reproductive cycle and its ability to travel on ocean currents to build new reef communities was detailed in the June 8, 1991, issue of *Awake!*

Coral reefs form the largest biological structures on earth. One of these, the Great Barrier Reef, off the northeast coast of Australia, extends 1,250 miles and encompasses an area the size of England and Scotland combined. A coral can weigh several tons and



rise more than 30 feet from the ocean floor. Coral reefs grow in all shallow tropical waters at a depth of as much as 200 feet. They have characteristics that differ from area to area, so by examining a piece of coral, experts can tell the ocean and even the locale in which it grew. The environment needed for the growth of coral reefs is one with limited nutrients in the water, which explains why the ocean is unusually clear in their vicinity. Nutrition for the coral is supplied by algae (scientifically called zooxanthellae), which live in the polyp's transparent body, and also by microscopic animals that are captured in the coral's tentacles. The end result is a coral reef that is home to thousands of marine species in otherwise shelterless oceans.

Coral reefs are also the most biologically productive of all marine ecosystems. *U.S. News & World Report* described it this way: "Reefs are the marine equivalent of tropical rain forests, teeming with a profusion of living forms: undulating sea fans and sea whips, feathery crinoids, neon-hued fish and sponges, shrimp, lobster and starfish, as well as fearsome sharks and giant moray eels. All depend on the continuing industry of coral for habitat." Coral reefs also support life on land by providing a barrier between crashing waves and shorelines and by laying the foundation for thousands of tropical islands.

Healthy coral is brown, green, red, blue, or yellow, depending on the type of algae residing in the transparent coral-polyp host. The algal microscopic plants use the sunlight shining through their animal symbionts and absorb the polyp's waste products, including carbon dioxide, for their nutrition. In turn, through photosynthesis the algae provide oxygen, food, and energy for the coral tissues. This partnership with algae allows coral to grow faster and survive in the nutrient-poor tropical waters. Both have the best of plant and animal worlds. What a masterly and wise design!

Bleached Skeletons Devoid of Life

No wonder there's so much activity below! But what's that? Bleached skeletons devoid of life. Branches are broken off and crumbling. Some have already disintegrated. This part of the coral forest is dead or dying. No fish. No shrimp. No lobster. Nothing. It's an underwater desert. You stare in disbelief. What a shock! Your idyllic experience is ruined. Even when you are back on the boat, troubling questions remain. What could have caused this devastation? An accident? Disease? Natural causes? You want answers.

Although stony coral looks tough, it is extremely fragile. A human touch can cause damage, so wise divers avoid handling it, and careful boaters avoid anchoring on it. Other dangers to coral are chemical pollution, oil spills, sewage, logging, farm runoff, dredging, sedimentation, and freshwater intrusion. Direct impact by boat keels wreaks havoc. And temperature extremes can damage and kill coral. When stress occurs, coral expels its algae in thick clouds, and fish quickly eat it. If stressful conditions persist for weeks or months, bleaching occurs and the coral dies. And when the coral dies, the reef environment dies. The fabric of life unravels and disappears.

Bleaching has become widespread in all tropical oceans. As a result, there is alarm in the marine science community worldwide. When large-scale bleaching occurs, the damage is irreversible. The extent of coral bleaching and its subsequent death has been brought painfully to world attention by what has occurred throughout the world's tropical seas in recent years. While there has been periodic and localized bleaching of corals for many years, the current outbreaks are unprecedented in severity and are global in scope. Something has been attacking the living corals of most species earth wide, causing the collapse of reef environments.

DYING CORAL REEFS

Are Humans Responsible?

THE 1992 International Symposium on Coral Reefs reported that people directly or indirectly have caused the death of 5 to 10 percent of the world's living reefs and that another 60 percent could be lost in the next 20 to 40 years. According to Clive Wilkinson of the Australian Institute of Marine Science, only reefs in remote areas are fairly healthy. The newspaper *USA Today* stated that areas with damaged "reefs include Japan, Taiwan, the Philippines, Indonesia, Singapore, Sri Lanka, and India in Asia; Kenya, Tanzania, Mozambique, and Madagascar in Africa; and the Dominican Republic, Haiti, Cuba, Jamaica, Trinidad and Tobago, and Florida in the Americas. The causes of degradation vary, but high coastal populations and heavy coastal development are factors shared by all."

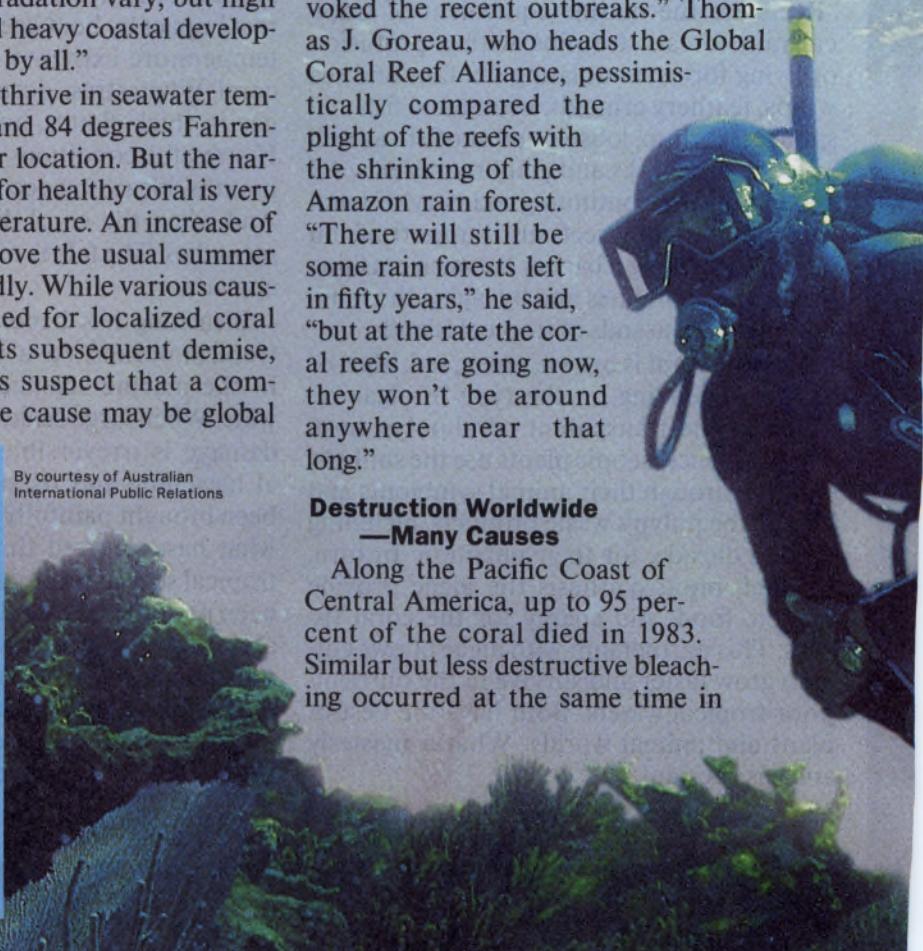
Coral reefs normally thrive in seawater temperatures between 77 and 84 degrees Fahrenheit, depending on their location. But the narrow temperature range for healthy coral is very close to the lethal temperature. An increase of one or two degrees above the usual summer maximum can be deadly. While various causes can be identified for localized coral bleaching and its subsequent demise, many scientists suspect that a common worldwide cause may be global

warming. *Scientific American* magazine reported on this conclusion: "The 1987 reports of coral bleaching coincided with escalating concern about global warming. It was not surprising, therefore, that some scientists and other observers reached the conclusion that coral reefs served as the canary in the coal mine—the first indication of an increase in global ocean temperatures. Although it appears that elevated local seawater temperatures caused bleaching, linking this effect to global warming cannot be conclusive at this time."

U.S. News & World Report said: "Recent studies of the Caribbean have supported the hypothesis that abnormally warm oceans provoked the recent outbreaks." Thomas J. Goreau, who heads the Global Coral Reef Alliance, pessimistically compared the plight of the reefs with the shrinking of the Amazon rain forest. "There will still be some rain forests left in fifty years," he said, "but at the rate the coral reefs are going now, they won't be around anywhere near that long."

Destruction Worldwide —Many Causes

Along the Pacific Coast of Central America, up to 95 percent of the coral died in 1983. Similar but less destructive bleaching occurred at the same time in





the central and western Pacific. Severe bleaching struck Australia's Great Barrier Reef and areas of the Pacific and Indian oceans. Thailand, Indonesia, and the Galápagos Islands also reported damage. Thereafter, extensive bleaching took place near the Bahamas, Colombia, Jamaica, and Puerto Rico as well as southern Texas and Florida, U.S.A.

A worldwide pattern of destruction of reefs was emerging. *Natural History* observed: "In the relatively short time that reef ecosystems have been studied, bleaching on the recent scale has never been seen. Peter Glynn, a biologist at the University of Miami, has examined 400-year-old corals in the severely bleached eastern Pacific and has found no evidence of similar disasters in the past. The severe bleaching indicates that the general warming during the 1980s may have had a drastic effect on the coral reefs and may foretell the future of the reefs if the greenhouse effect leads to even warmer temperatures. Sadly, global warming and environmental deterioration will almost certainly persist and become more acute, increasing the frequency of worldwide bleaching cycles."

U.S. News & World Report pointed to what could be another cause: "The thinning of the ozone layer, which shields living

creatures from damaging ultraviolet radiation, may also bear some responsibility for the recent demise of reefs."

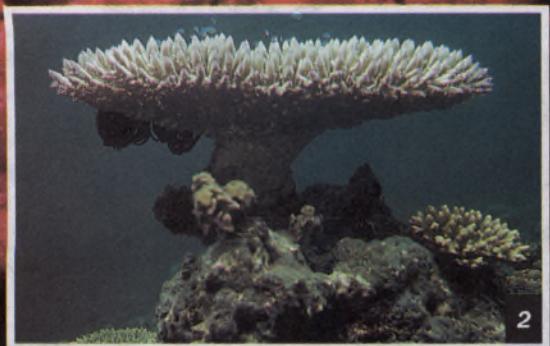
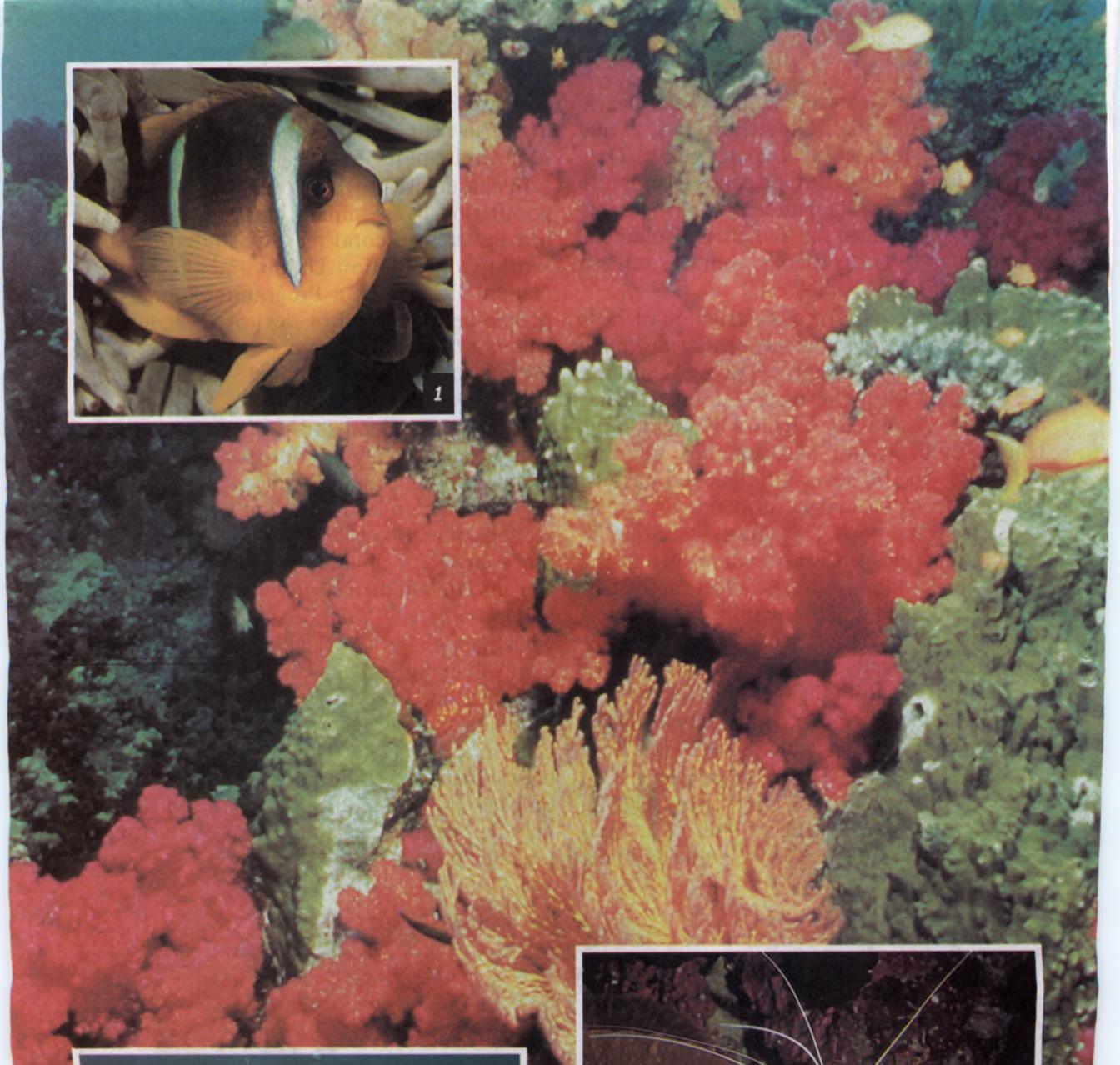
In coastal areas, where over half the world's population lives, human irresponsibility has heavily stressed coral reefs. A study from the World Conservation Union and the United Nations Environment Programme found that people had damaged or destroyed significant amounts of reef in 93 countries. Many developing areas flush their untreated sewage directly into the ocean, polluting it.

Mangroves, which survive in saltwater and filter impurities, are cut down for lumber and fuel. Reefs are torn apart and mined for building materials. In Sri Lanka and in India, entire sections of reef have been ground into cement. Ships large and small drop anchor on reefs or run aground on them, grinding them to rubble.

National Geographic magazine described what happens at Florida's John Pennekamp Coral Reef State Park: "Their boats pollute the water and everything in it with petroleum products and sewage. Incompetent operators crash into the reefs. They litter the sea with plastic foam cups, aluminum cans, glass, plastic bags, bottles, and miles of tangled fishing line. This debris does not go away—it is, for all practical purposes, indestructible."

Courtesy of Bahamas
Ministry of Tourism





What Can Be Done to Save Coral Reefs?

MANY scientists from around the world believe that global warming is here and that it will continue to worsen as developing countries push forward in industrial development. Some three billion metric tons of carbon dioxide (CO_2) are spewed out annually into the global atmosphere through the burning of fuels, such as coal, oil, and wood, for energy, and through deforestation burning. According to some scientists, the so-called greenhouse effect, resulting from the gases of fuel combustion, threatens to warm the atmosphere 3 to 8 degrees Fahrenheit by the middle of the next century. This increase would be fatal to corals and the reef communities.

But the death of the coral reefs would also adversely affect terrestrial life. *Natural History* magazine observed: "The coral reefs, however, are themselves key players in the greenhouse scenario and may be as important as tropical rain forests in reducing greenhouse gases. As they deposit calcium carbonate for their skeletons, corals remove a large volume of CO_2 from the oceans. Without zooxanthellae [coral's symbiotic resident algae], the amount of carbon dioxide corals metabolize is drastically reduced.

Ironically, damage to this undersea ecosystem could accelerate the very process that hastens its demise."

Some scientists believe that other gases released by combustion add to the greenhouse effect. Nitrous oxide for one, and chlorofluorocarbons (CFCs) for another. In fact, each CFC molecule is 20,000 times as efficient at trapping heat as one molecule of CO_2 . CFCs have also been targeted as the main cause for the thinning of the ozone layer, which protects life on earth from harmful ultraviolet rays. The ozone at the North Pole and the South Pole has thinned sufficiently to cause holes. That is more bad news for corals. Experiments exposing miniature coral reefs that were already stressed by warm water to tiny increases in ultraviolet light aggravated bleaching. The magazine *Scientific American* ruefully observed: "Even if chlorofluorocarbon emissions stopped today, chemical reactions causing the destruction of stratospheric ozone would continue for at least a century. The reason is simple: the compounds remain that long in the atmosphere and would continue to diffuse into

Background: A beautiful coral reef in the Pacific Ocean, near Fiji

Insets: 1. An underwater close-up of a clown fish, 2. coral that looks like a table, 3. a cleaning shrimp on coral

the stratosphere from the tropospheric reservoir long after emissions had ceased."

On a personal level, individuals can act responsibly by not contaminating the oceans or coastal areas with litter or pollutants. If you visit a reef, follow instructions not to touch or stand on coral. Don't take or buy coral souvenirs. If boating near tropical reefs, set anchor on sandy bottoms or floating moorings supplied by marine authorities. Don't speed or churn up the bottom with your boat propeller. Don't discharge boat sewage into the ocean; find docks and marinas that will accept it. Bill Causey, manager of the Looe Key National Marine Sanctuary (Florida, U.S.A.), noted: "Man is probably creating the problem that causes the imbalance. We have to become conscious of it globally. If we continue to heighten public awareness of the threat of losing a major ecosystem, then maybe we can change things."

On a regional level, laws to protect coral reefs are being passed and enforced. The state of Florida sues owners of ships that damage its reefs. The owners of a freighter that plowed up several acres of coral when it ran aground paid a \$6-million fine. Part of the money was used to restore the marine habitat. Presently, using special adhesives, biologists are attempting to reattach coral that was damaged by a ship in 1994. Anoth-

er fine, of \$3.2 million, was levied against a company for damages done to a Florida reef by one of its freighters. Other countries are enacting similar sanctions. Popular sites for diving, such as the Cayman Islands in the Caribbean, have limited areas where diving is permitted. Australia created its Great Barrier Reef Marine Park to control activities there. But as all have seen, the more divers, the more damage to the reefs.

Will All Nations Join the Fight?

On a global level, alarmed scientists and leaders conclude that the solution is beyond one nation or even a group of nations. Pollution is carried around the globe by circling currents of air and water, impacting the reefs. Individual nations have no jurisdiction beyond their territorial waters. Pollutants dumped on the high seas eventually end up on the shores. A unified global effort and solution are needed.

No doubt many sincere and capable people in the world will continue to struggle to save earth's awesome coral treasures. A world government that is sensitive to and cares for earth's environment is clearly and desperately needed. Happily, the Creator himself will rescue the global environment. When God made the first humans, he said: "Let them have in subjection the fish [and all marine life] of the sea." (Genesis 1: 26) Since God didn't abuse or exploit marine life, his mandate to mankind must have meant that man should care for the global environment. The Bible foretells: "There are new heavens [God's heavenly Kingdom] and a new earth that we are awaiting according to his promise, and in these righteousness is to dwell." (2 Peter 3:13) In the near future, that heavenly government will completely cleanse this polluted earth, including its oceans. Then, citizens of God's Kingdom will care for and enjoy the beautiful oceans and their marine inhabitants to the full.

IN OUR NEXT ISSUE

**Can Government
End Crime?**

Who Should Decide Family Size?

**Radio—An Invention
That Changed the World**

Young People Ask...



How Can I Have a Good Time?

"I feel we do get to do a lot of fun things. In our congregation we make a real effort to get together. We get to have fun that is wholesome. Most kids in the world can't say that."—Jennifer.

RECREATION—everybody needs it from time to time. *The World Book Encyclopedia* says that recreation may even make "an important contribution to an individual's mental and physical health." Why, the Bible itself says that there is "a time to laugh," that is, a time to enjoy oneself!—Ecclesiastes 3:1, 4.*

* See the article "Young People Ask . . . Why Do Other Youths Have All the Fun?" in our July 22, 1996, issue.

The word "recreation" is derived from a Latin term that means "to create anew, restore, refresh." (*Webster's New Collegiate Dictionary*) Sad to say, many of the things young people do for "fun"—such as wild partying or engaging in drug and alcohol abuse or illicit sex—are not really refreshing at all, but destructive. Finding recreational activities that are both enjoyable and wholesome can therefore be a real challenge. But as Jennifer, quoted at the outset, indicates, it can be done!

Doing Things Together

Recently *Awake!* interviewed a number of young people on this subject. Most said that they enjoy getting together with other youths. Do you feel the same way—but often find yourself without an invitation? Then why not take the initiative? A South African girl named Leigh, for instance, says: "If I'm keen on seeing a certain movie, I phone one of my friends, and we spread the word to our other friends." Usually they attend an early showing of the movie. Afterward, their parents pick them up, and together they eat out at a local restaurant.

Sports activities also present opportunities for healthful exercise and wholesome association. (1 Timothy 4:8) Young Roelien says: "First I discuss with my family where I want to go, and then we invite a small group to join us." Indeed, Christian youths have discovered an impressive array of wholesome sports they can participate in with others: skating, bicycling, jogging, and playing tennis, baseball, soccer, and volleyball, to name just a few.

No, you don't need to spend a lot of money or invest in fancy equipment to have a good time. "My parents, friends, and I have spent many pleasurable hours hiking in the nearby mountains and wilderness areas," says one teenage Christian girl. "Just being

out in the fresh air with good friends is so enjoyable!"

Social Gatherings That Upbuild

For many youths, however, fun means attending social gatherings. "We enjoy having friends over to eat and to listen to music," says young Aveda. Social gatherings have their place among Christians. Jesus Christ himself attended special meals, weddings, and other social gatherings. (Luke 5:27-29; John 2:1-10) Early Christians likewise enjoyed occasions when they got together for meals and upbuilding association.—Compare Jude 12.

If your parents allow you to host a gathering, what can you do to avoid problems and

"Just being out in the fresh air with good friends is so enjoyable!"

to ensure a good time for everyone? Careful planning is the key. (Proverbs 21:5) To illustrate: It makes sense to invite only as many of your friends as can be supervised properly. Smaller gatherings are less likely to turn into "revelries," or "wild parties."—Galatians 5:21; *Byington*.

Christians in the first century were warned to avoid socializing with those "walking disorderly." (2 Thessalonians 3:11-15) And a surefire way to wreck a gathering today is to invite youths who are known for being rowdy and uncontrollable. While you want to be careful about whom you invite, don't limit yourself to the same circle of friends. "Widen out," and get to know some others, including older ones, in the congregation.—2 Corinthians 6:13.

Will you serve refreshments? If so, they do not have to be lavish or expensive for your guests to have a pleasant time. (Luke 10:38-42) "Sometimes we have pizza night," says Sanchia, a girl from South Africa. Guests will often volunteer to bring a few items.

What are some things you can do at a gathering—besides simply watching TV, listening to music, or conversing? "We usually plan the evening in advance," says Sanchia. "We've played games or had someone play the piano, so we could sing songs together." An African youth named Masene says: "We sometimes play cards, draughts [checkers], and chess."

Jennifer, quoted earlier, told *Awake!*: "We have an elder in our congregation who invites us over to play Bible games. You have to have good Bible knowledge in order to play well." The *Awake!* representative asked other youths: "Don't you think that playing Bible games is out of place?" They virtually shouted the answer, "No!"

"It's challenging," said one teenage girl. "It's fun!" said another. When Bible games are played for fun, and the spirit of competition is kept in check, they can be pleasant and educational!—See "Making Get-Togethers Enjoyable yet Beneficial," in the June 22, 1972, issue of *Awake!*

Family Fun

In Bible times it was not unusual for families to enjoy some forms of recreation together. (Luke 15:25) However, the young authors of *The Kids' Book About Parents* observe that "parents and kids are so busy these days that no one has the time to plan activities . . . We think that it is important for parents and kids to make sure to spend some time together *each week* doing activities that are simply fun."

"Friday is our family day," says an African youth named Paki. "We usually play games together." And let's not forget your siblings.

You do not have to spend a lot of money to have a good time with friends

Young Bronwyn says: "I enjoy drawing and doing other artistic things with my younger sister." Could you take the initiative and suggest some fun activity to do with your family?

When You're All Alone

What if you are alone? That does not mean you have to be bored and lonely. There are many productive, enjoyable ways to use such periods of time. Hobbies, for example. Since Bible times men and women have found the study of music to be enriching. (Genesis 4:21; 1 Samuel 16:16, 18) "I play the piano," says Rachel. "It's something you can do when you're bored." If you're not musically inclined, you might enjoy taking up sewing, gardening, stamp collecting, or learning a foreign language. As a bonus, you may even develop some skills that will prove useful in later years.

The Bible tells us that men of faith, like Isaac, sought periods of solitude for meditation. (Genesis 24:63) A young Austrian man named Hans says: "Occasionally, I just go out to a quiet place in the garden and sit down to watch a sunset. This brings me much joy and helps me to feel closer to my God, Jehovah."

"Enjoyment" in Jehovah's Service

The Bible prophesied that Christ would find "enjoyment" in serving Jehovah



God. (Isaiah 11:3) And while sacred service to God is not really recreation, it can be refreshing and gratifying.—Matthew 11: 28-30.

Hans, quoted earlier, recalls another enjoyable experience. He says: "My friends and I like to remember those weekends we spent working on the construction site of an Assembly Hall [for worship]. We learned how to work together, and we got to know one another better. Looking back, we have the satisfying feeling that we did something worthwhile that was also fun."

The testimony of these Christian youths makes one fact dramatically clear: You do not have to miss out on having a good time. Follow Bible principles. Be imaginative! Take healthy initiatives! You will find that you can enjoy yourself in ways that will build you up and not tear you down.



North Shore Animal League

A Mother's Bonding With Her Babies

SHE was just a stray, short-haired, nameless cat with five kittens, trying to make it on the mean streets of East New York. She had set up housekeeping in a dilapidated abandoned garage subject to many suspicious fires. She scoured the neighborhood for scraps of garbage that would make it possible for her to nourish her growing brood.

All of this was about to change at 6:06 on the morning of March 29, 1996. A suspicious fire quickly engulfed the garage. The cat family's home was in flames. Ladder Company 175 responded and soon had the blaze under control. David Giannelli, one of the firemen, heard the cries of the kittens. He found three of them just outside the building, another one three quarters of the way across the street, and the fifth on the sidewalk. The kittens were too young to have escaped on their own. Giannelli noticed that each kitten's burns were progressively more severe, some having waited longer for rescue as the mother cat carried them out one by one.

The account in the *New York Daily News* of April 7, 1996, gave this report on the mother's whereabouts and care: "Giannel-

li discovered mama keeled over in pain in a nearby vacant lot, and the sight broke his heart. Her eyelids were swollen shut from the smoke. The pads of her feet were badly burned. There were horrible scorch marks on her face, ears and legs. Giannelli found a cardboard box. Gently he placed the mama cat and kittens inside. 'She couldn't even open her eyes,' said Giannelli. 'But she touched them one by one with her paw, counting them.'"

When they arrived at the North Shore Animal League, it was touch and go. The account continued: "Drugs to combat shock were used. An intravenous tube filled with antibiotics was hooked up to the brave feline. Antibiotic creams were gently spread on her burns. Then she was placed in an oxygen-tank cage to help her breathe as the entire animal league staff held their breaths . . . Within 48 hours, the heroine was sitting up. Her swollen eyes opened and doctors found no damage."

Stop and reflect. Take a moment to see in your mind's eye this courageous mother, with her natural fear of fire, going into the smoke-filled, burning building to rescue her crying babies. To go in once to carry out her



An Incredible Encounter

THE most exciting thing I have ever done in my life!" That is how Kristie described her incredible encounter. Is this how you would have felt if you had been able to swim with dolphins in the Gulf of Mexico?

Everyone gets a thrill out of seeing dolphins swim or perform aquatic feats, such as walking backward on their tails, leaping from the water to astonishing heights, or allowing humans to ride them. Just watching these shows can make a person want to get into the water and play with those dolphins.

Kristie had always felt this way. Then one day, while she was boating and swimming in the Gulf of Mexico, a head suddenly popped up in front of her. In time, it seemed that three curious dolphins thought they had found a playmate. At first, Kristie was a little frightened, but then her fear turned into excitement as she interacted with the dolphins. Leaving them in

charge of the situation, she settled back to see what they would do next.

Kristie said: "A dolphin would just pop up in front of me—and there we were, looking at each other. I found myself petting it and talking to it—just the way I would to my dog."

Because of dolphins' intelligence, they are popular entertainers, and most trainers say that because of their friendliness toward people, dolphins do not always have to be bribed with food to perform their tricks.

When asked what the most enjoyable thing about working with dolphins is, Liz Morris, an animal behaviorist at Sea World in Florida, U.S.A., said: "I think it's their nature. Because they are so playful and curious by nature, you can really develop a rapport with them . . . They respond very well to touch and affection." In God's promised new system of things, all of us will be able to have many incredible encounters like Kristie's.

tiny helpless kittens would be incredible; to do it five times, each time with the pain of additional burns to her feet and face, is unimaginable! The brave animal was dubbed Scarlett because the burns showed the skin underneath was scarlet, or red.

When this touching story of a mother's bond with her babies was flashed around the world from the North Shore Animal League, the phones began ringing off the hook. More than 6,000 people from as far away as Japan,

the Netherlands, and South Africa called to inquire about Scarlett's condition. Some 1,500 have offered to adopt Scarlett and her brood. One kitten later died.

Scarlett touched the hearts of people around the world. It makes you wonder if the hearts of the millions of mothers today who dispose of their children while still in the womb or shortly after birth, through abuse, are not disturbed by Scarlett's example of the bond between a mother and her babies.

TINNITUS

A Noise to Live With?

BEETHOVEN, the German writer Goethe, and the Italian sculptor Michelangelo—all may have had it. The ancient Egyptians may likewise have been aware of it, apparently referring to the malady as “a bewitched ear.” Today it is called tinnitus, and an estimated 15 percent of the population of the Western world have it frequently or constantly. About 5 people out of 1,000 are afflicted severely.

Just what is this annoying malady? The word “tinnitus” comes from the Latin *tinnire*, “to tinkle,” and is described as a “sound in the ears not caused by any external stimulation.” According to *The Merck Manual of Diagnosis and Therapy*, it may be a “buzzing, ringing, roaring, whistling, or hissing quality or may involve more complex sounds that vary over time. It may be intermittent, continuous, or pulsatile.” The volume of this noise can range from hardly audible to disturbingly loud. And it is a sound that sufferers cannot turn off. The unrelenting noise can thus trigger a host of side effects: emotional distress, sleeping problems, pain, concentration difficulties, fatigue, communication problems, and depression.

What Causes the Ailment?

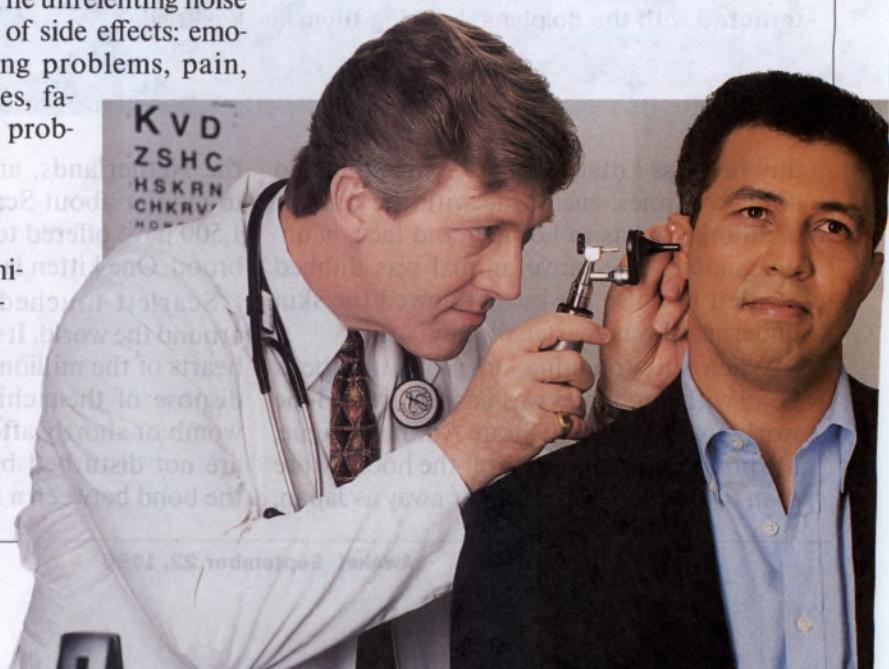
After the onset of tinnitus, a sufferer may nervously wonder what has gone wrong. He may fear that he has had a cerebral hemorrhage, has suffered a mental disorder, or

has a tumor. Fortunately, tinnitus is rarely caused by a serious ailment. Some have developed tinnitus after a head injury. And Professor Alf Axelsson, of Göteborg, Sweden, a researcher and expert on the subject of tinnitus, told *Awake!*: “Some drugs, such as aspirin in high doses, can produce tinnitus as a temporary side effect.”

By and large, though, tinnitus is the result of an ear disorder. Professor Axelsson explained: “The problem is usually in the part of the inner ear called the cochlea, with its 15,000 or so microscopic sensory hair cells. If some of them have been damaged, they can send and receive an unbalanced stream of nerve signals. This is perceived by the sufferer as noise.”

The cause of such ear damage? According to Professor Axelsson, one cause of tinni-

A checkup by a qualified physician can be the first step in learning to live with tinnitus



tus is exposure to loud noises. Those who wear stereo headphones, for example, often do themselves harm by playing their music at high-decibel levels. Tinnitus is one possible result.

Of course, it's good to keep in mind the comment made by Richard Hallam in his book *Living With Tinnitus*: "The body is not a completely silent place and so a certain degree of 'tinnitus' is normal. Sounds result from the mechanical movement of muscles, bones, blood and air. . . . It is supposed that in everyday conditions, these background noises are masked by the louder sounds of the environment—they are simply not heard." Reading this article may have made you more aware of those background noises. However, they are not a problem for most people.

How Is It Treated?

What if you are seriously afflicted by this ailment? The first thing you should do is contact your doctor. He will help you to find out if there is a treatable disorder behind your symptoms. Sad to say, in most cases there is no cure for the noise. But there are a number of things that can be done to help you live with it.

■ **Surgery:** The brochure *Tinnitus*, published by The British Tinnitus Association, states: "Sometimes tinnitus is caused by a disorder in the middle ear, and occasionally by an abnormality in blood vessels or muscles in or near the ear. In these very rare cases there is a possibility of completely eliminating tinnitus by surgery."

■ **Medication:** If a sufferer has difficulty sleeping or suffers anxiety, tension, or depression, a doctor may prescribe sedatives or antidepressants to ease these symptoms.

■ **Hearing Aids and "Maskers":** If there is a slight hearing loss, a hearing aid can be of great help. There is also a device called a masker, which looks like a hearing aid. It

produces a background sound to mask the tinnitus sounds. Sometimes, though, simply playing the radio or running a fan can have a similar effect.

■ **Other Treatments:** Professor Axelsson told *Awake!*: "Hyperbaric oxygen therapy may prove helpful for some patients. This involves placing the sufferer in a pressure chamber, where he is subjected to pure oxygen. This may enhance healing of the inner ear." And since for some patients the symptoms of tinnitus seem to worsen when they are tense or anxious, some doctors have recommended various relaxation-training therapies.* However, learning to relax and avoiding physical and mental stress as much as possible may be helpful.

Living With the Ailment

As yet, no real cure for tinnitus is on the horizon. So tinnitus is a noise you may have to learn to live with. Says the book *Living With Tinnitus*: "I and my colleagues now strongly believe that the normal response to tinnitus is the gradual development of tolerance."

Yes, you can teach your brain to ignore the sound, to view it as something not worth paying attention to. Do you live in a noisy neighborhood? Or do you run a fan or an air conditioner? At first, those noises may have irritated you, but after a while you simply ignored them. In fact, you may even have learned to sleep with those noises! Similarly, you can learn not to pay too much attention to your tinnitus.

Tinnitus is one of many maladies that must be endured until the arrival of God's coming new world, in which "no resident will say: 'I am sick.'" (Isaiah 33:24) In the meantime, tinnitus can be a frustrating problem, but it need not ruin or dominate your life. Be assured that this is a noise you can learn to live with!

* A Christian will want to be sure that such therapy does not violate Bible principles. See, for example, the articles on autogenic training in the February 22, 1984, issue of *Awake!*

WATCHING THE WORLD

The High Cost of Crime

The Justice Department estimates that about 94,000 criminal acts are committed in the United States every day. How much do these crimes cost U.S. citizens? According to economics analyst Ed Rubenstein, the direct costs—including personal property losses, such as cars, cash, and jewelry—approach 20 billion dollars a year. Added to this, however, are the costs related to law enforcement, courts, prisons, and parole systems. This brings the figure up to around 100 billion dollars. Also, since crime victims often suffer from bouts of fear, trauma, or depression, many cope with these negative emotions by staying home from work. Therefore, productivity losses can easily drive “total costs to crime victims” up to “\$250 to \$500 billion each year,” says Rubenstein.

Crooked Monks

In Thailand a novice Buddhist monk hooked on amphetamines has confessed to the rape and murder of a 23-year-old British tourist, reports *World Press Review*. This crime, however, is just one in a “series of scandals” that have plagued Buddhist clergymen recently. “In addition to a rising number of criminal offenses, materialistic greed is corrupting Buddhism.” In what way? “The selling of good-luck charms is a lucrative business for some monks, who travel in chauffeur-driven limos.” As a result, the “people’s faith in once-revered Buddhist clergy is being chal-

lenged.” The magazine also notes that in an effort to curb “drug abuse” among monks, “monasteries have opened detox centers.”

Leaky Gloves

One pair of latex gloves may not be sufficient to protect wearers against HIV or hepatitis, the magazine *New Scientist* reports. That was the conclusion reached by researchers at the Medical College of



Wisconsin when they discovered that “one in three gloves lets through viruses the size of HIV or hepatitis.” Jordan Fink, the head of the allergy division of the university, began testing latex gloves after doctors and nurses complained about allergic reactions in 1992. That was the year the U.S. government started requiring medical personnel to wear rubber gloves if contact with a patient’s blood or body fluids was likely. According to Fink, health-care workers who have cuts or other breaks in their skin should consider wearing more than one pair of gloves, says the magazine. Medical staff with unbroken skin shouldn’t be unduly alarmed, however. “The unbroken skin is a good barrier,” Fink says.

Countering Con Artists

After spending 17 years as a consumer reporter for a local TV station in Boston, Massachusetts, Paula Lyons has compiled a list of ways to overcome the “cunning skills and relentlessness of con artists.” According to an article in the *Ladies’ Home Journal*, Lyons’ suggestions include: Refuse to do business over the telephone with a stranger who calls you. Never invest in what you don’t understand. Never pay for a “free” prize. Do not put too much faith in money-back guarantees. Avoid donating to charities you don’t know. Never buy a used car without having it inspected first by an independent mechanic. “These rules may seem rather conservative,” says Lyons, but “they can protect you from some of the worst abuses in the marketplace.”

Brazil’s Health Problems

The director of Brazil’s national center of epidemiology, Dr. Eduardo Levcoitz, lamented: “Our people have the misfortune to suffer from both the health problems of the industrialized First World and the preventable diseases of the Third World.” Quoted in *The Medical Post*, Dr. Levcoitz cites the main causes of health problems among Brazilians. Topping the list are cardiovascular disease, cancer, and respiratory diseases. Next comes death from violent crime and accidents. Following the “First World” diseases are infectious diseases resulting from poor living conditions. “It is estimated that half the Brazilian population suffers

from some kind of parasitic infection," says *The Medical Post*. Malaria alone afflicts about 500,000 Brazilians every year. Other common parasitic diseases found in Brazil are Chagas' disease, schistosomiasis, hookworm, leishmaniasis, and filariasis.

Organ Shortage

In 1994 "the number of people needing organ transplants" in the United States "outpaced the number of donors by nearly a third," says *The Journal of the American Medical Association*. From 1988 to 1994, the number of people receiving transplants increased 49 percent, while organ donors increased by only 37 percent. With the demand for organs outstripping the supply, some critically ill patients have died waiting for an organ to become available. Commenting on this dilemma, *New Scientist* magazine says: "As transplant operations become more routine, more people want them and swell the list." The report thus mentions that "organ transplants have become a victim of their own success."

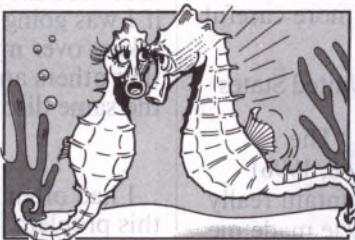
Expensive Neighbor

In Britain, when homeowners sell their homes, they have a legal obligation to reveal details of any past disputes they have had with their neighbors, reports *The Sunday Times* of London. An 80-year-old widow who failed to inform buyers that she had twice complained to the local authorities about a noisy neighbor was successfully sued for misrepresentation. Now she faces bankruptcy following a \$45,000 judgment. The new owners lived in the house for six years, but they found life next to their neighbor

intolerable and had no choice but to sell, they told the court. To avoid such problems, some buyers have resorted to hiring private detectives to check on the conduct of their prospective neighbors. A cursory examination can cost as little as \$75, but some buyers are prepared to pay \$1,500 for a more thorough check.

The Faithful Sea Horse

Oxford zoologist Amanda Vincent has discovered that sea horses apparently remain faithful to their mate for life. Studying the four-inch-long species *Hippocampus whitei* off the southeastern coast of Australia, Dr. Vincent was astonished



to find such fidelity among fish, notes *The Times* of London. It was observed that each morning the male waits for his mate at a prearranged place. Upon meeting, the sea horses change color and then perform a dance. Producing offspring is a shared experience. The female lays her eggs and deposits them in a special brood pouch in the male's tail. He then fertilizes them, and they remain in the pouch until birth. If a mate dies, the surviving sea horse will bond with only another unpaired sea horse. Sadly, survival of these delightful creatures is at risk, since millions are captured every year for aquariums

and for use in traditional Asian medicine.

Hungry for Heavy Metal

When heavy metals, such as nickel, lead, zinc, and cadmium, contaminate the soil, the ground becomes dangerous and unusable. Current cleanup methods require scraping away the topsoil and disposing of it in landfills or removing the contaminated soil and exposing it to strong acids that release the entrapped metals. These cleanup methods, however, are very costly. Now scientists are studying a much cheaper and cleaner way to help solve the problem. It's called phytoremediation. The process involves using plants that absorb heavy metals from the soil and transfer the metal to the leaves, stems, and other parts of the plant above ground. Once the heavy metals are drawn out of the ground, the plants can be processed and the more valuable metals recycled, says *Science* magazine.

Cooking—and Wheezing—with Gas

Under that heading, *Science News* reported that British researchers have found that "women who cook with gas are at least twice as likely to experience wheezing, shortness of breath, and other symptoms of asthma as those who prepare meals using electric cooktops and ovens." The study, conducted at St. Thomas' Hospital in London, notes that the symptoms persisted even when exhaust fans were used. And while both men and women participated in the survey, the "effects showed up only in women—probably because they spend more time in the kitchen."

FROM OUR READERS

Trust I was feeling weighed down because of having been betrayed by some friends and relatives. I began to doubt the credibility of everyone around me. But the series "Whom Can You Trust?" (February 8, 1996) gave me a more balanced view of trust. Thank you for such timely information.

E. I., Korea

Over the years, I have experienced betrayal by my father, who abused me, by two husbands, and by a Christian brother. I reached the point where I decided not to trust anyone. I convinced myself that I didn't need people. But the article helped me to become more balanced. Although it is very hard for me to trust, I am going to keep trying. This time I will be more careful about whom I trust.

C. H., United States

Matterhorn I read the article "The Unique Matterhorn." (February 8, 1996) The photo of this beautiful mountain really attracted my attention! The article made me appreciate God's creation yet more.

J. W., United States

Apples Thank you ever so much for the article "An Apple a Day Keeps the Doctor Away." (February 8, 1996) It struck my fancy, since we have over 100 apple trees on our small farm. We enjoy pruning and grooming these trees to make them produce well. We appreciate the accuracy of all your articles. They provide refreshing, trustworthy information.

P. B., United States

Compulsive Behavior Thank you for the excellent article "Compulsive Behavior—Does It Control Your Life?" (February 8, 1996) I am only 20 years old, and I suffer from compulsive behavior. Frequently I

have asked Jehovah in prayer to send me information about what was happening to me.

M. A. C., Spain

I began to be troubled by involuntary, disrespectful thoughts about God around the time I started pioneering, serving as a full-time evangelizer. I thought I had committed an unforgivable sin, and I cried many times. You cannot imagine how I feel now, seeing my feelings described in black and white. I never thought any other person could be suffering from this. Thank you, brothers, for always being there for us.

C. B., Nigeria

I read the article over and over, in tears. It described me in such detail! I had wondered if I was going crazy or if the demons were taking over my mind. It was a relief to know that others among the brothers are suffering the same disorder.

K. T., Japan

I had often turned to Jehovah for aid with this problem. But I decided to give up because I felt that it was futile and that nothing could help me. Now I understand myself, and I feel relieved. I doubt that the article could have been written more lovingly. I am sure that Jehovah really cares for us.

J. F., Czech Republic

I have been mentally tormented by compulsive thoughts for seven years now. It has left me feeling worn down and depressed. I have felt too ashamed and guilty to discuss it with anyone. I really thought I had lost my mind. When I read this article, I could not believe it. There was someone else out there who had experienced what I was going through! Tears came to my eyes. I was not alone anymore. I had not committed the unforgivable sin, and Jehovah was not angry with me.

S. B., South Africa

A Community on Stilts

By Awake! correspondent in Benin

"GANVIÉ is one of Benin's premier tourist attractions," states a travel guide to West Africa. Says another: "Africans themselves are fascinated by Ganvié; you'll see as many African tourists as westerners."

Ganvié is indeed unique. It is a village of 15,000 inhabitants that is built on stilts above the waters of Lake Nokoué, north of Cotonou, Benin. In Ganvié, there are no bicycles, no cars, no sidewalks, and no roads. If residents want to go to school, the market, the health clinic, a neighbor's home, or anywhere else, they climb into a canoe carved from an iroko tree.

Most families have several canoes—one for Father, one for Mother, and sometimes one for the children. Children learn to row early. By five years of age, a child can manage a boat alone. Soon he or she is confident enough to stand in a canoe to throw a small fishing net. Some youngsters enjoy showing off for visitors by performing headstands in their canoes.

At Ganvié's floating market, merchants, mostly women, sit in their canoes with their goods piled high in front of them—spices, fruits, fish, medicine, firewood, beer, and even radios. Shielded from the tropical sun by straw hats with huge brims, they sell to others who paddle their canoes there to buy. Sometimes the sellers are young girls. Do not be deceived by their age! They learn early the trader's art of shrewd negotiation.

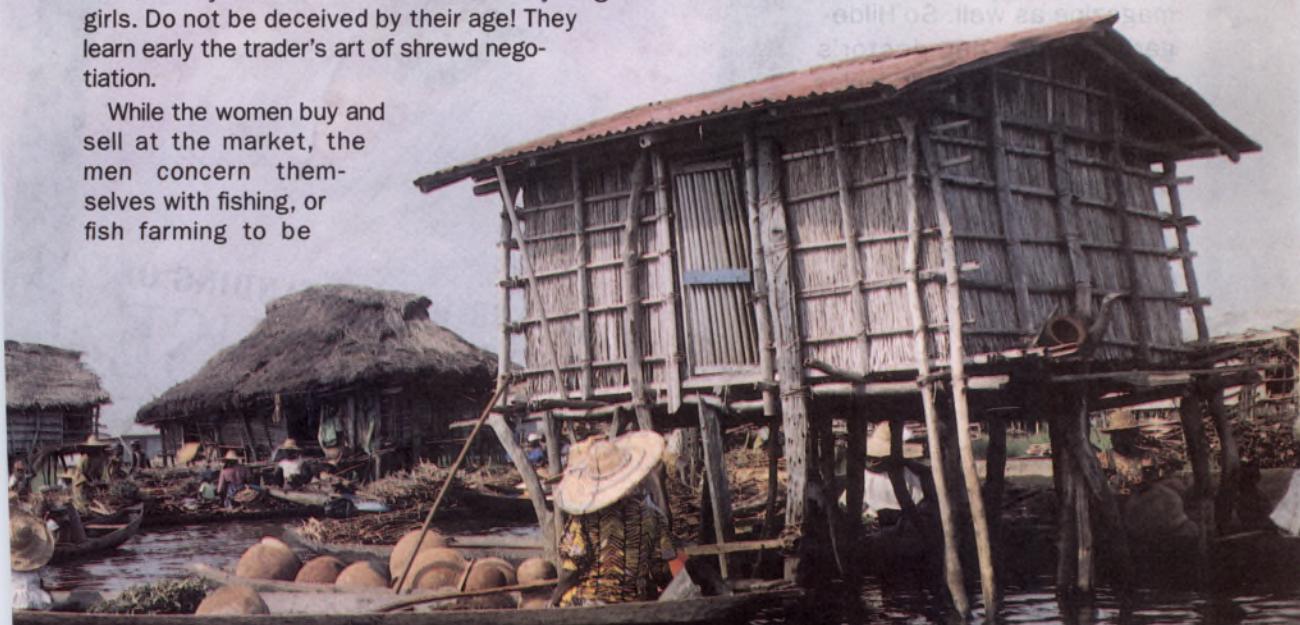
While the women buy and sell at the market, the men concern themselves with fishing, or fish farming to be

more precise. Their method of catching fish involves poking hundreds of branches into the muddy lagoon bottom, which creates a dense stick forest. The fish swarm to feed on the decomposing branches. After some days the men return with their nets to harvest the fish.

From Hideout to Tourist Attraction

The Toffinu of Ganvié were not always the "People of the Water," as they are known today. Early in the 18th century, they fled to the lake and swamps to escape persecution by a neighboring African kingdom. Scholars say that the name Ganvié reflects this history, since in the Toffin language, the word *gan* can be translated "we are saved" and the word *vie* means "community." Thus, the name of this capital of lake townships might be loosely translated "the community of people who have found peace after all."

Seeking escape in the swampy region around Lake Nokoué was an effective strategy, since the religious beliefs of the opposing kingdom did not permit any soldier to venture into the water or areas liable to flooding. So the lake provided both a means of livelihood and a place of refuge from the enemy. It is ironic that this now famous community, which multitudes of tourists visit in motor-boats, was once a place of hiding.



Hildegard, one of Jehovah's Witnesses who lives in Germany, gave her gynecologist a copy of the February 22, 1995, *Awake!* The magazine contained a series of articles entitled "A Better Understanding of Menopause."

Later, when Hildegard's daughter visited the same doctor, she discovered that he had read the articles. He requested: "Please ask your mother if she can get me a hundred copies."

When the magazines were delivered, the doctor said: "Don't get the idea that I am becoming one of Jehovah's Witnesses. But these articles about menopause are written so positively that my patients ought to read them."

Shortly afterward, Hildegard heard that the magazine had been well received by his patients. In fact, one woman said that she had not only enjoyed the articles on menopause but the other articles in the magazine as well. So Hildegard phoned her doctor's office to ask if further copies were needed. "Could we have another hundred?" asked the assistant.

'Please Get Me 100 Copies'

