

Awake!

March 22, 1996



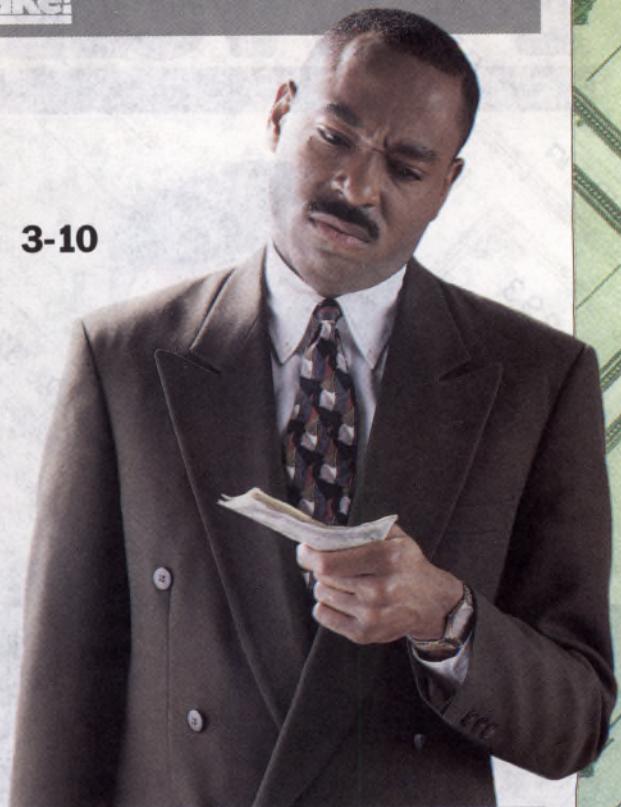
COUNTERFEITING A GLOBAL SCOURGE

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COUNTERFEITING A Global Scourge

3-10

Not just paper currency but paychecks, credit cards, furs, watches, paintings, airplane parts—if it's rare and valuable, beware, for someone somewhere will try to counterfeit it.



God Let Us Find Him **11**

They looked for God in many of the churches but found him only when they looked where they were warned not to.



Would You Like to Meet a Cobra? **16**

You would learn many interesting facts, but we suggest you meet him from a safe distance—he's very venomous.

A. N. Jagannatha Rao, Trustee, Madras Snake Park Trust

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COUNTERFEITING

A WORLDWIDE PROBLEM

Until the late 18th century, in France men were boiled alive for the offense.

From 1697 to 1832, it was a capital crime in England, and the act was considered to be treason. More than 300 Englishmen died at the end of a rope because of it, while untold numbers were exiled to the penal colony in Australia to work at hard labor as punishment for it.

FOR over 130 years, the U.S. government has been putting those guilty of it behind bars in federal prisons for up to 15 years. Additionally, thousands of dollars in fines have been added to the punishment. Even today it is still punishable by death in Russia and China.

In spite of the serious punishments decreed for it by many nations, the crime continues. Even the fear of death has not been enough to thwart the get-rich-quick schemes of those with the needed technical skills. Officials of governments are perplexed. "A good deterrent will be hard to find," they say, "as it has been for centuries."

Counterfeiting! One of the oldest crimes in history. Late in this 20th century, it has become a worldwide problem and continues to escalate. Robert H. Jackson, associate justice of the U.S. Supreme Court, said concerning it: "Counterfeiting is an offense never committed by accident, nor by ignorance, nor in the heat of passion, nor in the extreme of poverty. It is a crime expertly designed by one who possesses technical skill and lays out substantial sums for equipment."



American currency, for example, is being illegally reproduced around the world and in greater quantity than ever before.

"The U.S. currency," said one Treasury Department spokesman, "is not only the most desirable currency in the world. It is also the most easily counterfeited." What has perplexed the American government is that most of the bogus bills are being produced outside the United States.

Consider: In 1992, \$30 million worth of counterfeit dollars were seized overseas, reported *Time* magazine. "Last year the total hit \$120 million, and it is expected to break that record in 1994. Many times that amount circulates without being traced," the magazine reported. These figures tell only part of the story. It is believed by experts on counterfeiting that realistically the number of spurious dollars in circulation outside the United States could be as high as ten billion dollars.

Since American currency is much sought after by many countries—even over their own currency—and less complicated to duplicate, many nations and underworld

elements are cashing in on it. In South America, Colombian drug cartels have been counterfeiting American currency for years to augment their illegal income. Now some Middle Eastern countries are also becoming major players in the global counterfeiting business, reported *U.S. News & World Report*. The magazine added that one of those countries "is said to be employing sophisticated printing processes that mimic those used by the U.S. Treasury Department. As a result,

Personal computer-based printing systems that cost less than \$5,000 can now produce counterfeit currency that even trained experts may find difficult to detect

[it] can produce virtually undetectable fake \$100 bills, known as 'super bills.'

People in Russia, China, and other Asian countries are also getting into bogus-money production—mostly U.S. currency. It is suspected that 50 percent of the U.S. currency circulating in Moscow today is counterfeit.

After the Gulf War, in 1991, when there

was a circulation of hundreds of millions of U.S. dollars, "international bankers were shocked to find that some 40 percent of the \$100 bills were counterfeits," said *Reader's Digest*.

France has its own money problems, as is the case with many other European countries. Counterfeiting money is not an American problem alone, as other nations around the globe can testify.

Counterfeiting Made Easy

Up until a few years ago, it took clandestine artisans—artists, master engravers, etchers, and printers—long hours of painstaking work to duplicate currency of any nation, resulting in, at best, a poor facsimile of the model. Today, however, with high-tech multicolor copiers, two-sided laser printers, and scanners available in offices and homes, it is technically possible for almost anyone to duplicate the currency of his choice.

The era of desktop counterfeiting is here! What once demanded the skills of professional engravers and printers is now within the reach of office workers and at-home computer operators. Personal-computer-based printing systems that cost less than \$5,000 can now produce counterfeit currency that even trained experts may find difficult to detect. This could mean that someone who is pinched for cash might forgo a trip to the nearest automatic teller by printing his own currency—and in the denomination that would satisfy his needs! Already these sys-



Why Awake! Is Published Awake! is for the enlightenment of the entire family. It shows how to cope with today's problems. It reports the news, tells about people in many lands, examines religion and science. But it does more. It probes beneath the surface and points to the real meaning behind current events, yet it always stays politically neutral and does not exalt one race above another. Most important, this magazine builds confidence in the Creator's promise of a peaceful and secure new world that is about to replace the present wicked, lawless system of things.

Would you welcome more information? Write Watch Tower at the appropriate address on page 5. Publication of Awake! is part of a worldwide Bible educational work supported by voluntary donations.

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tems are potent weapons in the hands of today's counterfeiters. "In the process, these ingenious criminals are scoring repeated victories over law enforcement authorities and could someday pose a threat to the world's major currencies," wrote *U.S. News & World Report*.

In France, for example, 18 percent of the Fr30 million (\$5 million, U.S.) in counterfeit money seized in 1992 was produced on office machines. One official of the Banque de France views this as a threat not only to the economic system but to public trust as well. "When they learn that you can imitate a good banknote with technology available to much of the population, there can be a loss of confidence," he lamented.

As part of the effort to combat the flood of counterfeit currency in America and other countries, new designs of bank notes are in the developing stage, and in some countries new notes are already in circulation. On American currency, for example, the portrait of Benjamin Franklin on the \$100 bill will be increased by half in size and will be shifted three quarters of an inch to the left. "Fourteen other alterations in engraving and covert security features will also be introduced," reported *Reader's Digest*. A host of other changes, such as watermarks and inks that change color when viewed from different angles, are also being considered.

For some time France has been including new deterrents in its design of bank notes

that, it is hoped, will to some extent thwart counterfeiters. A spokesman for the Banque de France admits, however, that "there is still no technically foolproof method for foiling potential counterfeiters, but," he added, "we are now able to combine so many obstacles into the banknote itself that it is a [difficult] job, and very expensive." He describes these obstacles as "the first line of defence against counterfeiting."

Germany and Great Britain have been making safety changes in their currency for some time now by adding security threads that make duplicating their currency more difficult. Canada's \$20 bill has a small shiny square called an optical security device, which cannot be replicated on copiers. Australia started printing plastic bank notes in 1988 to incorporate security features not possible with paper. Finland and Austria use diffraction foils on paper currency. These shimmer and change color the way a hologram does. Government authorities fear, however, that counterfeiters will not be far behind in making the needed adjustments to continue their criminal activity—that no matter what corrective steps are taken, their innovative efforts may ultimately fall short as they have in the past. "It's like the old saying," said one Treasury Department official, "you build an 8-foot wall, and the bad guys build a 10-foot ladder."

Printing bogus money is only one facet of the counterfeiter's mind in action, as the next articles will show.

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CREDIT CARDS AND PAYROLL CHECKS REAL OR FAKE?

HOW convenient they are! So small, so easy to carry. They fit so nicely into a man's wallet or a woman's purse. Without a cent in your pocket, you are able to purchase so many things. The use of a credit card is encouraged and advertised by airlines, steamship companies, hotels, and resorts the world over. People are advised: "Don't leave home without it." Some businesses would rather accept them than cash. Unlike cash, if they are stolen or lost, they can be replaced. It is your own personalized money, with your name and exclusive account number embossed across the front.

You know them as plastic money—credit and charge cards. In 1985 some banks introduced their own sophisticated, laser-created holograms, which appear to be three-dimensional, and other security features, ranging from special codes in the magnetic strip across the back to an invisible mark that shows up under ultraviolet light. All this as a deterrent to counterfeiting! It is estimated that over 600 million credit cards are in circulation around the globe.

It is thought that worldwide losses from various forms of credit-card fraud in the early 1990's were at least one billion dollars. Of those various forms, counterfeiting is reported to be the fastest growing—at least 10 percent of the total losses.

In 1993, for example, counterfeiting cost member banks of one of the largest credit-card companies \$133.8 million, a 75-percent



increase over the previous year. Another leading credit-card company, international in size, also reported staggering losses due to counterfeiting. "That makes card counterfeiting a big problem not only for the banks, card companies and merchants who honour them but also for consumers around the world," wrote one New Zealand newspaper. While legitimate cardholders are not responsible for the losses, the costs are inevitably passed on to the consumers.

What about the built-in security features that stood as a roadblock to counterfeiters—such as laser-created holograms and special coded magnetic strips? Within a year after these features were introduced, the first crude counterfeits began to appear. Shortly thereafter, all security features were copied or compromised. "You've always got to improve," said one Hong Kong bank official. "The crooks are always trying to get ahead of you."

Interestingly, half of all losses from card counterfeiting in the early 1990's took place in Asia, according to experts, and nearly half of these were traced to Hong Kong. "Hong Kong is to counterfeit credit cards what Paris is to haute couture," declared one expert. Others have accused Hong Kong of being the world capital of credit counterfeiting—"a crossroads of the 'plastic triangle' of credit card fraud that also includes Thailand, Malaysia and now southern China." "Hong Kong police say local syndicates linked to

Chinese organized crime triads engrave, emboss and encode fake cards using numbers provided by corrupt retailers. They then simply send the counterfeit cards overseas," reported the New Zealand newspaper.

"A credit-card embossing machine, purchased [in Canada] by Asian gang members, is now being used to make fake credit cards. The machine prints 250 credit cards an hour, and police believe it has been used in a multi-million-dollar fraud," reported Canada's *Globe & Mail* newspaper. In the last few years, Hong Kong Chinese have been arrested using forged credit cards in at least 22 countries from Austria to Australia, including Guam, Malaysia, and Switzerland. Japanese credit cards are especially sought after, since they extend the highest spending limits to their users.

The surge in credit-card scams and counterfeiting means that "issuers are forced to spread around the cost of a growing amount of fraud," said one Canadian banking official. And so it goes. A credit card may indeed be a convenience and a lifesaver when the user is without adequate cash. Remember, however, that all the counterfeiters need is your account number and card expiration date and they are in business. "It's plastic money," warned a regional security chief for American Express International, "but people have yet to treat it with the same prudence they do cash."

"The system is riddled with weaknesses," said one police superintendent. "And the villains have found every one. And boy, they have exploited them ruthlessly," he said of counterfeiters.

Check Counterfeiting

With the coming of desktop printing that could virtually duplicate any paper currency flawlessly, what soon followed was inevitable. Forgers could now duplicate a wide range of documents: passports, birth certificates, immigration cards, stock certificates,

purchase orders, drug prescriptions, and a host of others. But the greatest dividend would be reaped from the duplication of payroll checks.

The technique is remarkably simple. Once a payroll check from a large company with millions of dollars on deposit in local or statewide banks finds its way into the hands of a counterfeiter, he is in business. With his desktop printer, optical scanner, and other electronic equipment at his fingertips, he can alter the check to suit his own purpose—changing the date, deleting the payee's name to that of his own, adding zeros to the dollar amount. He then prints the altered check on his own laser printer, using

The greatest dividends come from the duplication of payroll checks

paper that he has purchased at the nearest stationery store in the same color as the check. Running off dozens or more forgeries at a time, he can cash them at any one of the bank's branches in any city.

The proliferation of check counterfeiting by this simple and inexpensive means is so great, bank and law-enforcement officials say, that the cost to the economy could reach \$1 billion. In a particularly brazen case, reported *The New York Times*, a Los Angeles-based gang roamed the country cashing thousands of fake payroll checks at banks, totaling more than \$2 million. Industry analysts estimate that the total annual cost of check fraud is now \$10 billion in the United States alone. "The No. 1 crime problem for financial institutions," said an FBI official, "is counterfeit negotiable instruments, such as check fraud and money order fraud."

BUYERS BEWARE!

COUNTERFEITING CAN COST LIVES

THE untrained, unsuspecting victims can be fooled. The expensive-looking watch offered you by the street vendor at a fraction of the cost—is it real or fake? Will you buy it? The luxurious fur coat offered you from a car window on a side street—the seller promises it's mink. Will its appeal and bargain price get in the way of your better judgment? The diamond ring on the finger of the recently divorced wife—now broke and homeless, waiting for a train in a New York subway station—you can have it for a mere pittance. Would you think the bargain was too good to pass up? Because these questions are asked in this article dealing with counterfeiting and because of the circumstances presented, you are likely to answer "NEVER!"

Ah, but let's change the places and the circumstances and see what your answers would be. What about the expensive, popular designer handbag for sale at a legitimate outlet store at an attractive markdown price? The well-known brand of whiskey sold in the corner liquor store? Surely no problem here. Consider, also, the film with a recognizable label that is on sale in a drugstore or camera shop. This time the expensive watch costing thousands of dollars is offered to you, not by a street vendor, but by a reputable store. The price has been drastically reduced. If you were in the market for such an expensive timepiece, would you buy it? Then there are well-known brands of footwear at sub-



stantial savings in one particular shop you are directed to by friends. Are you sure they are not just cheap imitations?

In the world of art, at fashionable picture galleries, there are auction sales galore for collectors of expensive art. "Watch your back," warned one art expert. "Connoisseurs with years of experience get fooled. So do dealers. So do museum curators." Are you so learned that you would match wits with possible counterfeiters? Beware! All the pictured items could be counterfeit. Often they are. Remember, if an object is rare and has value, someone somewhere is going to try to counterfeit it.

Counterfeiting merchandise is a \$200-billion enterprise worldwide and is "growing faster than many of the industries it's preying on," wrote *Forbes* magazine. Fake automobile parts cost American automakers and suppliers \$12 billion a year in lost revenues worldwide. "The U.S. auto industry says it would employ another 210,000 people if it could manage to put phony parts suppliers out of business," the magazine said. It is reported that about half the counterfeiting factories are outside the United States—virtually everywhere.

Counterfeits That Can Kill

Some kinds of counterfeit products are anything but harmless. Imported nuts, bolts, and screws make up 87 percent of the \$6 billion of the U.S. market. Evidence to date, however, indicates that 62 percent of all these fasteners have fabricated brand names or

illegitimate grade stamps. A 1990 report by the General Accounting Office (GAO) found at least 72 American "nuclear power plants had installed nonconforming fasteners, some in systems to shut down the reactor in case of nuclear accident. The problem is getting worse, says the GAO. . . . The magnitude of the problem, cost to taxpayers or potential dangers resulting from using such [inferior] products are unknown," reported *Forbes*.

Steel bolts, whose strengths are inadequate for the purposes used, have been counterfeited and smuggled into the United States by unscrupulous contractors. "They could threaten the safety of office buildings, power plants, bridges and military equipment," according to *American Way*.

Imitation brake linings were blamed for a bus crash in Canada several years ago that took the lives of 15 people. It is reported that bogus parts have been found in such unlikely places as military helicopters and a U.S. space shuttle. "The average consumer's attitude is one thing when you're talking about a fake Cartier or Rolex watch," said a prominent counterfeiting investigator, "but when your health and safety is endangered, that changes the picture."

The list of potentially dangerous counterfeits includes heart pacemakers sold to 266 U.S. hospitals; imitation birth-control pills that reached the American market in 1984; and fungicides, composed principally of chalk, that ruined Kenya's coffee crop in 1979. There are widespread bogus pharmaceuticals that can endanger the lives of consumers. The deaths result-

ing from counterfeit medicines worldwide may be staggering.

There is a mounting concern over counterfeited small home electrical appliances. "Some of these products carry phony trade names or authorizations such as the Underwriters Laboratory listing," *American Way* reported. "But they aren't made to the same safety standards, so they will explode, cause house fires and make the whole installation unsafe," said one safety engineer.

In the United States and in Europe, aviation groups are equally alarmed. In Germany, for example, airlines have found bogus engine and brake parts in their inventory. Investigations are "being conducted in Europe, Canada and the United Kingdom, where unapproved parts (tail rotor shaft nuts) have been linked to a recent fatal helicopter crash," transportation officials said. "Agents have seized scores of bogus jet engine components, brake assemblies, poor quality bolts and fasteners, defective

Clothing, jewelry, paintings, pharmaceuticals, airplane parts—anything valuable is grist for the counterfeiter's mill



fuel and flight systems parts, unapproved cockpit instruments and flight computer components that are critical to flight safety," reported the *Flight Safety Digest*.

In 1989 a chartered airplane en route to Germany from Norway suddenly went into a steep dive from its cruising altitude of 22,000 feet. The tail section was torn away, sending the plane into a dive so violent that both wings snapped off. All 55 souls aboard were killed. After a three-year investigation, Norwegian aviation experts discovered that the crash was caused by faulty bolts, called locking pins, that held the tail section to the fuselage. Stress analysis showed the bolts were made of metal far too weak to withstand the buffeting forces of flight. The faulty locking pins were counterfeit—a word only too familiar to aviation safety experts everywhere, for counterfeiting is a growing problem that endangers the lives of airplane crews and passengers.

When national television interviewed the inspector general for the Department of

Transportation in the United States, she said: "All the airlines have received bogus parts. They all have them. They all have a problem." The industry admits, she added, "that they have probably an estimated two or three billion dollars worth of unusable inventory."

In the same interview, an aviation safety consultant, who has advised the FBI on various undercover operations involving bogus parts, warned that counterfeit parts represent a true danger. "I think we are definitely looking at a major air carrier disaster sometime in the near future as a result," he said.

The day of reckoning is soon at hand for those whose greed allows them to put their own selfish desire ahead of the lives of others. God's inspired Word states definitely that greedy persons will not inherit God's Kingdom.—1 Corinthians 6:9-10.

Bogus engine parts, defective bolts, cockpit instruments, computer components, and other counterfeit parts have caused crashes that cost lives



God Let Us Find Him

WHEN King David was ready to turn the kingship over to his son Solomon, he gave him this counsel: "Know the God of your father and serve him with a complete heart and with a delightful soul; for all hearts Jehovah is searching, and every inclination of the thoughts he is discerning. If you search for him, he will let himself be found by you; but if you leave him, he will cast you off forever."—1 Chronicles 28:9.

We found this to be true in our case. We searched for God, and we did find him—but only after being diverted into many false pathways. We believe that Jehovah discerned how powerfully the inclinations of our thoughts were focused on him and his service, and he let himself be found by us. Here is how it came about.

We were four brothers, raised in Florida, U.S.A. Our father worked long shifts as a cook to support the family, mother was the homemaker, and the four of us boys found work cutting grass, delivering papers—anything that would add to the family income. Mother was a Catholic, and Father a Baptist. All of us believed in God and the Bible but did nothing about it, and we seldom went to church. It was during the early '70's, when peace, bell-bottom jeans, long hair, and rock music were at their height. All this had an influence on our lives.

It wasn't until 1982 that two of us, Scott and Steve—24 and 17 years old respectively—took a serious interest in the Bible and developed a growing concern over deteriorating world conditions. Scott had his own construction business. It was doing well, so we moved into an apartment together. We had become tired of the same old bar scene and

that way of life and knew the grass must be greener somewhere. We began feeling hungry for spiritual things. Reading our Bible regularly helped us to desire more knowledge and insight into God's Word.

We started going to different churches on Sundays. At the ones we went to near our home in Lake Worth, Florida, 25 minutes of the Sunday talk would be about giving money. "Give generously, reach down deep into your pockets," the minister would say as he leaned halfway over the speaker's stand. They would often pass the money plate three times at one meeting, which resulted in many leaving with their pockets turned inside out. We went to many churches, but we found only more collection plates being passed and social gatherings.

Warned About Jehovah's Witnesses

We did become indoctrinated in what we thought were basic Bible teachings, and we accepted them because the teachers were professional theologians. One of the classes was about cults in America, and at the head of the list were Jehovah's Witnesses. We were warned that they did not believe in Jesus, that they had their own Bible, that they weren't going to heaven, and that they believed there wasn't any hell. All of this, of course, led us to conclude that the Witnesses were wrong.

By now we had a strong zeal but not according to accurate knowledge. (Romans 10:2) We did know what Jesus said at Matthew 28:19, 20—we must preach the good news and make disciples. At that time we were attending a 2,000-member church called Bible Town, where we were part of a

youth group of about 100 between the ages of 17 and 30. Scott tried to get them to do some form of preaching—but to no avail.

So we started our own preaching campaign. Scott got the idea to set up a stand at the local flea market and give out tracts and Bibles. So that's what we did. We went down to a local "Christian" bookstore and bought a good supply of tracts and Bibles, went to a flea market, set up two sawhorses, put a sheet of plywood across the top, put our tracts and Bibles on them, and tried to become "doers of the word, and not hearers only."—James 1:22.

As each week went by, the so-called flea market ministries grew, offering English literature as well as Spanish. Also, we had Bibles, 30 different kinds of tracts, and even hat pins that said "God loves you." A short time later, Scott bought a decal machine to print small Bible messages on T-shirts—sayings like: "Have you read your Bible today?" "Wonder why I am smiling? I have Jesus in my heart," and many more. One said "Revelation" with a picture of the four horsemen.

We thought that by wearing the shirts everywhere, we were giving a silent witness.

Every Saturday and Sunday, from 8 a.m. to 1 p.m., the flea market ministries showed up. If you were walking through a parking lot and saw tracts on the cars—well, we had been there. All of the literature was on a donation basis, though very little money ever came in. One year we added up the year's expenses, and they came to over \$10,000.

Scott

We Meet One of Jehovah's Witnesses

One time, while we were swimming at one of the beaches in Bonita Springs, an older man approached us and commented that he saw bumper stickers on our truck and noticed our T-shirts. He started talking about the Bible and reasoning from the Scriptures. He brought up the point at Acts 2:31, asking: "If there were a fiery hell and if only bad people went there, then why would the Bible say Jesus was there?" He continued on, discussing many other scriptures. Finally, Scott said: "You must be one of Jehovah's Witnesses." He replied: "Yes, I am." Scott then said: "You people don't believe in Jesus." For the next 20 minutes, the Witness talked about Jesus, but somehow it made no impression on us.

We continued the flea market ministries on the weekends. We had been doing this for three years—all the time believing that we had the truth and were doing the right thing. We were still visiting the churches, one every Sunday night, and were never satisfied with any of the ones we attended. We were running out of churches to visit, so one night we decided to go to one of "Jehovah's Witnesses' churches," as we put it. We were going to preach to them about Jesus. We found the address in the phone book and went there one Sunday evening. Upon learning that they didn't have a meeting Sunday evening like all the other churches, we concluded that they really didn't believe in Jesus. We saw the Monday night book study on the sign showing the meeting times. So we returned carrying our Bibles and wearing our T-shirts. We remember taking a few minutes to decide which one of the T-shirts to wear—which one would be a good witness. We arrived there a little early, and a few brothers approached us. They were warm and friendly. Right away we got into a deep discussion about Revelation. They asked us to stay for the meeting. They gave us the Unit-



ed in Worship book, so we sat down.* One brother opened the study with prayer.

We listened intently. In concluding, he said: "In Jesus' name. Amen." We looked at each other in shock. "Did we hear him correctly? He prayed in Jesus' name!" At that time it was as though our eyes opened and the thick scales fell off. If our hearts were right, this was the time to hear. The brother asked all to turn to chapter 21 of the *United in Worship* book, which was about Jesus and not being any part of the world. There wasn't a better study to sit in on. It was about Jesus' life and ministry, the last days, and neutrality. We heard younger ones commenting on many points we never knew. Then again, in concluding the meeting, the brother prayed in Jesus' name!

We Get Spiritually Fed

We had walked into the hall thirsting for truth, and there it was, never far away. We left knowing that we had been fed spiritually, and we never stepped into a church again. The next night, while doing our laundry in a Laundromat, we noticed a large stack of *Watchtower* and *Awake!* magazines by the soda machine—at least 150 of them. Never before would we read them, but now we bundled them up, interested in many subjects.

One of the articles asked, "Do you believe in the Trinity?" Another, "Is there really a hell?" In an *Awake!* there was an article on images. That night Steve read the one on the Trinity, did a lot of research, looked up all the scriptures, and woke Scott up at 12:30 a.m. because of what he had learned. The next day, Wednesday, after work, Steve read the article on hell. It reasoned on John 11:11, where Jesus said that Lazarus was asleep. When Steve saw Scott, he said: "My Bible does not teach that there is a fiery hell." After reading the *Awake!* on images and the dif-

ferent forms of crosses, we threw ours on a truck and watched while they were carried away. We looked at each other, shook our heads, and smiled. We knew we had found something very special—the truth.

A day later two boxes arrived. In them were 5,000 tracts saying that if you didn't repent, you would go to hell. We now knew many of these tracts were not right according to Bible teaching. A little confused, we again attended the book study on Monday night and brought in many of our tracts. We asked, "Is this one OK?" One night we went through all of them. Soon a pile of tracts were lying on the floor; not one of them was able to stand up to Bible teaching. We got rid of all of them. We knew our newfound faith meant our lives and the lives of those we preached to. We wanted to get away to study the Bible without any interference.

We moved to Alaska. At our first meeting there, we asked an elder if he would study with us every day. I think all in attendance heard us. We made fine progress, finished the *Live Forever* book, and wanted to get baptized at one of the two-day assemblies.* But we had to wait a little while. Our goal was to pioneer. Unexpectedly, our father fell ill, and we had to return to Florida to help out.

We Advance to Spiritual Maturity

In Florida we made fine progress, finished the *United in Worship* book, and then got baptized in 1987. It had been 11 months since we first started. Right away we became auxiliary pioneers for six months and then regular

Steve

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pioneers. Just a year and a half later, we were both appointed ministerial servants. Two years after baptism, we found ourselves serving at Brooklyn Bethel, where Scott is still serving today and has been studying Chinese for two years. Steve is now serving in Moscow, Russia, as a regular pioneer. We both found the truth and the search for it to be just as Proverbs 2:1-5 describes it: "My son, if you will receive my sayings and treasure up my own commandments with yourself, so as to pay attention to wisdom with your ear, that you may incline your heart to discernment; if, moreover, you call out for understanding itself and you give forth your voice for discernment itself, if you keep seeking for it as for silver, and as for hid treasures you keep searching for it, in that case you will understand the fear of Jehovah, and you will find the very knowledge of God."

How Steve Ended Up in Moscow

Living in New York, where knowing an extra language would make the preaching work more interesting—and thinking that perhaps Jehovah would open the door to Russia soon—I decided to take up Russian. At that time, while serving at Brooklyn Bethel, I started to attend the Russian book study. There was only one Russian book study group that met on Fridays. As time went by, I started to get more involved in the Russian group. I joined them in the preaching activity, which was very enjoyable because of

the warmth of the Russians. I wrote to the Service Department asking to transfer to the Russian group. I was happy when they agreed to this.

One day at Bethel morning worship, the president of the Watch Tower Bible and Tract Society, Milton G. Henschel, told the family that there would be a special report. Then he announced that Jehovah's Witnesses had been legally recognized in Russia and that our brothers would now enjoy freedom of worship. I don't think that any in Bethel that morning will forget the joy we felt on hearing such wonderful news. I thought at that moment that it would be a great privilege to be able to be a part of that vast new territory.

I started to correspond with a Russian brother named Volodeya, who lives in Krasnodar, Russia. He invited me to visit Russia. So in June 1992, I packed my bags and was on my way to Moscow. Upon arriving, I was so glad to see Brother Volodeya waiting at the airport. I stayed with Brother Stephan Levin-ski—45 years in the truth. He was the first Witness I met in Moscow, and he had spent many years in prison because of his stand for the truth. The hospitality of the brothers was truly wonderful.

So there I was in Moscow, not knowing much of the language. At that time, there were only four congregations, and we seemed to know all the brothers. Since then, through trial and error, I have managed to extend my visas. I am able to work from time to time to cover my expenses. The biggest difficulty I had was to learn enough Russian to communicate and to get fed spiritually at the meetings. It came slowly, and of course, I am still working at it.

I have had the privilege of attending many conventions and of witnessing amazing growth and record baptisms. Seeing the pure zeal of our brothers here has been an enormously faith-strengthening experience. I would not trade it for anything. Many of the brothers and sisters that I met who were just

IN OUR NEXT ISSUE

Does Religion Matter Anymore?

**Can True Christians
Expect Divine Protection?**

You Can Improve Your Memory



One Moscow congregation has over 530 in attendance every Sunday

studying or were just baptized when I came are now serving as full-time pioneers or ministerial servants or as Bethelites at Solnechnoye, near St. Petersburg, Russia.

The congregation I attend is packing out 530 every Sunday, and every month we average 12 new unbaptized publishers. The last count was 380 publishers, 3 elders, and 7 ministerial servants. Our congregation is reporting over 486 home Bible studies. In February 1995, I had the privilege of visiting our 29 book studies to give a service talk. I visited four groups a week. We are also very busy before each convention with the questions for baptismal candidates. In May 1995, we had a special assembly day where 30 were baptized from our congregation. In all, there were 607 baptized with about 10,000 in attendance. At the summer district convention, 24 from our congregation were among the 877 baptized! We have 13 pioneers in our congregation and 3 special pioneers. They are reporting some 110 studies between them! At present, we have 132 unbaptized publishers.

At our Memorial in 1995, we had 1,012 in attendance! The Society just sent a Pol-

ish brother, Mateysh, to our congregation. He graduated from the Ministerial Training School and will be of great help. We now have three elders. So an additional congregation will be formed, and our territory—close to one million in population—will be divided in half. Each of the two congregations will have about 200 publishers. One congregation will have two elders, and the other one elder. We have another assembly coming up, so we are now going over the questions with the 44 who will be ready for baptism then. Sounds incredible! A spiritual paradise indeed! It's amazing! It's truly Jehovah's hand at work. His chariot seems to be blazing through Russia at this time. As of October 1995, there are some 40 congregations in Moscow. It could easily double if there were enough elders.

The days of our flea market ministries are long past. Scott is at Brooklyn Bethel, Steve is serving as an elder in one of the Moscow congregations—both of us so thankful God let himself be found by us. We pray that millions will yet seek him and that God will let himself be found by them.—*As told by Scott and Steve Davis.*

Would You Like to Meet a C O B R A ?

By Awake! correspondent in India

WELL, would you? Most adults may answer no. But not a child. Fear of snakes, including the cobra, is not an instinctive trait in young children or even in animals. Aversion to snakes can be caused by information that is not reliable, exaggerated stories, myths, and misconceptions.

Of course, when we invite you to meet a cobra, we mean at a safe distance! Cobras are highly venomous, and we would not want to go up to one and hold out our hand to stroke it. Nor would the cobra be likely to wait around to greet us; on hearing our approach, it would beat a hasty retreat to a safe hiding place. So let us be satisfied to meet the cobra just by learning some fascinating facts about this interesting creature.

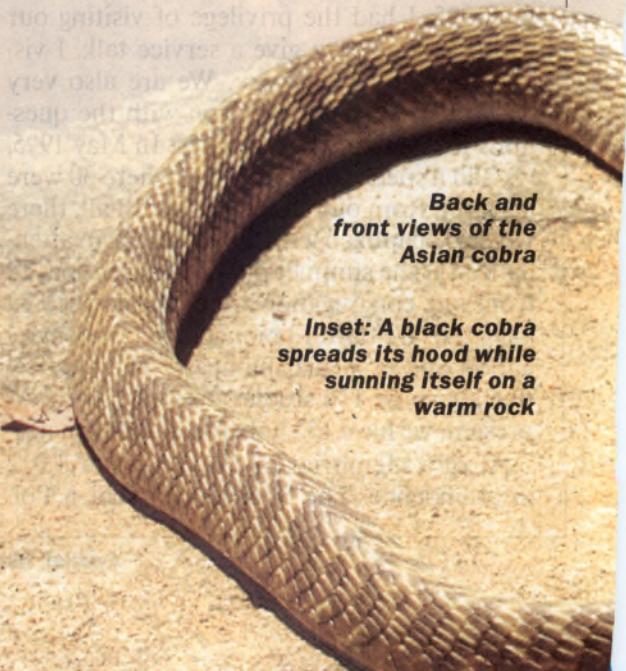
Cobras are reptiles of the suborder Serpentes and the family Elapidae, a name given to venomous snakes with grooved fangs. There are about 12 species of cobras scattered from Australia through the tropics of Asia and Africa to Arabia and the Temperate Zones. By far the most fearsome of the cobras is the king cobra, or hamadryad. With a length of 9 to 18 feet, this is the largest poisonous snake in the world. Preferring the dense undergrowth of jungle or swamp, where rainfall is copious, it can be found in southern China, the Philippines, Indonesia, Malaysia, Myanmar, and parts of India. A jet-black tail, bands of color on a greenish-yellow body, which turns to dark olive with age, and groups of small spots on its hood make it look quite beautiful.

Other species of cobra average from three to six feet in length. Indigenous to India and

Pictures on pages 16 to 20: A. N. Jagannatha Rao,
Trustee, Madras Snake Park Trust



Back and front views of the Asian cobra



Inset: A black cobra spreads its hood while sunning itself on a warm rock

widely distributed there, is the spectacled cobra with unique markings on its hood, which resemble a pair of spectacles. It can be black, dark brown, or yellowish-white with a wide, dark neckband and speckled white and yellow bands on the length of its body. The monocled cobra, found in Sri Lanka as well as in eastern and northeastern India, is lighter with a smaller, more round hood having a single white circle, which gives it its name. In northwest India and in Pakistan, we find a jet-black cobra. Africa has, among others, the ringhals, or the spitting cobra, and the Egyptian cobra. The latter, a dark and narrow-hooded snake, is possibly the asp to which the death of Queen Cleopatra is attributed.

Snakes mate only with their own species, being attracted by a unique musk odor. The cobra shows more family interest than other snakes, male and female often remaining together. The female king cobra is one of the few snakes known to make a nest. She scrapes leaves into a mound about one foot high and deposits 20 to 50 eggs in it. She then coils her body around the mound and remains there, without food, for the almost two months of incubation, the

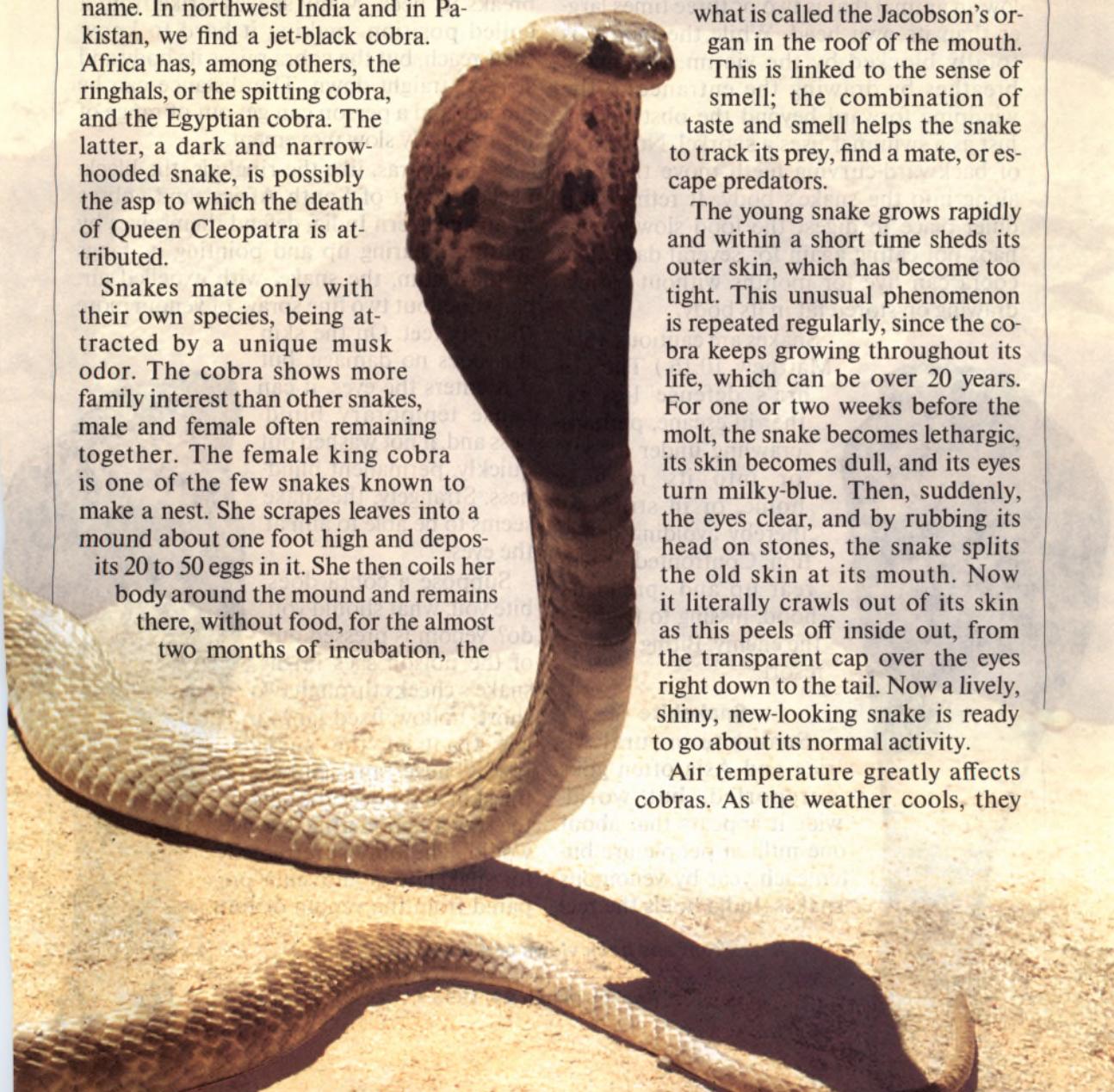
male often staying close too. Other cobras, without preparing a nest, remain near their eggs to protect them.

The baby snakes use an egg tooth, which later falls off, to slit the shell and release themselves. On emerging they are totally independent with fully-formed venom glands and fangs. They flick out their tongues frequently, taste the surroundings, and transfer chemical information to what is called the Jacobson's organ in the roof of the mouth.

This is linked to the sense of smell; the combination of taste and smell helps the snake to track its prey, find a mate, or escape predators.

The young snake grows rapidly and within a short time sheds its outer skin, which has become too tight. This unusual phenomenon is repeated regularly, since the cobra keeps growing throughout its life, which can be over 20 years. For one or two weeks before the molt, the snake becomes lethargic, its skin becomes dull, and its eyes turn milky-blue. Then, suddenly, the eyes clear, and by rubbing its head on stones, the snake splits the old skin at its mouth. Now it literally crawls out of its skin as this peels off inside out, from the transparent cap over the eyes right down to the tail. Now a lively, shiny, new-looking snake is ready to go about its normal activity.

Air temperature greatly affects cobras. As the weather cools, they



slow down and even become dormant, only stirring when the temperature rises. Too much heat can kill them. Except for the king cobra, which feeds on snakes, their diet is rats, mice, frogs, lizards, birds, and other small animals. After the prey is caught, an injection of venom immobilizes it. It is ingested whole, as the cobra is not equipped to chew food. The elasticity of the skin and the flexibility of the jaw allow the cobra to swallow an animal that is two or three times larger than its own head. While the mouth is totally blocked by the victim, the snake breathes by drawing the entrance to the windpipe forward beyond the obstruction, just as a swimmer uses a snorkel. Now rows of backward-curving teeth move the prey along into the snake's body. It retires to a quiet place to digest the food slowly, perhaps not eating again for several days. The cobra can live for months without eating, drawing on stored fat in its body.

Snakes are cautious. (See Matthew 10:16.) The cobra's defense lies either in escape, perhaps crawling under a rock or into its rat-hole home, or in stillness, thereby avoiding detection. Confronted, it will rear up and spread its hood, hissing to frighten the enemy. Biting is a last resort.

Snakebite

Snakebite in rural Africa and Asia often goes unreported, but worldwide it appears that about one million people are bitten each year by venomous snakes. India holds the record

for fatalities—around 10,000 a year—perhaps the majority being from the spectacled cobra. About 10 percent of cobra bites prove fatal.

The cobra is slower than many snakes; the agile mongoose, one of its main enemies, can outmaneuver it. Leaping at the snake, then dodging the attacking strike repeatedly, the mongoose leaves the cobra unnerved and hesitant. Attacking behind the hood, he breaks its neck. Many snakes strike from a coiled position, making it hard to know their reach, but the cobra raises its body and strikes straight down. The distance can be judged, and a person can get out of range of the relatively slow movement.

Some cobras, like the ringhals, the black-necked cobra of South Africa, and cobras in northeastern India, defend themselves by spitting. Rearing up and pointing its fangs at the victim, the snake, with expelled air, can shoot out two fine sprays of venom more than six feet. On the skin this does no damage, but if it enters the eyes, it can cause temporary blindness and, if not washed out quickly, permanent blindness. Strangely, the snake seems to be able to aim at the eyes.

Suppose a cobra does bite you, what should you do? Venom is pressed out of the poison sacs in the snake's cheeks through two short, hollow, fixed fangs in the front of the snake's jaws. These fangs puncture the skin and inject the venom the way a hypodermic syringe would. The only sure remedy for snakebite is antivenin prepared from the venom of four

Front and back views of a black cobra

Cobra Worship and Superstition

COBRA worship has existed from ancient times. The cobra motif has been found on seals at Mohenjo-Daro, one of the oldest civilizations to be unearthed by archaeologists. From the third millennium B.C.E. down to today, millions in India have viewed cobras with superstitious reverence. Interestingly, many of the cobra stories can be recognized as distorted myths built around actual historical happenings.

A creation "story" tells of a time when there was no light in the universe. From dark cosmic waters the brilliant god Vishnu was created first, then heaven, earth, and the underworld. From the leftover material, a gigantic cobra called Shesha (meaning remaining part) was created. Myth credits Shesha with from 5 to 1,000 heads, and images depict Vishnu reclining on the coiled Shesha, sheltered by the open hoods of Shesha's many heads. Earthquakes are attributed to Shesha's yawn, and fire from his mouth or his venom destroys the world at the end of an age.

Hindu mythology depicts a cobra-race called Nagas, who inhabit the underworld, Naga-lok or Patala. The ape-god Hanuman claims that in the "Perfect Age," all men were saintly, there was only one religion, and there were no demons or Nagas. The serpents became the guardians of the earth's wealth and possessed great knowledge and magical powers. Shesha, sometimes also called Vasuki, was used by the gods to churn a sea of milk to produce amrit, a nectar that would give immortality. The underworld, ruled by the Nagas, is portrayed as a most desirable place; warriors who die in battle are promised unimaginable pleasures there.

However, not all mythical cobras are considered benign. One "story" relates an encounter between Krishna, an incarnation of Vishnu, and Kaliya, a great, malignant demon-cobra.

Images show the victorious Krishna with his foot on the head of the great serpent.

Manasa, or Durgamma, queen of the Nagas, is worshiped by women to protect their children from snakebite. On the festival of Nagapanchami, snake devotees pour milk and even blood on images of cobras and down snake holes. Stone or silver images of cobras are worshiped and offered at temples by women hoping to conceive a male child.

The Cobra in Films

The cobra of mythology is a very popular theme in films made in India—more than 40 having been produced since 1928. Usually the cobra is depicted as a guardian of goodness, a helper of its devotees, and a destroyer of the wicked. Popular is the myth of the Icchadari cobras, which are said to have the power to take human form. They are said to have one devoted mate. If the mate is killed, the cobra is able to see the image of the killer in the dead snake's eyes, and it sets off on a trail of revenge. This becomes a lively base for many films. Dominating the story are the snake dances; with music like that of the snake charmer, the dancers imitate the movement of the snake, even slithering on the ground.

A documentary movie, *Shakti*, was filmed at a festival in Rajasthan, India, where every August hundreds of thousands of snake worshipers meet in the desert. Under a burning sun and in temperatures reaching over 122 degrees Fahrenheit, they flagellate themselves with iron rods and crawl on their stomachs more than a mile on the scorching sand to the temple of a snake-god, Gogha. A historical king in the tenth century C.E., Gogha is said to have saved his people from Muslim invaders by leading the enemy into a snake-infested area, where the army was decimated by snakebites.

poisonous snakes. In the early 20th century, India was the first country to use antivenin extensively. Antivenin powder is effective for five years without refrigeration; reconstituted it is injected.

Symptoms of cobra bite are pain and swelling at the site, blurred vision, unsteadiness, paralysis of the larynx, and slowing respiration. Death ensues in about two hours if a large dose of venom has been injected and no treatment is given.

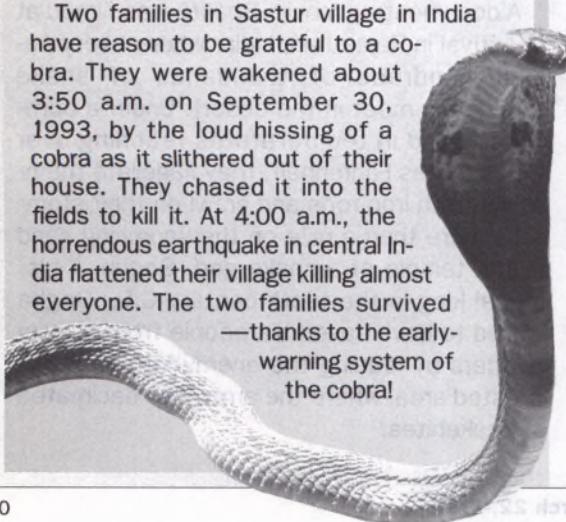
The Snake Charmer

Snake charming is a very old form of entertainment. Practiced mostly in the East, some Western circuses have incorporated this into their repertoire. Because of its unusual hood and nervous disposition, the spectacled cobra is the most popular snake used, but other impressive-looking snakes, like the royal snake and the red sand boa, are also used. As the charmer, a skilled showman, plays his pipes, the cobra rises from its basket and spreads its hood into its normal defensive position. Movements by the snake charmer cause a reaction in the snake as it keeps an eye on him, always being ready to attack. Most cobras used by snake charmers

Saved by the Cobra

Two families in Sastur village in India have reason to be grateful to a cobra. They were wakened about 3:50 a.m. on September 30, 1993, by the loud hissing of a cobra as it slithered out of their house. They chased it into the fields to kill it. At 4:00 a.m., the horrendous earthquake in central India flattened their village killing almost everyone. The two families survived

—thanks to the early-warning system of the cobra!



have their fangs removed, but some men risk working with venomous snakes.

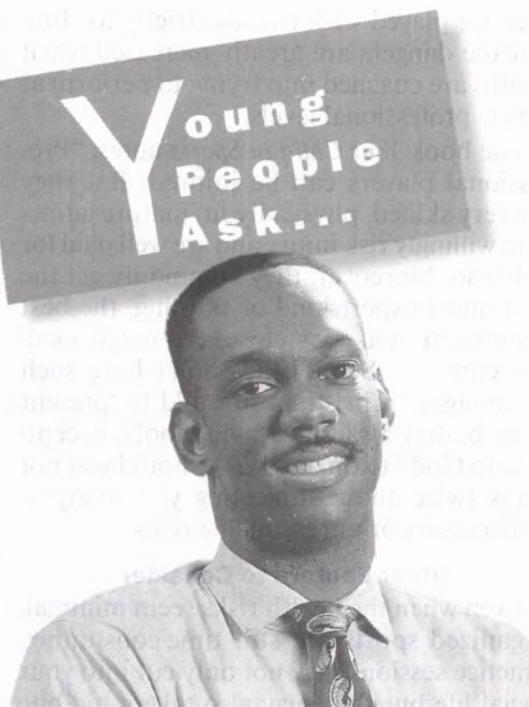
In ancient India the itinerant snake charmer was also a relater of religious ideas and myths, which gave him popular appeal. Today it is more lucrative to have a performance outside hotels frequented by camera-happy tourists. Some snake charmers visit homes and inform the householder that his large garden is a likely spot for snakes. For an agreed sum, he offers to catch them. He disappears into the bushes, and after some time, during which the sound of his pipes can be heard, he returns with a bagful of snakes. Of course, the householder would have been wise to supervise him or at least to check whether he brought a bag of snakes with him!

Snake Parks Educate

Snake parks encourage interest in reptiles. They sponsor research, educate on snake-bite prevention and cure, and work for the protection of snakes from man's greed and ignorance. Cobras have been killed for their beautiful skins, which are made into belts, purses, shoes, and other luxury items. In one year more than ten million snakes were killed in India for the skin industry. Snakes are killed and then skinned immediately. Vegetable dyes are used in India to give the skin color, and it is glass-polished and sometimes sprayed with lacquer to make it shiny and water-repellent.

The value of the cobra cannot be overestimated. It saves tons of grain by killing rats and other vermin. Its venom provides antivenins, painkillers, and other medicines. The Tata Memorial Cancer Institute in Bombay is studying the effect of cobra venom on cancer cells.

Have you enjoyed meeting the cobra? Beautiful, useful, cautious, well-equipped to defend itself. Getting to know it better can help us to appreciate a much-maligned member of the animal kingdom.



Should I Join a Sports Team?

WHAT'S so great about being on a team?" asked an article in *Seventeen* magazine. In answer the article said: "You're working together toward a common goal, so you become really close. You also learn people skills, like how to solve problems with a group, how to be flexible and considerate, and how to compromise."

Thus, playing organized sports appears to have benefits, not the least of which are fun and exercise.* Some even claim that playing team sports helps one build character. One youth baseball league thus has the motto, "Character, Courage, Loyalty."

* See "Young People Ask . . . Team Sports—Are They Good for Me?" appearing in our February 22, 1996, issue.

The problem is, organized sports do not always live up to such noble ideals. Says the book *Kidsports*: "In some instances impressionable youngsters learn to swear, cheat, fight, intimidate, and hurt others."

Win at All Costs?

Admitted an article in *Seventeen*: "There's a darker side of sports, where people put tremendous value on winning." This runs directly counter to the Bible's words: "Let us not become egotistical, stirring up competition with one another, envying one another." (Galatians 5:26) While a mild dose of friendly competition can add interest and enjoyment to a game, an overly competitive spirit can breed antagonism—and take the fun out of playing.

Jon, a former high school football player, recalls: "We had this coach who was a real maniac; always screaming and yelling at us . . . I dreaded going to practice. . . . I felt as if I were in a concentration camp." While not all coaches are abusive, many do place too much stress on winning. One writer concluded: "Many athletes . . . reach a point where the joy of competing gives way to an unbearable burden to succeed." What can result?

Science News reported on a survey that revealed that among college football and basketball players, "12 percent reported problems in at least two of five areas: psychological distress, physical distress, difficulty in avoiding drugs or alcohol, mental and physical abuse, and poor academic performance." Along the same lines, the book *On the Mark* reports: "Almost everyone connected with organized athletics agrees that there is a major drug abuse problem in sports at all levels."

Moral Compromises

The pressure to win can also cause a young player to compromise reasonable standards of fairness and honesty. The book *Your Child in Sports* observes: "In the modern world of

sport, winning is not just good; it is the only thing. Losing is not only bad, it is unforgivable."

Another harsh reality: Coaches often put players under tremendous pressure to injure their opponents. An article in *Psychology Today* said: "To be good in sports, you have to be bad. Or so many athletes, coaches and sports fans believe." One professional football player describes his everyday self as "soft-spoken, considerate and friendly." But on the playing field, he goes through a Jekyll-and-Hyde transformation. Describing his on-field personality, he says: "I'm mean and nasty then. . . . I'm so rotten. I have a to-

"We had this coach who was a real maniac; always screaming and yelling at us . . . I dreaded going to practice"

tal disrespect for the guy I'm going to hit." Coaches often encourage such a disposition.

The Bible encourages Christians: "Clothe yourselves with the tender affections of compassion, kindness, lowliness of mind, mildness, and long-suffering." (Colossians 3:12) Could you cultivate such qualities if you received daily pep talks urging you to hurt, crush, and maim your opponents? Sixteen-year-old Robert admits: "I've played organized sports. You don't care who you hurt as long as you win." Now that he is a baptized Christian, his views have changed. He says: "I would never go back to that."

Bodily Training or Bodily Injury?

Not to be overlooked, either, are the physical risks. True, sports entail risks even when

they are played with friends strictly for fun. But the dangers are greatly increased when youths are coached into trying to perform at nearly professional levels.

The book *Your Child in Sports* notes: "Professional players can be injured. But they are very skilled, physically fit, mature adults who willingly risk injury and are well paid for doing so. Moreover, they commonly get the best, most expert kind of training, the best equipment, and very close, top-notch medical care. . . . School kids don't have such advantages." Christians are told to 'present their bodies a sacrifice living, holy, acceptable to God.' (Romans 12:1) Should you not think twice about subjecting your body to unnecessary or unreasonable risks?

Other Factors to Consider

Even when the health risks seem minimal, organized sports are still time-consuming. Practice sessions may not only cut into your social life but they may also take a big bite out of time that should be set aside for study and homework. *Science News* reported that college athletes tended to have "slightly lower grades" than other students that engaged in extracurricular activities. More important, you might find that playing on a team makes it difficult to pursue what the Bible calls "the more important things"—spiritual interests. (Philippians 1:10) Ask yourself, 'Will joining the team require me to miss Christian meetings, or will it limit my share in the preaching work?'

Weigh carefully, also, the possible results of spending long hours with youths and adults who do not share your views on morals, clean speech, or competition. After all, the Bible does say that "bad associations spoil useful habits." (1 Corinthians 15:33) Consider, for example, an article in the Op-Ed page of *The New York Times*: "The locker room . . . is a place where men discuss women's bodies in graphic sexual terms, where they boast about 'scoring' and joke about

beating women." How would you fare spiritually if you chose to be in such an environment?—Compare James 3:18.

Making a Wise Decision

Have you been thinking of joining a sports team? Then perhaps the foregoing will help you to count the cost of doing so. Take into consideration the consciences of others when making your decision. (1 Corinthians 10:24, 29, 32) Of course, no hard-and-fast rule can be made, since circumstances differ the world over. In some areas students may even be required to participate in sports. But if you are in doubt, talk things over with your parents or with a mature Christian.

Many Christian youths have made the

tough decision not to play team sports. This is not easy if you are athletic and really enjoy sports! Pressure from teachers, coaches, and parents can add to the frustration. Young Jimmy admits: "I find it's a struggle with myself not to play. My unbelieving father was a great athlete in his high school days. It sometimes gets tough for me not to join a team." Even so, the support of believing parents and mature Christians in the congregation can do much to help you stick to your resolve. Says Jimmy: "I am thankful for my mom. At times I am depressed over the pressure to play sports. But she is always there to remind me of my real goals in life."

Team sports may teach players cooperation and problem solving. But there is ample opportunity to learn such things by working within the Christian congregation. (Compare Ephesians 4:16.) Team sports may also be fun, but you don't have to be on a team to enjoy them. Some sports can be enjoyed with Christian friends in a backyard or a local park. Family outings may provide further opportunities for wholesome play. "It's so much better playing with others from your congregation," says 16-year-old Greg. "It's just for fun, and you are with your friends!"

Granted, a backyard game will probably not give the same thrill as being on a winning team. Never forget, though, that at best "bodily training is beneficial [only] for a little; but godly devotion is beneficial for all things." (1 Timothy 4:8) Develop godly devotion, and you will truly be a winner in God's eyes!

All too often, coaches stress winning—even if it means causing injury to others



Health and the Environment

By Awake! correspondent in Nigeria

Godo-Foto



Each year worldwide, 49 million people die. About 75 percent of these deaths are premature, the cause being related to poor environment and life-style, according to a report by the World Health Organization (WHO). Consider some examples:

- **Cancer** kills five million each year. Much of this, WHO reports, "is directly attributable to the massive increase in cigarette smoking in the past 30 years."
- **Diarrheal diseases**, killing more than three million children annually, are often caused by contaminated food and water, as well as by a lack of proper sanitation.
- **Tuberculosis**, slayer of three million yearly, prospers in conditions of poverty and over-crowding, especially where there is poor sanitation.
- **Respiratory infections**, mainly pneumonia, kill three and a half million youngsters under five years of age each year. Many are city dwellers who are exposed to high levels of air pollution.

Aside from these fatalities, annually some two and a half billion—nearly half the world's population—suffer from sicknesses that stem from insufficient or contaminated water and poor sanitation. Additionally, such current concerns as acid rain, the weakened ozone layer, and global warming are linked by WHO to the declining health of many. Overall, the WHO report noted, more than two billion persons live in life-threatening or health-threatening environments.

Dr. Hiroshi Nakajima, director general of WHO, warns: "If we do not act now, the crisis for the Earth and its inhabitants will become intolerably acute, with an environment that is no longer sustainable."

The Bible promises that there will be a time when "no resident will say: 'I am sick.'" (Isaiah 33:24) This will be accomplished, not by man's efforts, but by God's Kingdom, which will eradicate sicknesses and their cause.—Revelation 21:3, 4.

God's Gift of Balance

"IT'S just sea legs," my friends told me, "and it can last several days." It was October 1990, and I had just stepped off a cruise ship onto dry ground after a seven-day trip on the Caribbean. What I thought was going to be a few days' experience, however, has lasted for many months. It was as if I never got off that ship. Something went wrong with my vestibular system, the intricate balance system of the inner ear with its central connections in the brain.

What Is It? How Does It Work?

The coordinating center for your balance is found at the base of your brain called the brain stem. When you are healthy, you keep your balance because innumerable impulses are received from your eyes, your muscles, and your vestibular system.

Your eyes provide the brain stem with continuous sensory input about your external surroundings. Sensory receptors in your muscles, called proprioceptors, funnel information to your brain about the type of surface you are walking on or touching. But it's your vestibular system that acts as an internal guidance system that tells your brain where your body is in space relative to the earth and its force of gravity.

The vestibular system is made up of five parts that deal with balance: three semicircular canals and two sacs. The semicircular canals are named the superior canal, the horizontal (lateral) canal, and the inferior (posterior) canal. The two sacs are called the utricle and the saccule.

The semicircular canals lie in planes at right angles to each other, like the walls and floor meeting at the corner of a room. The canals are passageways making up a labyrinth

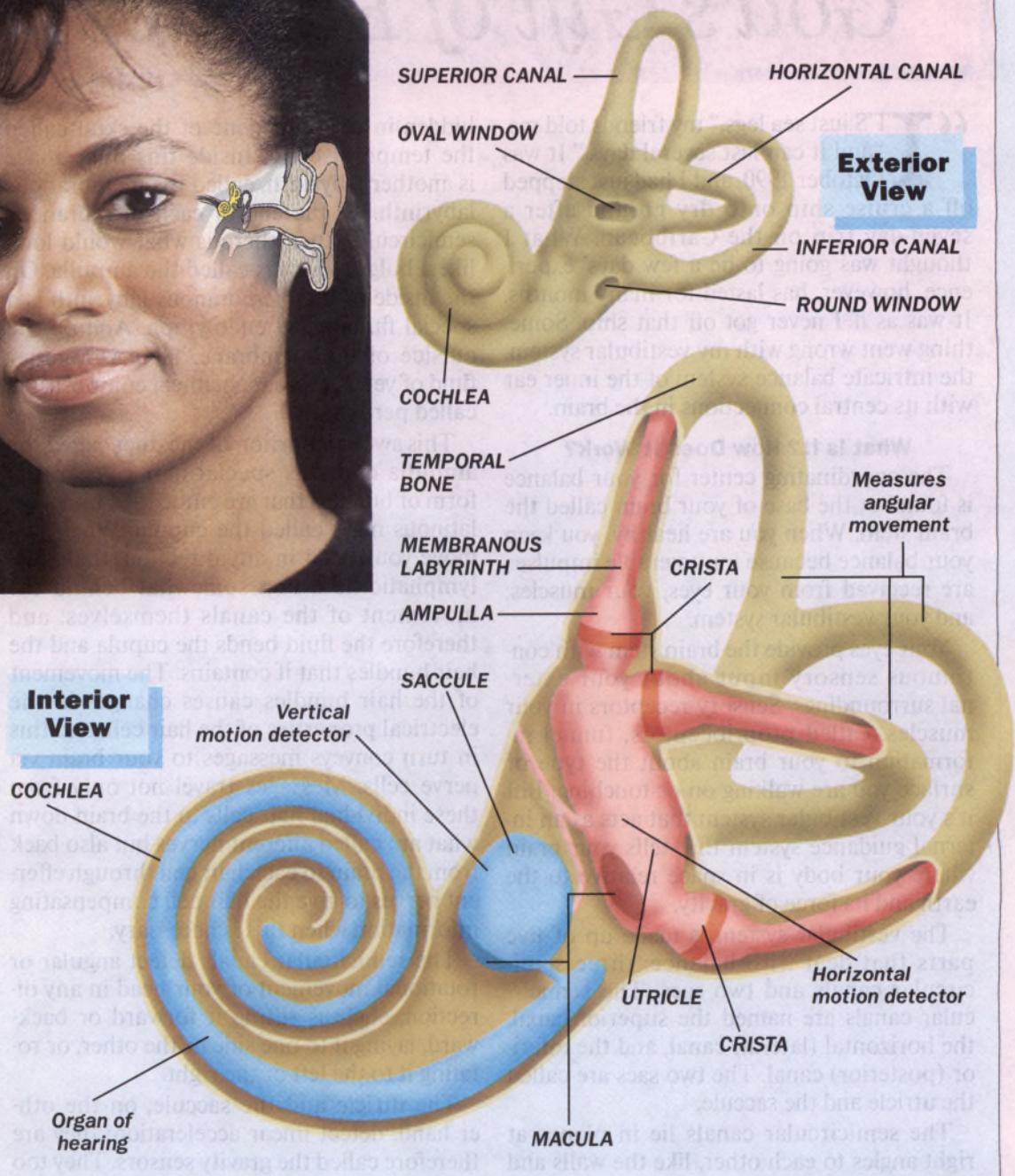
hidden in the hard bone of the skull called the temporal bone. Inside this bony maze is another labyrinth, called the membranous labyrinth. At the end of each membranous semicircular duct, there is what would look like a bulge, which is called the ampulla. On the inside of the membranous labyrinth is a special fluid called endolymph. And on the outside of the membrane, there is another fluid of yet a different chemical composition, called perilymph.

This swollen portion of the duct called the ampulla contains special hair cells in the form of bundles that are embedded into a gelatinous mass called the cupula. When you move your head in any direction, the endolymphatic fluid lags somewhat behind the movement of the canals themselves; and therefore the fluid bends the cupula and the hair bundles that it contains. The movement of the hair bundles causes changes in the electrical properties of the hair cell, and this in turn conveys messages to your brain via nerve cells. Messages travel not only from these individual hair cells to the brain down what are called afferent nerves but also back from the brain to each hair cell through efferent nerves to give the hair cell compensating information when this is necessary.

The semicircular canals detect angular or rotational movement of your head in any direction, such as tilting it forward or backward, laying it to one side or the other, or rotating it to the left or the right.

The utricle and the saccule, on the other hand, detect linear acceleration; they are therefore called the gravity sensors. They too contain hair cells in what is called the macula. The saccule would, for instance, send

Your Amazing Vestibular System



information to your brain that would give you the sensation of accelerating upward when you rise in an elevator. The utricle is the main detector that responds when you're riding in a car and suddenly accelerate. It sends information to your brain to give you the sensation of being thrust forward or backward. Your brain then combines this information with other impulses to make decisions, such as how to move your eyes and limbs to respond to your apparent motion. It helps you to keep your orientation.

It's a marvelous system that honors its Designer, Jehovah God. Even research scientists cannot help but be impressed by its design. A. J. Hudspeth, professor of biology and physiology, wrote in the magazine *Scientific American*: "Further work, however, can only reinforce a sense of wonder at the sensitivity and complexity of this miniaturized piece of biological apparatus."

Malfunctions of the Vestibular System

In my case my inner-ear problem was diagnosed as otospongiosis or otosclerosis. This is a condition where the bone in which one's vestibular system resides becomes soft or spongy. Normally this bone stays very hard, even harder than the bone material of the rest of your body. In the process of softening, it is thought, an enzyme is produced that seeps into the fluid of the inner ear and disrupts it chemically or in effect poisons the fluid. This can cause the bizarre sensation of constant movement even though you may be standing or lying still.

For me it made the pavement below my feet feel as though it were rippling in a wave motion sometimes as much as a foot high. When lying down, I felt as if I were lying in the bottom of a rowboat in the midst of three-foot-high ocean waves. The sensation did not come and go as in the case of some dizzy spells, but it came and stayed with me 24 hours a day for months on end. The only

relief came when I was unconscious while sleeping.

Causes and Treatments

The cause of otospongiosis/otosclerosis is still unknown, although some connection with the hereditary factor may be involved. The condition has been hard for medical science to study because it seems to be unique to humans. Rarely, if ever, does it appear in animals. Otospongiosis can cause tinnitus (ringing in the ear), a feeling of fullness, light-headedness, an off-balance feeling, or various forms of vertigo (dizziness). The same condition can cause a fixation of the stapes in the middle ear and cause conductive hearing loss. If otospongiosis reaches the cochlea, it can also cause sensorineural hearing loss by destroying nerve function.

There are treatments for this condition. Some involve surgery (see *Awake!* of July 8, 1988, page 19); others attempt to arrest the bone deterioration through calcium and fluoride supplements. Sugar-free diets are sometimes suggested because the inner ear is extremely hungry for blood sugar. In fact, the inner ear requires three times as much sugar to energize it as an equivalent volume of the brain does. A healthy ear handles the normal fluctuations in blood sugar quite well; but once the ear is damaged, these fluctuations can cause you to spin. Caffeine and alcohol also seem to be detrimental once your inner ear is not functioning properly. Although the cruise ship ride, mentioned at the beginning of this article, didn't really cause the problem, the changes in temperature, humidity, and eating habits likely triggered the disequilibrium.

Your inner ear does more than hear for you. In a marvelous and wonderful way, it helps you to keep your balance. Its design should make us marvel at the handiwork of our Maker, and it should deepen our appreciation for his Creatorship.—Contributed.

WATCHING THE WORLD

Marriages Jolted

Many wives in the area of Kobe, Japan, are disgruntled over their husband's behavior during and after the earthquake that devastated that region early in 1995. "Cracks have developed not only in our house but also in our relationship since I now realize that I cannot trust my husband," said one wife who was quoted in the *Asahi Evening News*. The husbands are in trouble for being insensitive, for not giving comfort when it was sought, and most of all, for trying to save only themselves. One wife "was shocked that her husband ate all the rice-balls handed out to them, without leaving any for her," reports the Hyogo Prefecture Women's Center. Another wife told the center: "I lost total confidence in my husband after he called out the names of our children but did not mention my name." The center added, however, that about the same number say their relationships were strengthened by the quake.

The Return of the Almost Extinct

An "Italian miracle"—that, according to the Milan newspaper *Corriere della Sera*, is how some are describing the way several animal species have returned from the brink of extinction. Largely because of protected areas in the Alps and the Apennines, such animals as deer, chamois, fallow deer, and roe deer are on the increase in Italy. The Apennine wolf, which is enjoying a great increase in numbers, is now spreading from Italy into the French Maritime Alps. There

are, however, still species in danger, such as the otter and the monk seal, but experts are convinced that serious conservation programs "cannot fail to bring long-term, real, and positive results," says the *Corriere della Sera*.

The Perfect Winter Coat

Scientists attempting to spot polar bears from airplanes have a very difficult time—and not just for the obvious reason that the bears are white and dwell on snowscapes. According to *Popular Science*, scientists had what seemed a clever solution to that problem: they used sensitive infrared film, reasoning that it



would easily detect the body heat emanating from these massive creatures. But the film came back blank! It seems that the polar bear's coat is so effective an insulator that very little heat at all escapes from the animal. The magazine notes too that the hair of the coat seems to be good at conducting the sun's ultraviolet rays, drawing them in to what may be "solar cells" in the bear that somehow manage to convert such light into heat.

Fainting Fans

Why do so many fans faint at rock concerts? A neurologist

at University Hospital in Berlin, Germany, recently investigated that phenomenon. At a Berlin rock concert attended primarily by young women, some 400 fainted during the performance. According to *Discover* magazine, the neurologist found that 90 percent of the fainters had been standing in the front rows. To obtain these choice seats, the girls had waited for hours in long lines, and many had not eaten recently or slept the night before. Other factors—their own screaming and the press of the crowds from behind—put pressure on the chest, which reduced blood pressure. This, in turn, deprived the brain of its supply of blood. Fainting ensued. While the neurologist recommended that rock fans eat and sleep beforehand, remain seated, and stay calm and away from the crowd during the show, he acknowledged that few teenage fans would be likely to comply.

Free Baby-Sitting?

Harried suburban parents have found a new way to get others to watch their children so they can be free to do some shopping. They leave their kids in a toy store or a multimedia computer store. Children, who are fascinated with the high-tech machines, play with demonstration models until parents return. Not surprisingly, though, salespeople are less than thrilled by the trend, reports *Newsweek* magazine. They complain that at best, children keep the display models from potential customers; at worst, they break them. Others have found that some parents return

and complain if no one has kept track of their children or taken them to the bathroom! Thus, some stores are fighting the trend—either making display computers less accessible or calling security if they find children who are unattended.

Dunes in Danger

"Israel is running out of sand." So reported *New Scientist* magazine recently. Why the unlikely-sounding shortage? Well, sand is a key ingredient in concrete, for which the country's booming construction industry has an insatiable need. So for the past 30 years, with very little government regulation, developers have been carting off sand by the truckload from Israel's great coastal sandbank, which once stretched from Jaffa to Gaza. And thieves steal a million tons of the sand each year to sell on the black market. Ecologists worry that the dwindling, fragile ecosystem of the sand dunes, on which only a few species of plants and animals are able to survive, is being ruined. And developers are beginning to wonder where their sand will come from when Israel's supply runs out.

Japanese Health Suffers Western Influence

The people of Japan have the longest life expectancy in the world, but the influence of Western life-styles may be eroding that status. *New Scientist* reported recently that of 2.1 million people given a physical exam in 1994, only 18 percent were given a clean bill of health. Ten years earlier, that figure was 30 percent. According to one of the authors of a report by the Japan Hospital Association, the culprit is the high fat and cholesterol content of

Western-style foods, along with an increase in smoking and the consumption of alcohol. The largest health declines were seen in highly industrialized regions, such as the Osaka-Kobe area. In contrast, the healthiest region is in the north, in the rural parts of the island of Hokkaido.

Where the Time Goes

Where has the day gone? Many ask that question rhetorically, but a recent study endeavored to answer it scientifically. A research concern in



Illinois, U.S.A., conducted a three-year study of the daily activities of some 3,000 people who were asked to keep ongoing records of how they were spending their time. The group ranged in age from 18 to 90 and covered a wide range of backgrounds. The leading time consumer was sleep. This was followed by work, which took up an average of 184 minutes per day. Watching TV and videos came next, with 154 minutes. Household chores took 66 minutes, traveling and commuting 51, grooming 49, and child and pet care 25. Near the bottom of the list was worship, which took an average of 15 minutes per day.

More Churches for Sale

Investors are rushing to get their hands on seldom-used

church buildings in Australia's northern state capital of Brisbane in Queensland, according to real estate agents. Two factors are said to be responsible: declining church attendances and a quest by investors to buy "something unique." *The Courier-Mail* newspaper reports that more than a dozen churches are currently up for sale and that some have already been converted into homes and offices in Brisbane. The newspaper quotes a director of commercial sales as saying: "Quite a few" of the churches have been "used as restaurants, galleries, antique stores, offices, or homes." A real estate agent said: "I wish I had more of them to sell."

Secularized to the Bare Bones

The German state of Bavaria is staunchly Roman Catholic. In fact, Bavarian school regulations make it compulsory that a crucifix be put in every classroom in all state-owned schools. However, the Federal Constitutional Court has now declared this regulation invalid because it is out of harmony with the Basic Law of Germany, which guarantees freedom of religion, reports *Süddeutsche Zeitung*, a German newspaper. A "black day in the history of our people," bemoaned Archbishop Meisner of Cologne, according to the *Westfälische Allgemeine Zeitung*. Some were more surprised by the controversy than by the decision itself. After all, German society "has been secularized down to its bare bones," writes the Hamburg paper *Die Zeit*, and "pays homage to materialism, consumerism, and pure self-realization."

FROM OUR READERS

Women of India I appreciated the article "Women of India—Moving Into the 21st Century." (July 22, 1995) I have always found India fascinating, as it has a culture very different from my own. Your article showed that real liberation will come to the Indian woman only under God's Kingdom. I look forward to the time when all women will truly be loved and cherished by the husbands they respect.

W. S., British Columbia

Rejected by Family I am 14 years old, and I am writing to thank you for the article "The Family That Truly Loved Me." (July 22, 1995) It really strengthened my faith. Udom Udoth is a good example for youths everywhere. He really showed that you can stand up for the truth at a very early age.

A. M., United States

Like Udom, after I began studying God's Word, opposition came my way. I too was told to leave home. After much verbal and physical persecution, I left. I was graciously cared for by an elder and his wife. Your article really strengthened me. What a joy it is to belong to this unique global family!

L. J., United States

Becoming God's Friend Thank you very much for the article "Young People Ask . . . Can I Really Be a Friend of God?" (July 22, 1995) It moved me to tears. I am 13 years old and have done some very bad things. Others tried to encourage me, but I still found it hard to pray to Jehovah. I thought he didn't love me anymore because of my many mistakes. This article showed me that God forgives and that I can pray to him.

J. D., Germany

Like Doris, who was quoted in the article, I felt unworthy of being God's friend. I thank Jehovah for providing me with this assis-

tance. It has helped me to understand that if I repent of my bad actions, he is willing to forgive me and be my Friend. I hope you never stop printing these articles for the youths.

B. M. A., Spain

Menopause We manage a pharmaceutical company specializing in gynecologic medicines. We found the article about menopause entitled "Gaining a Better Understanding" (February 22, 1995) to be most interesting, and we are pleased that you handled the subject. However, the box "What About Estrogen Replacement Therapy?" states that "adding progesterone to the hormone replacement regimen . . . counteracts the beneficial effect of estrogen on heart disease." This is not always true, especially of natural progestins.

Dr. T. W. and J. K., Germany

Thank you for updating us. While older sources indicated that progestins might lower levels of HDL, or "good" cholesterol, thus increasing the risk of heart disease, more recent research indicates otherwise. A recent study reported in the January 18, 1995, issue of "JAMA" claims that "estrogen alone or in combination with a progestin improves [levels of "good" cholesterol]." No doubt more research will have to be done before all of the long-term effects of hormone treatments are fully understood.—ED.

Evolution I have just finished reading the series "The Theory That Startled the World—What Is Its Legacy?" (August 8, 1995) My reaction? More than impressed. Overwhelmed! The article was written so colorfully, so comprehensively. Every quote revealed extensive research. Above all, it was enlightening as to the real effect of the evolution teaching on the mind of man. I had no idea! There's a famine in the world for quality reading, but you have met the challenge.

R. H., United States

THOSE OBNOXIOUS FLIES

More Useful Than You Think?

MOST of us consider flies to be either a nuisance or a downright danger to society. But biologists are discovering that flies, bothersome as they may be, are more useful than we might think.

Many species spend much of the day visiting flowers, fast-food outlets that offer their insect clients both nectar and pollen. Some flies that can extract the nutrients from pollen—no mean feat in itself—depend on this high-energy food to develop their eggs.

While visiting one flower after another, the flies inevitably pick up sticky grains of pollen, which attach themselves to their bodies. One fly that was carefully examined by biologists had 1,200 grains of pollen on his body! As more research has been done on the pollination role of flies, scientists have discovered that some flowers depend on them for their survival.

The magazine *Natural History* describes a series of experiments carried out in Colorado, North America. Common muscoid flies, which resemble houseflies, were dusted with bright colors so that they could be tracked easily. After monitoring their daily activity, the researchers were surprised to discover that for some wildflowers the flies were more important pollinators than the bees and that they ranged a lot farther than bees.

How important is the flies' work? Some flowers were covered over with netting so that they could not be visited. These flowers produced no seed at all—in sharp contrast with the fruitful ones nearby that were pollinated by flies. Although some flowers were principally pollinated by bees, in the case of other species such as wild flax or wild geranium, at some elevations the flies performed over 90 percent of this work.

What was the conclusion of Carol Kearns and David Inouye, two of the researchers? "For many wildflowers in the Colorado Rockies, then, flies overshadow bees, butterflies, and hummingbirds . . . Without these insects, which most people find slightly repulsive, many of the wildflowers that make visiting an alpine meadow so delightful would fail to set seed." No doubt about it, flies have their uses!



A NIGHT OF REMEMBRANCE

...the moon will rise
at 10:48 p.m.
and it will be
bright enough
to illuminate
the sky. It
will be a
full moon
and it will
be a
memorial
moon.

