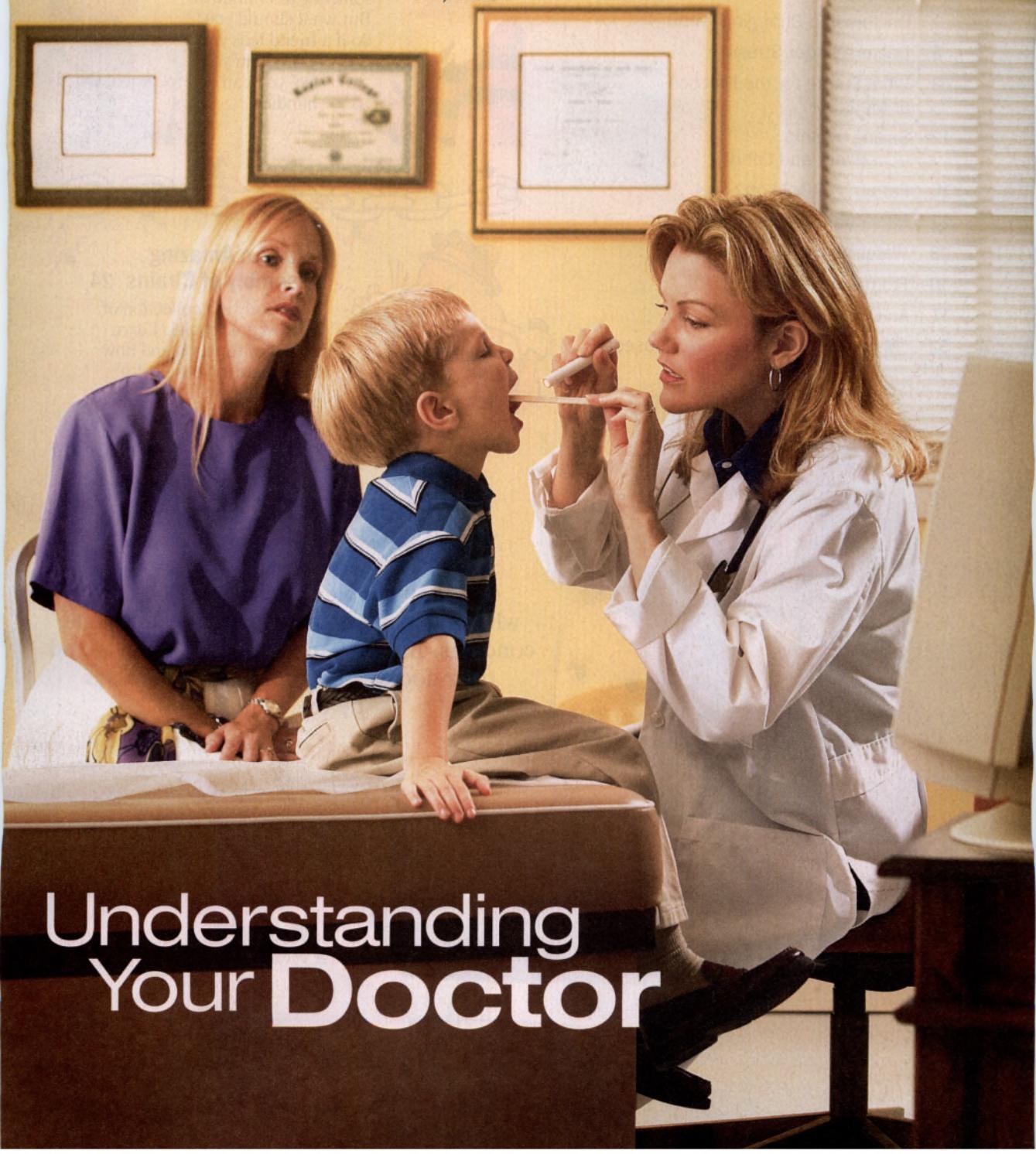


# Awake!

JANUARY 22, 2005



Understanding  
Your **Doctor**

# **Awake!**

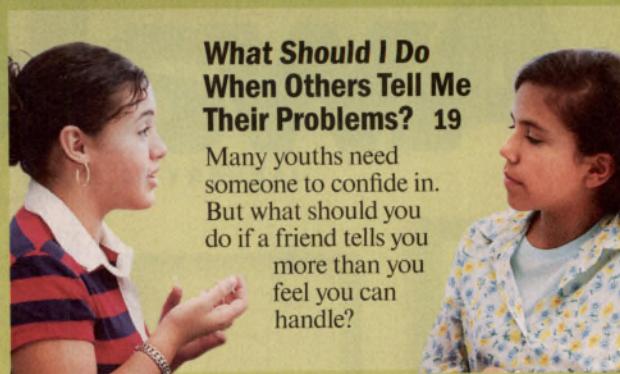
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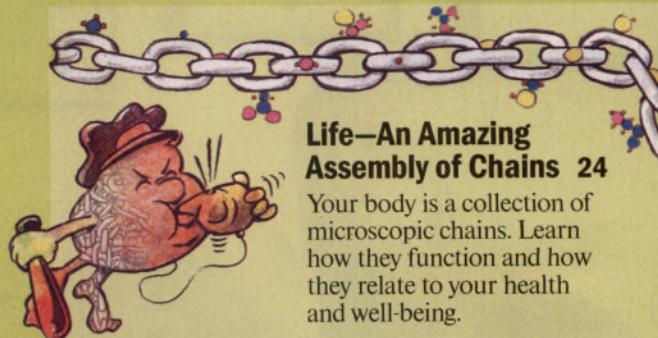
## **What Should I Do When Others Tell Me Their Problems? 19**

Many youths need someone to confide in. But what should you do if a friend tells you more than you feel you can handle?



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Your body is a collection of microscopic chains. Learn how they function and how they relate to your health and well-being.



## **Understanding Your Doctor 3-11**

Many people appreciate a doctor who understands the patient's feelings and concerns. But how many patients understand their doctor's feelings and the stresses he lives with?

# Doctors in a Changing World

In 1174, Maimonides was appointed court physician to the rulers of Egypt and spent most of his days at the palace. Concerning his arrival home each day, he wrote: "I partake of some light refreshment, the only meal I eat in twenty-four hours. Then I go to attend to my patients and write prescriptions and directions for their ailments. Patients go in and out until nightfall, and sometimes . . . I am so exhausted I can hardly speak."

BING a doctor has always required self-sacrifice. But the world in which doctors practice today is rapidly changing. Their work schedule can still be just as exhausting as that of Maimonides. But are they respected as much as doctors used to be? How have new circumstances affected the doctor's way of life? And how have recent developments changed the doctor-patient relationship?

## A Changed Relationship

Some can still remember the time when a doctor could carry all his remedies in his black bag. There were mixed feelings about doctors in those days, just as there are now. Most were revered for their ability, respected for their rank, and admired for their ethics. At the same time, however, they could be criticized for their fees, berated for their failures, and denounced for their seeming lack of compassion.

Still, many doctors derived deep satisfaction from helping the same family for generations. They used to make numerous house calls, and in country areas they sometimes stayed for a meal or even spent the night



**Maimonides**  
Brown Brothers

when delivering a baby. Many doctors personally made up prescriptions of medicine for their patients. Unselfish physicians provided free treatment for those of little means and were available 24 hours a day, 7 days a week.

Of course, some physicians still work that way, but in many places the nature of the doctor-patient relationship has probably changed more in the past few decades than it has in many centuries. How have these changes come about? Let us look first at the home visit.

## What Happened to House Calls?

Visiting patients in their homes used to be the accepted way to practice medicine, and in some lands it still is. But worldwide the custom has been in decline. *The Times of India* said: "The family doctor with his reassuring bedside manner, intimate knowledge of the family and willingness to make house calls whenever required, is becoming an extinct species in an age of specialists and superspecialists."

Because of the explosion of medical knowledge, many physicians have specialized and work as part of a group, with the result

*In the past, doctors often made house calls*



that patients may see a different doctor each time they are sick. Consequently, many doctors cannot enjoy the long-term relationship with families that they used to have.

The move away from visiting patients at home began a century ago, when doctors started to make greater use of laboratory analysis and diagnostic equipment. In many places health agencies came to see house visits as an inefficient way to use physicians' time. Today most patients are able to get transportation to visit a doctor's office. Also, auxiliary and emergency medical services now do work previously handled by doctors.

### Changed Status

In today's world fewer doctors are independent. Medical services are more often provided by government agencies or health-care companies that employ doctors. Many doctors, however, dislike having a third party in the doctor-patient relationship. Such agencies often require doctors to see more patients in less time. "I have to see a patient

every seven to ten minutes," says Dr. Sheila Perkins, a general practitioner in Britain. "And I have to spend much of that time entering information into the computer. There's little time left to build a relationship with the patient. It can be very frustrating."

The changing world in which doctors practice is one in which patients have gained more power. At one time the "doctor's orders" were unchallengeable. But in many lands today, doctors are obliged to inform the patient about treatment options and possible outcomes so that the patient can give informed consent to the treatment. The balance of the doctor-patient relationship has changed. In the eyes of some, the doctor's image has been reduced to that of a technician.

In our rapidly changing society, a large proportion of physicians are women. Female doctors are often more popular because they are seen as better listeners. So their influence on the profession seems to be to make it more compassionate.

Most people appreciate a doctor who understands patients' feelings and the stress they live with. But it is reasonable to ask, How many patients understand their doctor's feelings and the stress he lives with? Doing so could surely improve doctor-patient relationships. The following article may help.

## Awake!®

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

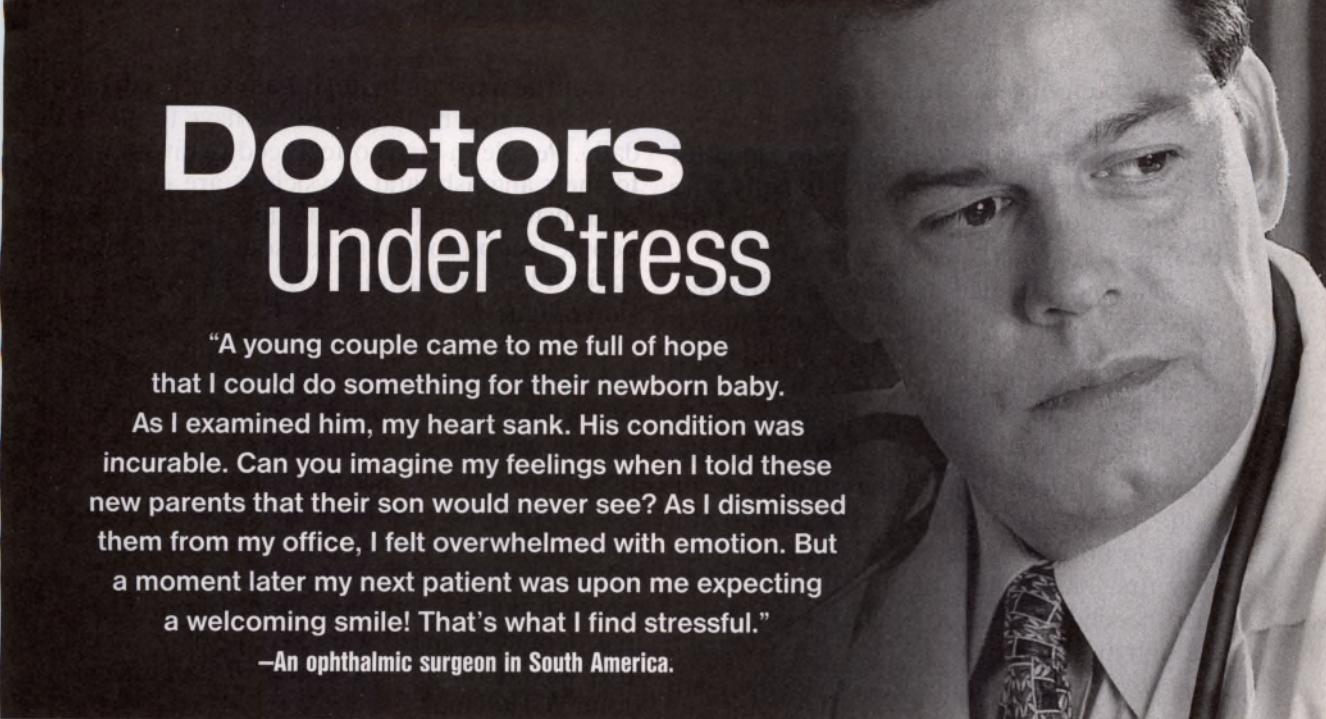
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# Doctors Under Stress

"A young couple came to me full of hope  
that I could do something for their newborn baby.

As I examined him, my heart sank. His condition was incurable. Can you imagine my feelings when I told these new parents that their son would never see? As I dismissed them from my office, I felt overwhelmed with emotion. But a moment later my next patient was upon me expecting a welcoming smile! That's what I find stressful."

—An ophthalmic surgeon in South America.



PATIENTS don't usually visit consulting rooms to consider their doctor's problems. A patient's mind is filled with his own need for help. Consequently, few people realize how much stress doctors live with.

Of course, everyone has to cope with stress, and the medical profession is not the only stressful occupation. However, since nearly everyone becomes involved in doctor-patient relationships in one way or another, understanding the stress doctors live with and the effects it can have on them is worthwhile.

Doctors start learning to live with stress

early in life as they struggle for a place in medical school. But when medical training starts, it is usually an unforgettable jolt to the emotions. It is the beginning of a process that can change the medical student's feelings, his very character.

## Medical Training—A Shocking Experience

The traumatic first visit to the dissecting room can be as early as the first week of medical studies. Many students may not have seen a corpse before. The sight of naked, shriveled bodies in different stages of being cut open to reveal the anatomy can be quite repulsive. Students have to learn strategies to cope

**Semimonthly Languages:** Afrikaans, Albanian, Arabic, Cebuano, Chinese, Chinese (Simplified), Croatian, Czech,<sup>2</sup> Danish,<sup>2</sup> Dutch, English,<sup>2,3</sup> Estonian, Finnish,<sup>2</sup> French,<sup>2</sup> German,<sup>2</sup> Greek, Hungarian, Iloko, Indonesian, Italian,<sup>2</sup> Japanese,<sup>2</sup> Korean,<sup>2</sup> Latvian, Lithuanian, Norwegian, Polish, Portuguese,<sup>2</sup> Romanian, Russian, Serbian, Slovak, Slovenian, Spanish,<sup>2</sup> Swahili, Swedish,<sup>2</sup> Tagalog, Ukrainian

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**Would you welcome more information?** Write Jehovah's Witnesses at the appropriate address: **America:** United States of Wallkill, NY 12589. **Australia:** Box 280, Ingleburn, NSW 1890. **Britain:** The Ridgeway, London NW7 1RN. **Canada:** Box 4100, Halton Hills (Georgetown), Ontario L7G 4Y4. **Ghana:** P. O. Box GP 760, Accra. **Jamaica:** P. O. Box 103, Old Harbour, St. Catherine. **New Zealand:** P.O. Box 75-142, Manurewa. **Nigeria:** P.M.B. 1090, Benin City 300001, Edo State. **South Africa:** Private Bag X2067, Krugersdorp, 1740. **Zambia:** Box 33459, Lusaka 10101. **Zimbabwe:** Private Bag WG-5001, Westgate.

with their emotions. Often they resort to humor, giving each cadaver a funny name. What seems appallingly callous and disrespectful to an outsider is necessary to students who are trying not to think of the person that the body used to be.

Then comes clinical training in a hospital. Most people are not forced into contemplating life's brevity until perhaps middle age. But medical students come face-to-face with incurable disease and death in their youth. One described his first experiences in the hospital as "disgusting to the point of revulsion." It can also be quite shocking to students in both rich and poor countries when they first realize how often patients are denied needed treatment because there is not enough money.

How do newly qualified doctors cope with the stress? Medical staff often have to distance themselves emotionally from patients by depersonalizing them. Instead of referring to the person needing attention, the staff may say, "Doctor, there's a broken leg in cubicle two." This may sound comical if you don't understand the reason for such a description.

#### **Compassion Fatigue**

Doctors are trained as scientists, but for many the greater part of their work consists of talking to patients. Some physicians feel unprepared for the emotion of doctor-patient relationships. As noted in the introduction,

one of the most difficult situations for a doctor is breaking bad news. Some have to do it daily. People in crisis often need to give vent to their anguish, and physicians are expected to listen. Dealing with anxious, frightened people can be so tiring that some physicians suffer a type of burnout now called compassion fatigue.

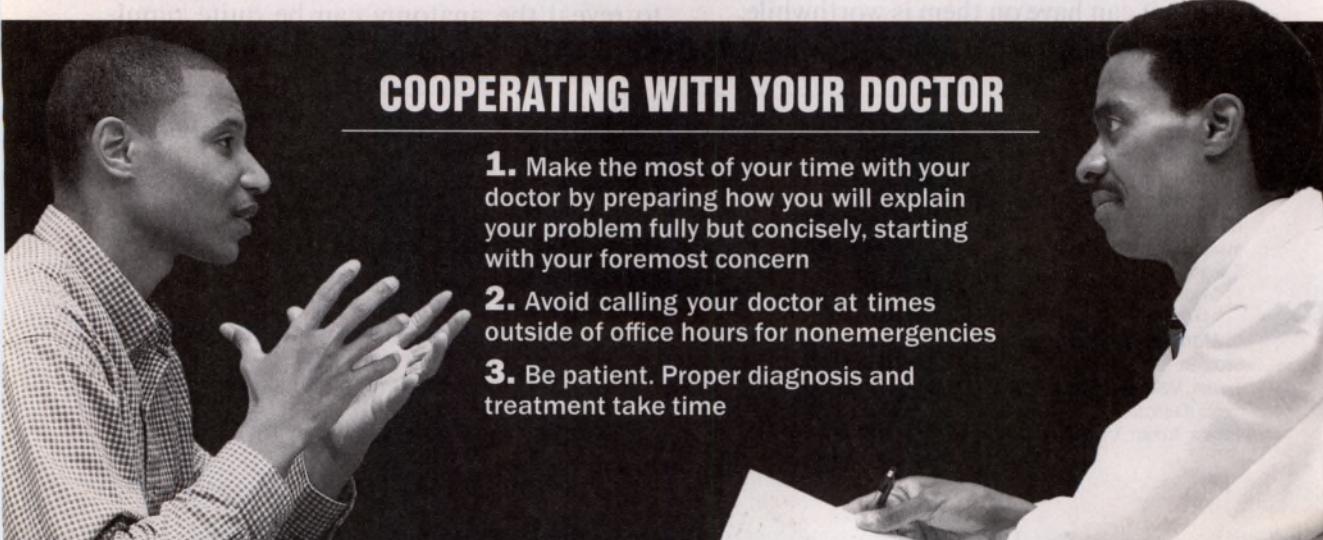
Recalling his early years, a family practitioner in Canada wrote: "Work was flooding me: needy people wanting my time; distressed people wanting to off-load their distress; ill people needing my action; manipulative people pushing and pulling; people coming to see me; people pressing for me to go to them; people coming down the telephone wires into my own home—and even my bedroom. People, people, people. I wanted to be of use, but this was madness."—*A Doctor's Dilemma*, by John W. Holland.

Does the stress ease with the passing of years? Seniority usually brings more responsibility. Often life-and-death decisions have to be made instantly, perhaps on the basis of inadequate information. "When I was young, it didn't worry me," explains a British doctor, "just as it doesn't worry youngsters to drive dangerously. But with age, you value life more dearly. Now, treatment decisions make me more anxious than ever."

How does stress affect doctors? The habit of distancing oneself emotionally from patients can carry over into family relation-

## **COOPERATING WITH YOUR DOCTOR**

- 1. Make the most of your time with your doctor by preparing how you will explain your problem fully but concisely, starting with your foremost concern**
- 2. Avoid calling your doctor at times outside of office hours for nonemergencies**
- 3. Be patient. Proper diagnosis and treatment take time**



## 'EVEN ROUTINE CASES CAN BRING SATISFACTION'

"The gulf between medical practice here and in more developed regions is huge. Here, learning a profession is viewed as a way to escape poverty, and so studying medicine is popular. But there are many doctors and few jobs. As a result, doctors are paid very little. Few people can afford to see a doctor as a private, paying patient. I work in an obsolete hospital with a leaking roof and only the most basic equipment. Our staff consists of two doctors and five nursing assistants. We serve 14,000 people."

"Sometimes patients think I don't examine them adequately, but when you have 25 patients waiting, you can't afford lengthy consultations. Still, treating patients brings me satisfaction, even routine cases. For example, mothers often bring in their undernourished, dehydrated children who have diarrhea. They have lackluster eyes and anxious faces. I just have to tell the mother how to use rehydration salts, parasite medicine, and antibiotics. Once these take effect, the child starts eating again. A week later he or she looks like a different child—bright-eyed, smiling, and playful. The prospect of enjoying such experiences made me want to be a doctor."

"Beginning in childhood, I dreamed of relieving sick people. But medical training changed me in a way that I did not expect. I saw people die for lack of even the small amounts of money they needed for lifesaving treatment. I had to make myself unfeeling so as not to be affected by the sadness. Only when the cause of suffering was shown to me in the Bible did I understand God's compassion and regain my ability to feel for others. I was then able to cry again."

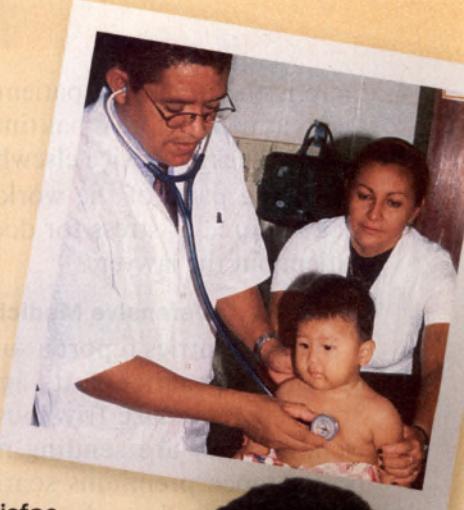
ships. Avoiding that tendency can be challenging. Some physicians are outstandingly compassionate in helping patients with their feelings. But how far can they go without suffering compassion fatigue? This is the doctor's dilemma.

### Coping With Difficult Patients

When asked about the stress of doctor-patient relationships, doctors often start by describing difficult patients. Perhaps you recognize some of the following types.

First, there is the patient who wastes the doctor's time by rambling on without coming to the point and explaining what his prob-

lem is. Then, there is the demanding patient who calls the doctor at night or on weekends for nonemergencies or demands treatment the doctor would prefer not to recommend. Also there is the distrustful patient. Some people research useful information about their condition, perhaps by Internet, and this can be helpful. But such research may lead them to lose confidence in the medical expert they have come to consult. A doctor may not have time to debate the pros and cons of everything that such research turns up. It is frustrating for a doctor when distrust makes his patient incompliant. Finally,



*Dr. Marco Villegas works in an isolated Amazonian town in Bolivia*

there is the impatient patient. He abandons the treatment before it has time to take effect, perhaps seeking advice elsewhere.

In some parts of the world, however, the major source of stress for doctors is not the patient but the lawyer.

#### Defensive Medicine

Many countries report a surge in the number of malpractice suits against doctors. Some lawyers make frivolous claims to win riches. "They are sending medical liability insurance premiums soaring," explained the president of the American Medical Association. "These lawsuits lead to other agonies as well. For a physician, a wrongful suit can cause great harm—embarrassment, loss

of time, . . . stress and anxiety." Some doctors have even been driven to suicide.

As a result, many physicians feel obligated to practice "defensive medicine," making decisions based on the possible need to defend them in court rather than on what is best for the patient. "Practicing medicine from the position of covering one's back is now a way of life," said *Physician's News Digest*.

As pressures on doctors continue to mount, many of them wonder what the future holds. Many patients have the same question, as they observe increased suffering from some diseases despite advances in medical science. The following article presents a realistic view of the future for both physicians and patients.

# What Future for the Practice of Medicine?

**A**SKING about the future for physicians often leads to speculation over advances in technology and the question of whether these will free physicians of routine tasks so they can spend more time with patients as individuals. The future for physicians, of course, is bound up with the wider question of the future for mankind. Two Bible books that shed light on that future relate the history of Jesus and his apostles. Both were written by a physician.

Why is it of particular interest to have a physician's viewpoint in those histories? What do they have to do with the future for physicians and for patients? Why do some physicians look forward to a time when their profession will not be needed?

Many physicians are careful observers. Luke, called "the beloved physician," was the

writer of the two Bible books, and he gave detailed descriptions of some of the sick people whom Jesus and also the apostles cured. (Colossians 4:14) Luke thus helps us to consider the questions: Did these things really happen? And if so, what does this imply for doctors and patients today?

#### Medical Evidence Examined

Luke had opportunity to verify the miraculous nature of those cures by interviewing eyewitnesses. In addition, he traveled extensively with the apostle Paul. Apparently, Paul healed a number of people while Luke was present. As we consider the physician's accounts of two such cures, notice how much detail he included.

Luke gives the time, date, and place of the following event: It was midnight on the first day of the week, and a group of Christians



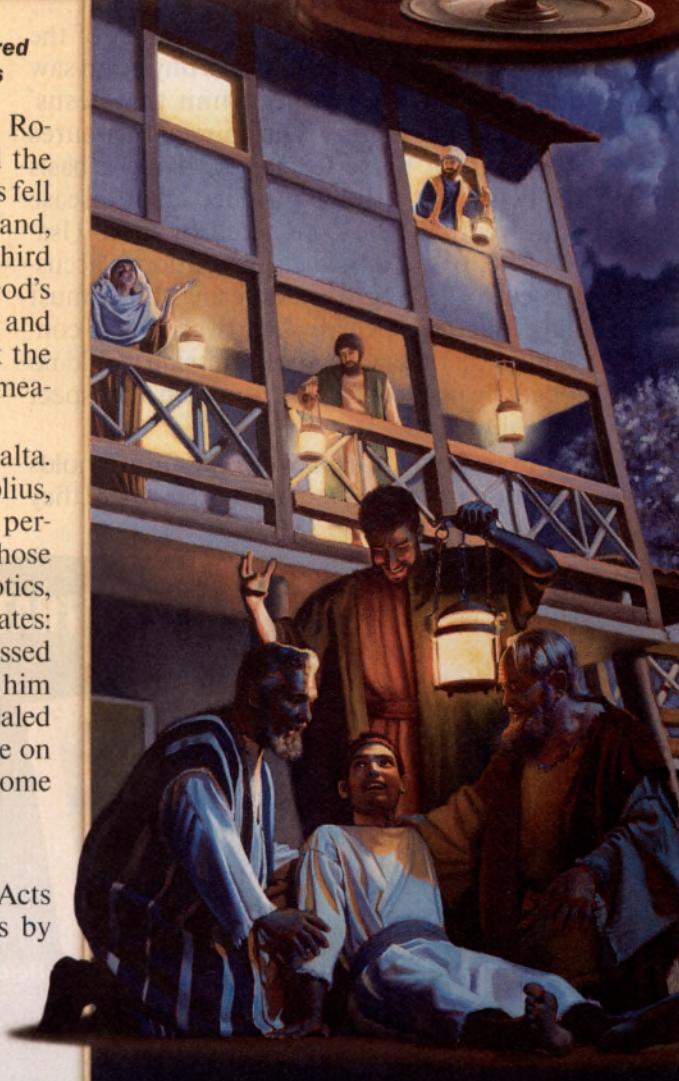
**The physician and Bible writer Luke was  
Paul's traveling companion when the apostle cured  
the father of Publius and resurrected Eutychus**

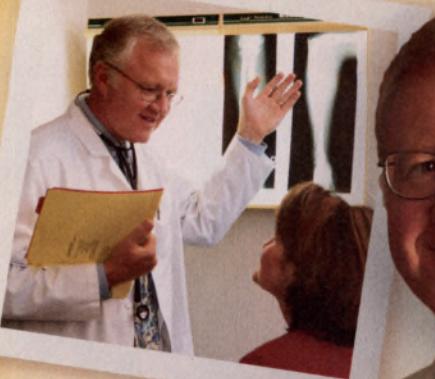
were in a third-story room in Troas, in the Roman province of Asia. (Acts 20:4-8) We read the details: "A certain young man named Eutychus fell into a deep sleep while Paul kept talking on, and, collapsing in sleep, he fell down from the third story and was picked up dead." Then with God's power, Paul cured the young man's injuries and restored him to life. After a meal, "they took the boy away alive and were comforted beyond measure."—Acts 20:9-12.

Luke reports that he was also with Paul in Malta. They were being entertained hospitably by Publius, "the principal man" of the island, when Paul performed another miracle. It involved a man whose condition, in those days before modern antibiotics, may well have been life threatening. Luke relates: "The father of Publius was lying down distressed with fever and dysentery, and Paul went in to him and prayed, laid his hands upon him and healed him. After this occurred, the rest of the people on the island who had sicknesses also began to come to him and be cured."—Acts 28:7-9.

#### **What Convinced the Physician?**

Luke wrote those accounts in the book of Acts while his readers could still verify the facts by





**Dr. Jon Schiller,  
United States**

talking to the people involved. Concerning what he recorded in the Bible book that bears his name, Luke wrote: “I have traced all things from the start with accuracy . . . that you may know fully the certainty of the things.” (Luke 1:3, 4) What this physician saw and researched convinced him that Jesus’ teachings were true. The miraculous cures were part of those teachings, giving a basis for belief in the Bible prophecy that disease will eventually be conquered by God. (Isaiah 35:5, 6) As a medical practitioner accustomed to dealing with suffering, Luke must have found it especially heartwarming to contemplate a time when his profession would no longer be needed. Do you find such a prospect appealing?

Interestingly, this is what the future holds for those who love God, no matter where they

live on earth. The Bible promises that under God’s Kingdom, “no resident will say: ‘I am sick.’” (Isaiah 33:24) Many modern-day physicians have concluded that there is a logical basis for believing the Bible’s promises.

#### **‘It Was Very Appealing to Me’**

“Like most people, I went into medicine to help people who are suffering from disease,” says Dr. Jon Schiller, a family practitioner in North America. “The hope of a world without disease was very appealing to me. I started attending the meetings of Jehovah’s Witnesses after I had taken a college course on the history of Western civilization. That course showed that religions were at the bottom of a lot of problems, and it seemed to me



**Dr. Krister Renvall,  
Finland**

## **“I REALIZED THAT LIFE HAS A PURPOSE”**

“While working with handicapped schoolchildren, I noticed how parents who were Jehovah’s Witnesses stood out. They seemed better able to cope with having a handicapped child than other parents in the same situation. I also noticed that they were better educated than one would expect from the occupation they had. I admired their faith. My faith had been all but destroyed by teachers

*Helena Bouwhuis worked as a medical practitioner for schoolchildren in the Netherlands*



that they were also hypocritical in their treatment of the Bible. So I wondered, 'What does the Bible really say?'

"At the Kingdom Hall of Jehovah's Witnesses, I was initially attracted by the friendly people, who were a pleasant contrast to many of my acquaintances. A Witness approached me and offered to visit me to discuss the Bible. What impressed me was that no matter what I asked, he showed me the answer in the Bible.

"The older I get, the more I appreciate being one of Jehovah's Witnesses. When you start out as a young doctor, you have hope of achieving something worthwhile. But I often see disillusioned people who feel that they haven't really accomplished much. I think that one of the greatest things about being one of Jehovah's Witnesses is that we have a hope for the future and a purpose in life. Whether we are doctors, mechanics, or janitors, we know that what we are doing in our service to God is something worthwhile; we are doing something for Jehovah. And that gives us satisfaction."

#### **"Applying Bible Principles Improved Our Family"**

Dr. Krister Renvall is a doctor in Finland, and he always enjoys talking with children. "One day I spoke with a 12-year-old girl who had terminal cancer," he says. "She gave me a book called *True Peace and Security—From*

of the theory of evolution. Nevertheless, my medical studies had left me intrigued by the phenomenon of life.

"At that same time, I had begun to realize that I didn't know how to raise my children. What should I forbid? What should I encourage? What could I give them as a purpose in life? My own life had become meaningless. I even prayed for help.

"That was when Jehovah's Witnesses brought me a magazine about how to correct and reprove children with love. I found the

*What Source?*\* Her expressions of faith during her terminal illness impressed me, but I didn't find time to read the book. In fact, at the time, I was so busy working at a clinic in Helsinki that it was adversely affecting my family.

"Some time later, however, my wife took the book down from the shelf and began reading it. She was immediately convinced that what she was reading was the truth. One of Jehovah's Witnesses called on her and began studying the Bible with her. At first my wife was a little afraid to tell me about it. But when she told me, I said, 'Anything that will help our family is good.' I began taking part in the study. Applying Bible principles improved our family and gave us a new outlook on life. I was delighted to learn about the hope of a world without sickness; it seemed natural that God would have such a purpose for mankind. Soon my wife and I, and finally all of the family, were baptized. That little girl who first spoke to me died, but in effect, her faith lives on."

Life is increasingly stressful for doctors in our rapidly changing world, making their sacrifices in aiding the sick praiseworthy indeed. But the biggest changes ever to affect mankind are soon to come upon us. Many physicians today confidently look forward to the future that God's Word promises—a world free of disease! (Revelation 21:1-4) This is a subject worth researching personally.

\* Published by Jehovah's Witnesses.

Bible principles it explained to be really helpful, so I accepted their offer of a Bible study. As I learned why Jehovah created life and why Jesus died, I realized that life has a purpose. (John 3:16; Romans 5:12, 18, 19) Evolution had twisted my thinking. How relieved I was when I learned that disease and death were not part of God's original purpose! Today I continue to find real satisfaction in teaching sincere people how God will soon cure all disease."

# Sailing by Ship On Water and Land!

BY AWAKE! WRITER IN POLAND

What would you think if a ship's captain invited you to go on a cruise—not only over waves but also over waving grass?

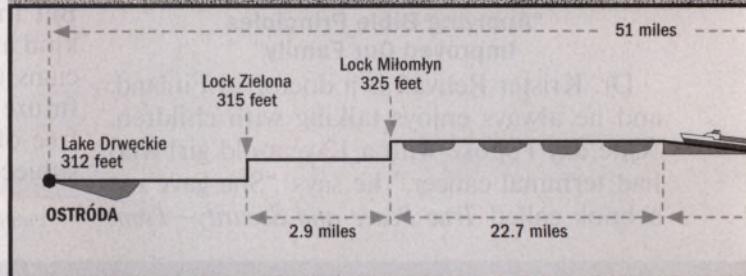
**S**HIPPING has a long history in the Ihawa lakeland of northern Poland. As far back as ten centuries ago, local produce, timber, and wood products were shipped along an old, well-known route—southward down the Drweca River to the Vistula River and then northward to the Baltic Sea. (See map.) From there the goods were transported to Western Europe.

In the 13th century, after the Teutonic Knights conquered much of the region, this route gained even more importance.\* Still later, from

\* The Teutonic Knights were a German military and religious order. In 1234, Pope Gregory IX accepted the order's conquered lands as property of the papacy, while leaving the lands under the control of the order.

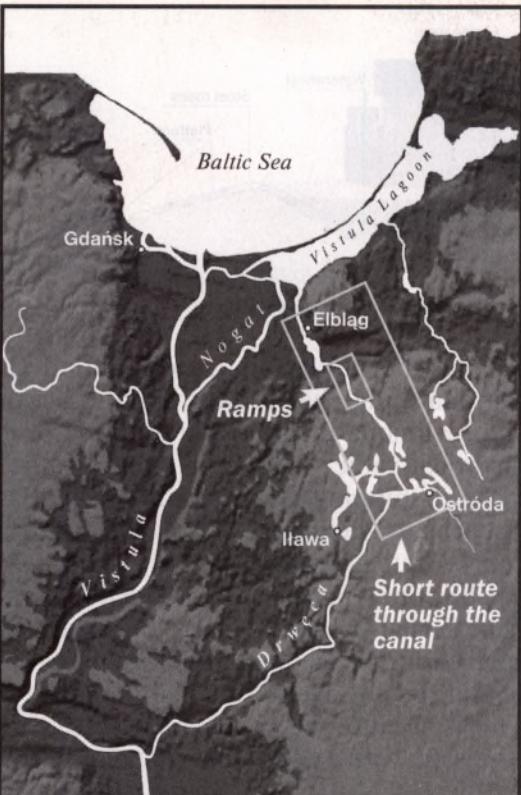


Zdjęcia: A. Stachurski



the 16th century on, the demand for this area's timber grew rapidly, with merchants from Gdańsk as well as shipbuilders from France and Denmark buying it up.

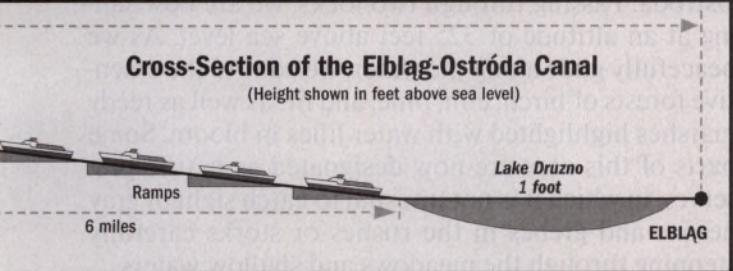
Why was there such an interest in this timber? One reason was that the slender, knot-free pines in these forests, which grow to 160 feet in height, made excellent masts for sailing ships. However, getting timber by means of the roundabout Drweca-Vistula river route took some six to eight months.



*Ships, riding a platform, are pulled up or down the ramp*

#### Cross-Section of the Elbląg-Ostróda Canal

(Height shown in feet above sea level)



#### Looking for a Shorter Route

In their search for a solution to this problem, shippers contemplated the six long lakes that lie between Ostróda and Elbląg, close to the Vistula Lagoon. If they could somehow be linked together, the route from the Drwęca River to the Baltic would become five times shorter! Thus was conceived the idea of digging a canal to connect the lakes. Unfortunately, it soon became clear that the challenges of construction put the project beyond the reach of the technology of

the day. How, for example, could the builders deal with the 340-foot difference in water level that exists within a distance of just six miles?

Despite such difficulties, local merchants, landowners, and manufacturers desired to sell their goods quickly and profitably, so they continued to press the then ruling Prussian authorities to connect the lakes. Ultimately, in 1825 the authorities decided to construct a canal joining the towns of Ostróda and Elbląg with each other and with the sea. The route of the waterway was marked out, and the design was entrusted to a secret construction adviser. But when this adviser discovered that the task was beyond his ability, he simply stashed his unworkable drawings in a drawer.

#### A Brilliant Engineer Takes Up the Idea

About the same time, Georg Jakob Steenke graduated from an academy in Berlin as a master of construction, with a specialty in hydroengineering. This able young man soon proved his skills in practice, and in 1836 he was appointed to the prestigious position of dike and embankment inspector in Elbląg. In this role Steenke analyzed the idea of constructing the Oberland Canal, as it was then called.\*

By 1837, Steenke had worked out a new route for the canal and had developed a detailed plan that would allow cargo ships to use the watercourse. During this time he also closely followed innovations in hydroengineering technology. Finally, in 1844 work began on the canal. Channels were dug between the lakes along the upper part of the route,

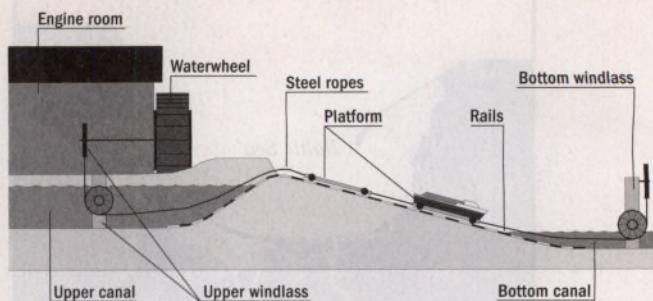
\* The name of the canal came from Oberland, a former German name of the region.

which caused the water level in some of the lakes to drop by as much as 15 feet. Steenke planned to deal with the remaining 325-foot difference in water level by building 25 locks.

However, after the first five locks were constructed, Steenke realized that they would actually be bottlenecks in the system and would slow down traffic. Undaunted, he traveled to the United States to study how similar problems had been resolved in the construction of the Morris Canal, which crossed the state of New Jersey. Steenke found the locks in the Morris Canal to be equally uneconomical, but one feature he saw there excited him—inclined ramps, sloping stretches of track running overland, with rolling platforms designed to ferry ships cross-country between sections of the canal. Returning home, Steenke and two other skilled engineers adapted and improved on this idea. He abandoned the building of any more locks in favor of a unique system of four ramps. Imagine Steenke's joy when in 1860, following successful tests, the first section of the Oberland Canal was opened.

#### A Monument to Canal Building

Of course, a fully operational canal consists not only of channels and ramps but also of dams, gates, cable-pulling mechanisms, engine rooms, and other equipment—all of which suffer constant wear and tear. Thus, 20 years after the canal opened, a new ramp was added to replace the five worn-out original wooden locks. The main section between Elbląg and Ostróda is some 50 miles long. The total length of the route with all its arms extends 130 miles.



The Oberland Canal, now called the Elbląg-Ostróda Canal, has been praised as a work of technology unique in the world and one of exceptional historical value. Today, the canal's value as a commercial shipping lane has diminished, and mainly motorboats, sailboats, yachts, and tour ships ply its course. Yet, even after so many years, explains Dariusz Barton in his guidebook *Kanal Elbląsko-Ostródzki* (The Elbląg-Ostróda Canal), "those well-worn hydro-engineering devices and buildings operate as smoothly as if the passage of time did not affect them at all. This is because they were constructed with exquisite precision, with a perfection that amazes the experts."

#### Come Along on an Unusual Cruise

Would you like to accompany us on a cruise along this unusual route? We start out in the morning from Ostróda. Passing through two locks, we are now sailing at an altitude of 325 feet above sea level. As we peacefully glide along the water, we admire the extensive forests of birch, elm, pine, and fir, as well as reedy marshes highlighted with water lilies in bloom. Some parts of this area are now designated as nature preserves, in which it is not unusual to catch sight of gray herons and grebes in the rushes or storks carefully stepping through the meadows and shallow waters.

Suddenly, at the 32-mile point, the canal seems to come to a dead end! But there we see two stone pillars bearing huge wheels with a thick cable wound around them. The captain announces that we have reached the first ramp and now, with passengers on deck, our ship comes to rest on a submerged platform.—See ship and platform on page 12.

Soon water from a special tank floods onto a 26-foot-wide waterwheel. The massive water-driven mechanism springs to life, reeling in the line, the platform, the ship, and us. As we are drawn forward,

*Aerial view of the canal at Ramp Kąty*



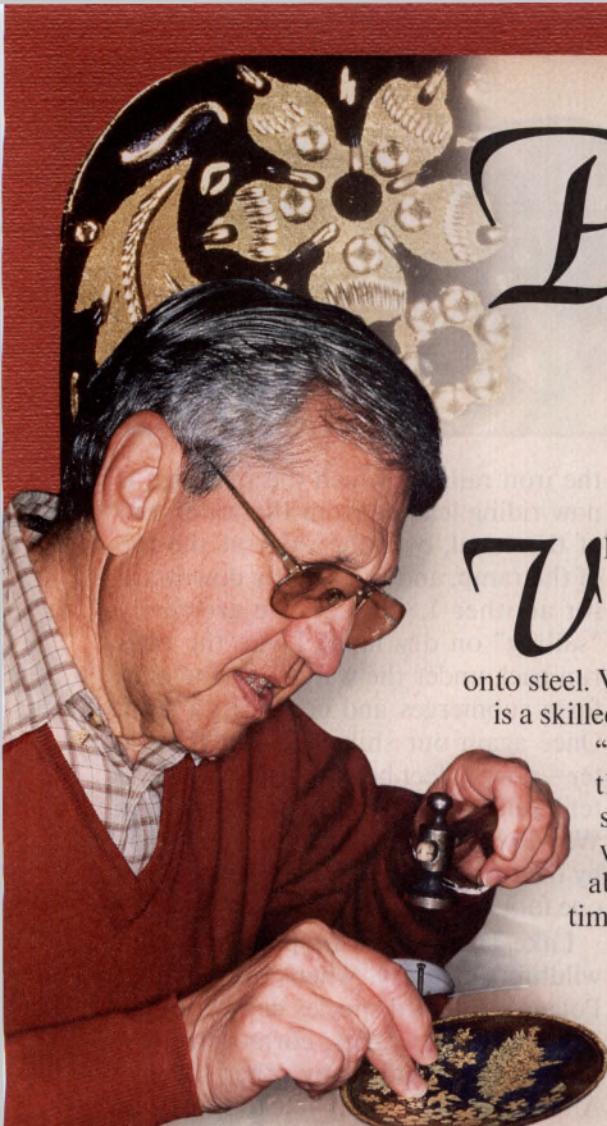
the iron rails on which the platform is now riding lead us from the water, out of the canal, over the ridge at the top of the ramp, and then gently downward for another 1,800 feet. We are really "sailing" on dry land! Then, the rails run back under the water, and the platform submerges and comes to a stop. Once again our ship floats on the water—now 70 feet below the previous water level—and we continue sailing along. We will have descended five such ramps by the time we reach Lake Druzno, only one foot above sea level.

Lake Druzno forms part of a rich wildlife sanctuary, where over half of Poland's 400 bird species can be found. These include cranes, cormorants, ospreys, eagles, and many other species. Along the way, it is possible to spot deer, beavers, wild boars, hares, lynx, badgers, moose, and other animals. Finally, in the late afternoon, just past the north end of the lake, we arrive at the marina in Elbląg. On the shore stand the ruins of a castle—a silent reminder of the Teutonic Knights who once colonized these lands and established a seaport here. We have spent the whole day aboard ship and will have fond memories of our unusual cruise!

*Moose, beaver, and great-crested grebe, spotted along the way*



Boat: Zdjęcia: M. Wieliczko;  
all other photos: Zdjęcia:  
A. Stachurski



# Patterns of Gold on Steel

BY AWAKE! WRITER IN SPAIN

**V**ÍCTOR is a 74-year-old man whose sight has dimmed after countless hours of focusing on small objects. Still, his eyes light up whenever he is asked to describe his 50 years' experience of hammering gold onto steel. Victor, who began learning his trade at the age of 14, is a skilled craftsman in the art of damascene.

"For me, creating damascene objects is much more than a trade," explains Víctor. "Sometimes I have stayed awake for 24 hours, totally immersed in my work." As he handles the well-worn tools of his venerable craft, his face beams with the memories of a lifetime of producing these unique works of art.

#### From Damascus to Spain

What is damascene? It is the process by which a metal surface is decorated with etched or inlaid patterns of gold or silver. Archaeologists have found in Egyptian tombs some damascene pieces dating back to the 16th century B.C.E.

Although the first damascene articles may have been produced in China or Egypt, the name itself comes from the ancient city of Damascus. Skilled artisans in that Syrian capital created objects of such beauty that the technique became synonymous with the city. Lying at an important crossroads between the eastern Mediterranean lands and the countries of Mesopotamia and the Orient, Damascus became a center of trade. This commercial prominence resulted in the export of the city's traditional crafts, such as damascene, to lands far from Syria.

Within a few centuries, damascene craftsmanship became established in Europe, and by the 16th century, the Spanish city of Toledo had emerged as the chief center of the art. Toledan

**Decorative sword  
letter opener**

Toledo, Spain



swords, armor, and shields, as well as more delicate objects, were embellished with the damascene touch of elegance and distinction.

#### An Art of Contrasts

The damascene art of Toledo highlights the brightness of inlaid gold and silver against an intense black background of steel. It combines ornamental motifs such as Kufic script (ancient Arabic characters) with floral and geometric forms typical of the Arab and Mudéjar cultures. Let us take you briefly to Toledo to discover how the craftsmen conserve this skill.

As you wander through the narrow, winding streets of old Toledo, it is easy to imagine that you have been transported to medieval times. And you will soon discover that the art of damascene has not been lost.

You will notice that a wide range of damascene objects, such as brooches, bracelets,

cuff links, tiepins, pillboxes, thimbles, earrings, and ornamental plates, are on display in many shop windows. Moreover, in

some shops you can even watch traditional craftsmen skillfully wielding gold thread with one hand while using a steel punch to hammer it onto a metal base with the other hand. This is how gold filament is inlaid onto steel, the essence of damascene artwork.



Earrings



Pendant



Antique  
jewelry box

## A Laborious Technique

As you get closer, you will notice that the artisan has several sheets of steel cut into various shapes and sizes. Choosing a round sheet of steel, he begins the initial process, that of *scoring*. This involves crisscrossing the surface of the metal with a pattern of fine scratched lines, using a burin, an engraver's cutting tool made of highly tempered steel. Afterward, he uses the burin to draw a rough outline of the design he wishes to execute.

Having completed this initial task, the craftsman places the metal plate on top of an adjustable wooden base covered with a resinous substance called Greek tar. This supports and cushions the plate for the process that follows.

Now the *inlaying* process begins. Holding the gold thread with one hand, the artisan softly hammers it onto the metal plate using a punch, until the whole design is completed. The plate may now be covered with attractive arabesque markings, geometric patterns, birds, flowers, or even a panoramic view of the old city of Toledo. Some craftsmen combine several of these motifs in one overall design.

The next stage is the *fixing* process, which requires a broader punch. With precise beats of his punch, the artisan finishes encrusting the gold thread onto the etched steel surface.

The intricate designs are highlighted by the next step, called *bluing*. The plate is immersed in a bath of caustic soda and potassium nitrate at 1,500 degrees Fahrenheit. This treatment oxidizes the metal base and gives it an intense black color. This underlying metal surface—now as dark as a black velvet cloth—accentuates the characteristic golden designs of damascene art.

As a final step, the craftsman *chisels* and *burnishes* the designs that decorate the plate. With the chiseling, the golden drawings come to life. All the tiny details, such as the feathers of a bird or the petals of a flower, are shaped. Then the artwork is burnished with a piece of agate, giving the gold thread a sparkling color that contrasts dramatically with the dense black background. At last, a glittering picture emerges!

The unique qualities of damascene artifacts are a credit to the many craftsmen who kept this ancient skill alive through the centuries. Thanks to them, we can find delight today in these beautiful patterns of gold and silver on steel.



*Scoring*



*Inlaying*



*Fixing*



*Bluing*



*Chiseling*



*Burnishing*

## Young People Ask . . .

# What Should I Do When Others Tell Me Their Problems?



**"There is this girl in school. Her parents were going through a divorce, and her grades were starting to fall. She would talk to me about her family problems."—Jan, aged 14.**

**"A girl in school confessed to me that she had relations with a boy. She got pregnant and had an abortion without her parents even knowing about it."—Mira, aged 15.**

**Y**OU are having a conversation with a friend or a schoolmate. Suddenly he "unloads" a problem on you.\* Maybe he is dealing with typical teen concerns—clothes, money, looks, peers, grades. On the other hand, he may have problems that are far more weighty and challenging.

The situation in the United States illustrates just how serious the problems of young ones can be. According to *Newsweek* magazine, "the National Institutes of Mental Health (NIMH) estimates that 8 percent of adolescents and 2 percent of children (some as young as 4) have symptoms of depression." Another survey noted: "Approximately 97 per 1,000 women aged 15-19—one million Amer-

ican teenagers—become pregnant each year. The majority of these pregnancies—78 percent—are unintended." Then there are the millions of young people who live in unstable home environments. Thousands are the victims of physical or sexual abuse. Over half of U.S. high-school seniors have abused alcohol. Alarming numbers of young ones are coping with an eating disorder.

Little wonder that many youths desperately need someone to talk to and confide in! And often the first person they turn to is a peer. What should you do if that peer turns out to be you? If you are a Christian, their doing so should hardly come as a surprise. The Bible commands Christians to be "an example" in conduct and to be reasonable. (1 Timothy 4:12; Philippians 4:5) So other young ones—including unbelievers—may very well want

\* For the sake of simplicity, we will refer to the one having the problem in the male gender. Naturally, this information applies to young ones of both sexes.

to confide in you. How, then, should you handle such a situation? And what if you feel that you've heard more than you can handle?

### **Being a Good Listener**

The Bible says there is "a time to keep quiet and a time to speak." (Ecclesiastes 3:7) When someone has a problem and wants to talk to you, oftentimes the best thing to do is simply to listen. After all, the Bible condemns turning a deaf ear to the "complaining cry of the lowly one." (Proverbs 21:13) It may have taken a while for your associate to build up the courage to talk about the matter. Your being willing to listen may make it easier for him to talk. "I usually just let the other person talk," says a Christian youth named Hiram. "I let him say what's on his mind, and I try to sympathize with him." Vincent likewise observes: "Sometimes people just want to talk."

So your associate may not expect you to solve his problems. All he may need is a good listener. So *listen!* Try to avoid being distracted by your surroundings or needlessly interrupting him. Your just being there and listening can be a big help in itself. It shows that you truly care.

Does this mean that you should say nothing at all in response? Much would depend upon the nature of the problem. Most of the time, a thoughtful, kind response is appropriate. (Proverbs 25:11) For example, if an acquaintance has experienced some personal tragedy, it may be best to express sympathy. (Romans 12:15) Proverbs 12:25 says: "An-

ious care in the heart of a man is what will cause it to bow down, but the good word is what makes it rejoice." Perhaps what is needed is some encouragement. Express your confidence that the individual will be able to meet his challenge successfully. Such statements as "I can see why you feel that way" or "I'm sorry that you have to deal with this" can let your associate know that you are sincere and that you want to help him.

Nevertheless, Proverbs 12:18 warns: "There exists the one speaking thoughtlessly as with the stabs of a sword." It's important to avoid such comments as "That's not so bad," "Just get over it," or "You shouldn't feel that way." Beware, too, of trying to lighten up a problem with humor. Your associate could easily conclude that you don't respect his feelings. —Proverbs 25:20.

What, though, if you are at a loss for words? Just be honest. Tell your friend that you really don't know what to say but that you still want to be there to help him. Ask, "What can I do to help?" Yes, there may be some practical things you can do to ease his burden.—Galatians 6:2.

### **Offering Friendly Advice**

What if you feel that your associate needs advice? Of course, as a young person, you are relatively inexperienced. (Proverbs 1:4) So you may not be qualified to give advice on every problem. However, Psalm 19:7 says: "The reminder of Jehovah is trustworthy, making the inexperienced one wise." Yes, despite being "inexperienced," you may have enough knowledge of Bible principles to be of some help to a companion in need. (Proverbs 27:9) Without being preachy, why not share some points from the Bible? If you are not sure which Bible principles apply, do some research. Over the years the "Young People Ask . . ." feature of this magazine has published much Bible-based counsel on a variety of subjects. Another valuable source of

## **In Our Next Issue**

- **Relief From Stress!**
- **Giving Children the Attention They Need**
- **"Dr. Livingstone, I Presume?"**

information is the book *Questions Young People Ask—Answers That Work.*\*

Maybe it would be effective to share your own experiences. Perhaps you even have some practical suggestions. Without imposing your own viewpoints, you can explain what helped you. (Proverbs 27:17) Keep in mind, though, that each situation is different. What worked for you might not work for everybody.

### **Words of Caution**

Don't become consumed by listening to the problems of youths who do not fear Jehovah or respect Christian standards. Many of their problems may spring from a life-style that is out of harmony with the Bible. Trying to help those who disdain the Bible's counsel could prove frustrating to both of you. (Proverbs 9:7) Also, you could find yourself exposed to a lot of foolish or even obscene talk. (Ephesians 5:3) So if a discussion makes you feel uneasy, have the courage to say that you're not in a position to help out or that you're uncomfortable with that topic.

Be careful if a member of the opposite sex seeks to share his inner feelings with you. The Bible warns that the heart can be deceptive. (Jeremiah 17:9) Close association can arouse romantic feelings and even lead to sexual immorality.

In addition, don't get trapped into promising that you won't tell anyone. Modestly recognize that the one speaking to you may need more help than you can give.—Proverbs 11:2.

### **When the Help of Others Is Needed**

In many cases the best thing to do is to get some help yourself. Mira, quoted at the outset, said: "I really didn't know how to help my schoolmate. So I talked to a congregation elder about it, and he gave me some good advice on how to help her." Yes, within the Christian congregation of Jehovah's Witnesses, there are experienced men who can assist

you. (Ephesians 4:11, 12) The elder suggested that Mira encourage her schoolmate to talk with her parents. The girl took Mira's advice. Says Mira: "Her situation has improved. Now she wants to know more about the Bible."

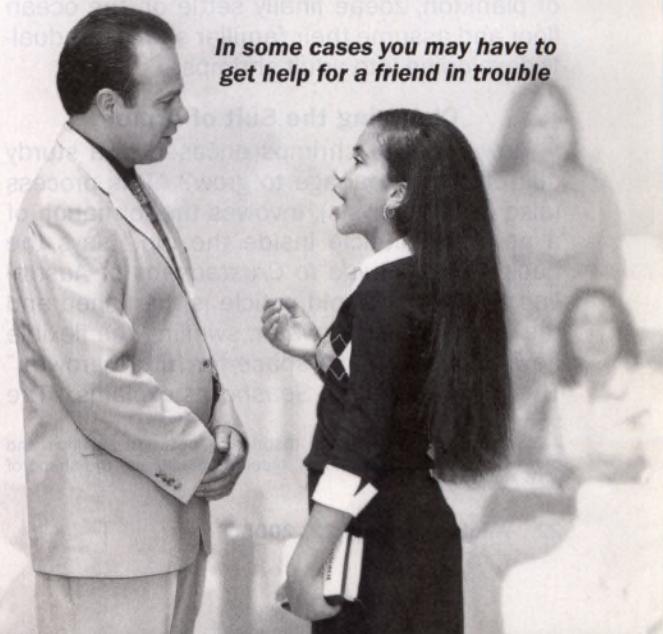
What if a fellow Christian confides in you? Naturally, you will want to do whatever you reasonably can to help. (Galatians 6:10) If you fear he is drifting away from Jehovah's moral standards, don't be afraid to "speak truth" with him. (Ephesians 4:25) Be honest but not self-righteous. Your being willing to speak up is the mark of a true friend.—Psalm 141:5; Proverbs 27:6.

In such a situation, it is also imperative that you encourage your friend to seek help—from his parents, an elder, or some mature Christian whom he respects. If a reasonable amount of time has passed and he hasn't talked to anyone, you may have to talk to someone for him. (James 5:13-15) Doing that may take courage on your part, but it shows that you really do care and that you want what is best for your friend.

Of course, Jehovah does not expect you to solve everyone's problems. But when someone does confide in you, you don't have to feel helpless. Put your Christian training to work, and prove yourself to be "a true companion."

—Proverbs 17:17.

***In some cases you may have to get help for a friend in trouble***



# MINIATURE *Knights of the Sea*

BY AWAKE! WRITER IN AUSTRALIA

**W**HALES, dolphins, sharks—no doubt these imposing sea creatures fire your imagination. The sea, however, holds “living creatures, small as well as great.” (Psalm 104:25) To those with an eye for detail, the smaller creatures are also fascinating to behold.

For example, scurrying across the ocean floor are creatures described as “armored knights of the sea.” Unlike some of their medieval counterparts, many of these miniature “knights” don armor festooned with a fantastic array of colors and patterns. These diminutive denizens of the deep belong to a group of animals called crustaceans and are commonly known as shrimps.

## From Plankton to Your Plate

You may think of shrimps merely as delicious seafood.\* However, shrimps lead a remarkably varied life before they end up on your plate. Some female shrimps clutch their fertilized eggs to their abdomen until the eggs hatch, while others cast their eggs upon the currents, where they mature independently.

The shrimp eggs hatch into what are known as zoeae and then pass through several larval stages that look very different from the adult form. After spending time among clouds of plankton, zoeae finally settle on the ocean floor and assume their familiar shape, gradually developing into adult shrimps.

## Changing the Suit of Armor

How do adult shrimps encased in a sturdy suit of armor manage to grow? “This process (also called ecdysis), involves the formation of a new, soft cuticle inside the old,” says the book *A Field Guide to Crustaceans of Australian Waters*. “The old cuticle is then shed and the animal absorbs water, swelling the flexible new cuticle to make space for future growth.” The book *Australian Seashores* explains: “The

animal must withdraw its entire body, including all the appendages (and they are many in number), big and strong, or small and delicate, from the old shelly coat. The appendages are pulled out just as one pulls one’s fingers out of a glove.”

How do crustaceans pull large appendages, such as claw muscles, through the narrow gaps formed by the joints? Author W. J. Dakin says: “The performance is possible only because the living parts of the animal are soft and can be pulled through narrow places. Actually, at ecdysis, the blood is withdrawn from the limbs to other parts of the body, so that they can be easily squeezed during extraction.” The new shell retains the swirls, stripes, and blazes of color of the old shell—and for good reason.

## Colors That Camouflage, Others That Advertise

Some shrimps that live among the tentacles of anemones are partially transparent or have suits color coded to match their hosts. These camouflaged shrimps gain protection amid the anemones’ arms and earn their keep by performing housework, removing any debris that may accumulate on the hosts.

Other shrimps are flamboyantly colored, an example being the cleaner shrimps. They often live together under ledges in the reef, and their bright color seems to advertise the cleaning service they provide. Fish that have acquired parasites hover near the cleaner shrimps’ home, thus inviting the shrimps to wander over their bodies. The shrimps even climb unperturbed into mouths and gills. These “shrimp doctors” then remove and eat any parasites and feed on the mucous coat of the fish.

Whatever their color and whatever their role, one thing is certain about these tiny living jewels—their dress is far more impressive than that of any ancient knight.

\* Some scientists make a distinction between shrimps and prawns based on the creatures’ breeding habits and the shape of their exoskeleton.

All photos except cleaner shrimp: © J and V Stenhouse



**Emperor  
shrimp**

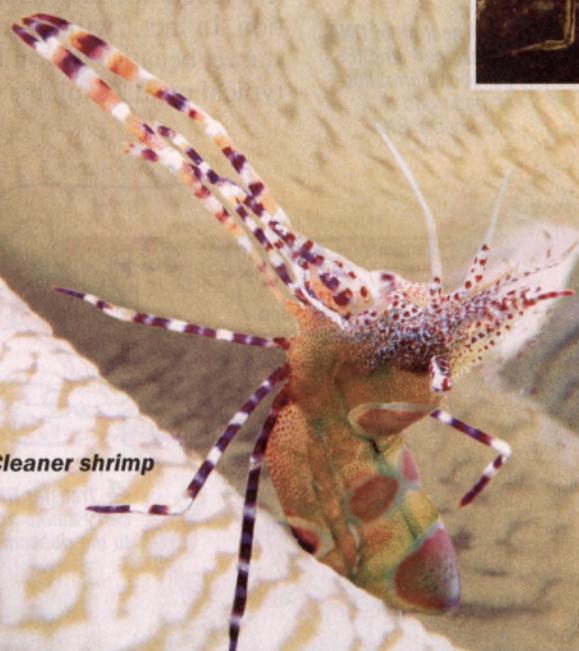


**Anemone shrimp**

**Transparent  
anemone shrimp**



**Hingebeak shrimp**



**Cleaner shrimp**



# Life An Amazing Assembly of Chains

HAVE you ever thought of your body as a collection of microscopic chains? Perhaps not. But in reality, "at the level of its smallest relevant components," says the book *The Way Life Works*, life employs "the chain as its organizing principle." For that reason, just a small defect in some of these chains can have a major impact on our health. What are these chains? How do they function? And how do they relate to our health and well-being?

Basically, they are chainlike molecules that fall into two main categories. The molecules we will consider in this article are the proteins. The others are the molecules that store and transmit genetic information—DNA and RNA. Of course, the two groups are intimately related. In fact, one key function of DNA and RNA is to produce life's vast array of proteins.

## Catalysts, Guards, and Posts

Proteins are by far the most diverse of life's larger molecules. The protein family includes antibodies, enzymes, messengers, structural proteins, and transporters. The vast array of antibodies, or immunoglobulins, defend against foreign invaders such as bacteria and viruses. Other globulins help to seal off blood vessels damaged by trauma.

Enzymes serve as catalysts, speeding up chemical reactions, such as those involved with digestion. In fact, "without enzymes you would soon starve, because it would take 50 years to digest a typical meal," explains the book *The Thread of Life*.

Adapted drawings: From THE WAY LIFE WORKS by Mahlon Hoagland and Bert Dodson, copyright ©1995 by Mahlon Hoagland and Bert Dodson. Used by permission of Times Books, a division of Random House, Inc.

### How are proteins made?

**1** Inside a cell's nucleus, DNA contains instructions for each protein

DNA

**2** A section of DNA is unzipped, and the genetic information is made into a messenger RNA

Messenger RNA

**3** Ribosomes—"message-reading, protein assemblers"—bind to the RNA

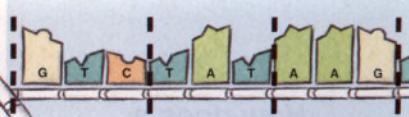
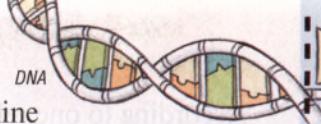
Ribosome

**5** As the ribosome "reads" the RNA, it links together single amino acids in a specific order to form a chain—the protein

Transfer RNAs

**4** Transfer RNAs carry amino acids to the ribosome

Proteins are made up of amino acids



Enzymes go about their work in assembly-line fashion, each protein performing a specific task. For instance, the enzyme maltase breaks down maltose, a sugar, into two glucose molecules. Lactase breaks down lactose, or milk sugar. Other enzymes combine atoms and molecules to form new products. And they perform their work with blinding speed. A single molecule of enzyme can catalyze thousands of chemical reactions *per second!*

Some proteins are classified as hormones and act as messengers. Released into the bloodstream, they stimulate or decrease the activity of other body parts. Insulin, for example, stimulates cells to absorb glucose, their energy source. Structural proteins such as collagen and keratin are the main components of cartilage, hair, nails, and skin. All these proteins are “the cell’s equivalent of posts, beams, plywood, cement, and nails,” says *The Way Life Works*.

Transport proteins in cell membranes serve as pumps and tunnels, allowing materials to pass into or out of cells. Let us now see what proteins are made of and how their chainlike structure relates to their function.

### Complexity Based on Simplicity

An alphabet is a basic element of many languages. From that list of letters, words are built. In turn, words form sentences. At the molecular level, life employs a similar principle. A master “alphabet” is provided by DNA. Amazingly, this “alphabet” consists of just four letters—*A*, *C*, *G*, and *T*, which are symbols for the chemical bases adenine, cytosine, guanine, and thymine. From these four bases, DNA via an RNA intermediate gives rise to amino acids, which could be compared to words. Unlike normal words, however, amino acids all have the same number of letters, namely, three. “Protein-assembling machines,” called ribosomes, link the amino acids together. The resulting chains, or proteins, could be likened to sentences. With more elements than a spoken or written sentence, a typical protein may contain about 300 to 400 amino acids.

### How does DNA “spell” each protein?

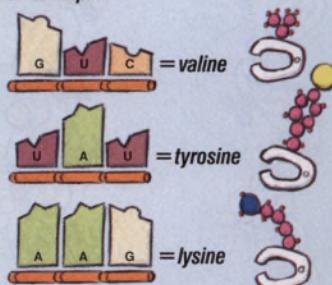
DNA uses just four “letters”: *A*, *T*, *C*, *G*



The DNA “spelling” is transcribed to an RNA form. RNA uses *U* (uracil) instead of *T*

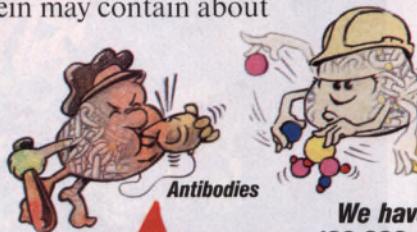


Each three-letter sequence “spells” a specific “word,” or amino acid. For example:



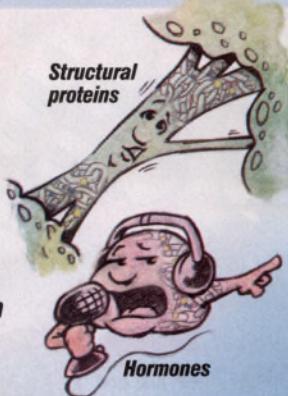
In this way, each of the 20 common amino acids can be “spelled.” “Words” are linked together to form a chain, or “sentence”—the protein

**6** The chainlike protein must fold up precisely to perform its function. Imagine, a typical protein is over 300 “links” long!

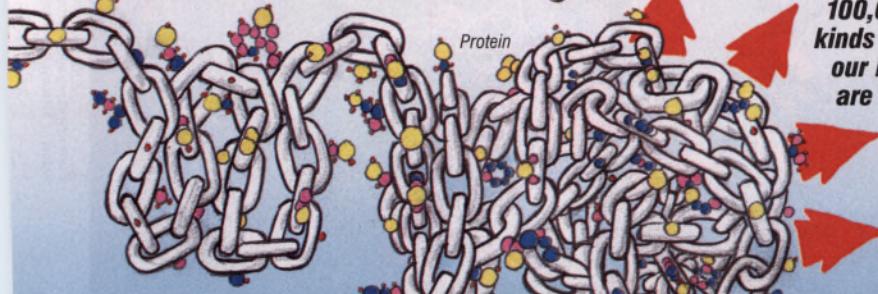


Antibodies

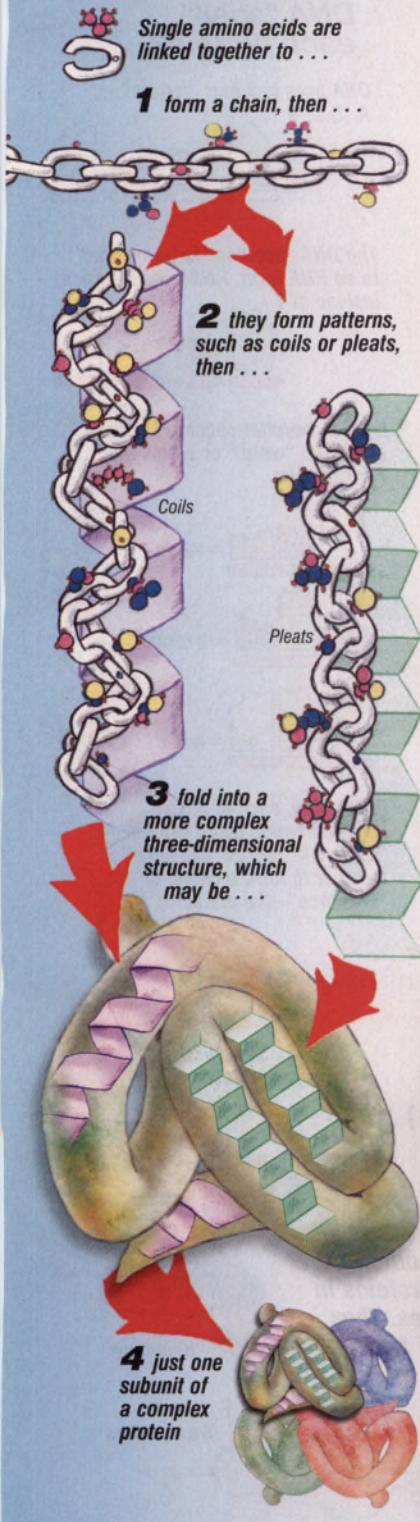
We have over 100,000 different kinds of proteins in our bodies. They are vital for life



Transporters



## How does a protein "fold"?



According to one reference work, there are hundreds of amino acids that occur in nature, but only about 20 kinds are found in most proteins. These amino acids can be arranged in an almost endless number of combinations. Consider: If just 20 amino acids form a chain 100 amino acids long, that chain can be arranged in over  $10^{100}$  different ways—that is, 1 followed by 100 zeros!

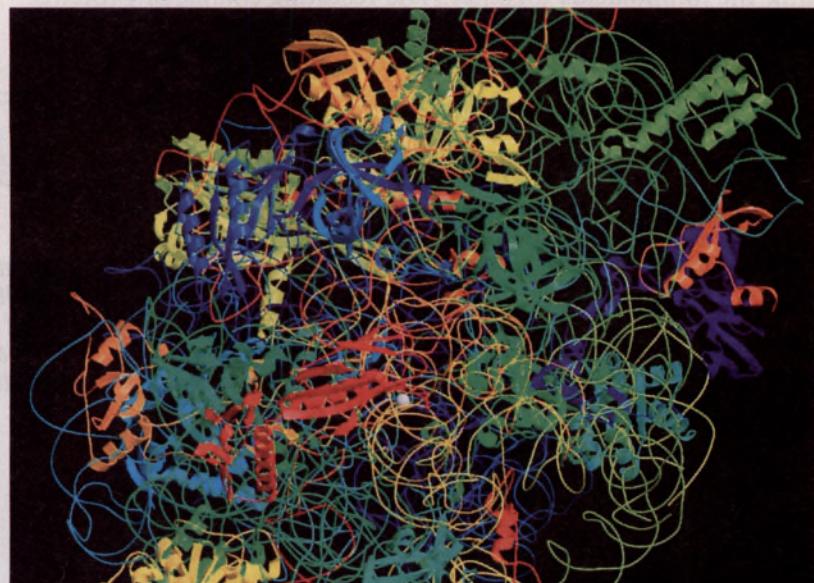
## Protein Shape and Function

A protein's shape is critical to its role in the cell. How does a chain of amino acids influence the shape of a protein? Unlike the loose links in a metal or plastic chain, amino acids join together at certain angles, forming regular patterns. Some of these patterns resemble coils like those of a telephone cord or folds like those of a pleated cloth. These patterns are then "folded," or shaped, to form a more complex three-dimensional structure. The shape of a protein is anything but haphazard. Indeed, a protein's form is critical to its function, which becomes all too evident when a flaw occurs in the amino acid chain.

## When the Chain Has a Defect

When proteins have defects in the amino acid chain or are incorrectly folded, they can cause a number of diseases, including sickle-cell anemia and cystic fibrosis. Sickle-cell anemia is a genetic disease in which the hemoglobin molecules in red blood cells are abnormal. A molecule of hemoglobin consists of 574 amino acids arranged in four chains. A switch of just one amino acid in two of the four chains turns normal hemoglobin into its sickle-cell variant. Most cases of cystic fibrosis are due to a protein that lacks the amino acid phenylalanine at a key position in the amino acid

**This computer model of a part of a ribosome protein uses color to emphasize its three-dimensional nature. Structural patterns are indicated by spirals (coils) and arrows (short pleated sections)**



chain. Among other things, this defect interferes with the balance of salt and water needed in the membranes that line the gut and lungs, causing the mucus that coats these surfaces to become abnormally thick and sticky.

A severe lack of or absence of certain proteins leads to disorders such as albinism and hemophilia. In its most common form, albinism, a deficiency in pigmentation, occurs when a key protein called tyrosinase is either defective or absent. This affects the production of melanin, a brown pigment normally present in human eyes, hair, and skin. Hemophilia is caused by very low levels of or lack of protein factors that help blood to coagulate. Other disorders attributed to defective proteins include lactose intolerance and muscular dystrophy, to name a few.

#### One Theory on the Mechanism of Disease

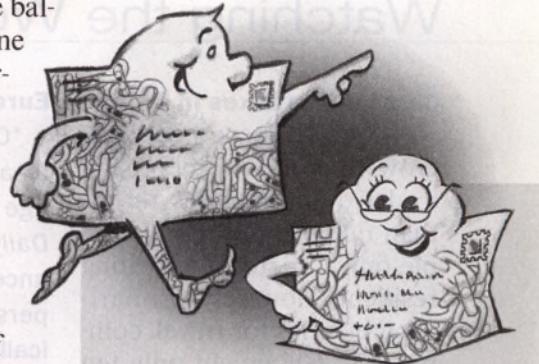
In recent years scientists have focused their attention on a disease that some attribute to an abnormal form of a protein called a prion. The theory is that disease results when defective prions bind to normal prion proteins, causing the normal protein to misfold. The result is "a chain reaction that propagates the disease and generates new infectious material," says the journal *Scientific American*.

What may have been an instance of prion-based disease first came to public attention in the 1950's in Papua New Guinea. Certain isolated tribes engaged in a form of cannibalism for religious reasons, and this led to a disease called kuru, with symptoms similar to those of Creutzfeldt-Jakob disease. Once the afflicted tribes gave up this religious ritual, the incidence of kuru rapidly declined, and it is now virtually unknown.

#### Amazing Design!

Happily, though, proteins are usually folded correctly and go about their tasks with amazing cooperation, efficiency, and fidelity. This is remarkable considering that there are over 100,000 different kinds of proteins in the human body, all complex chains arranged into thousands of types of folds.

The world of proteins is still largely uncharted. To learn more, researchers are now devising sophisticated computer programs that may predict the shape of proteins from their amino acid sequence. Still, even the little we know about proteins establishes clearly that these "chains of life" not only possess a high level of organization but also reflect a profound intelligence.



#### "ZIP Codes" for Proteins

To expedite the delivery of mail, many postal services require that a ZIP code be included in the address on every letter. The Creator employed a similar concept to ensure that proteins find their way around inside the cell. Such a measure is vital when you consider that cells are very busy places, hosting up to a billion proteins. Still, newly minted proteins always find their way to their work site, thanks to a molecular "ZIP code"—a special string of amino acids contained in the protein.

Cell biologist Günter Blobel won a Nobel prize in 1999 for discovering this amazing concept. Yet, Blobel simply made a discovery. Should not the Creator of the living cell and its bewildering array of molecules receive even more honor?

—Revelation 4:11.

# Watching the World

## Cars Versus Bikes in China

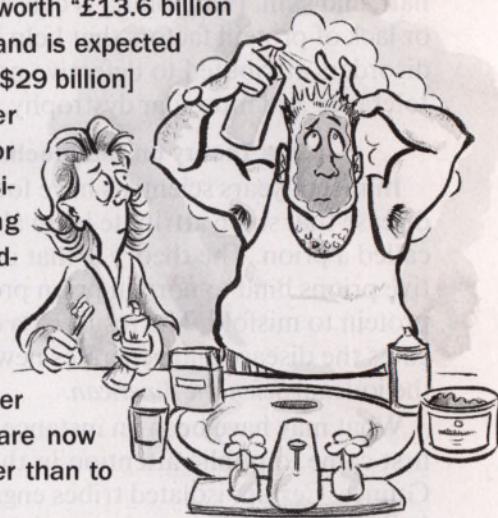
As the Chinese economy grows, people are choosing to drive automobiles rather than ride bicycles. For example, only 25 percent of Beijing residents now rely primarily on bicycles for travel, compared to 60 percent only ten years ago. "In Beijing alone," says the *Toronto Star* newspaper of Canada, "the number of vehicles on the road is increasing by more than 400,000 each year." As a result, "roadway speeds now average just 12 kilometres [7.5 miles] per hour" in that city. *National Geographic* reports that during 2003 in China, "newly prosperous professionals snapped up over two million cars—up 70 percent over 2002." It adds that the commuter's growing reliance on petrol power instead of pedal power means "China may have already leapfrogged Japan to become the world's second largest oil user." Nevertheless, there are still an estimated 470 million bikes in China.

## Reading to Newborn Babies Beneficial

"Reading to young children has such a powerful impact on the rest of their lives that experts now recommend parents begin doing so when their babies are just hours old," says *The Toronto Star*.

## European Males Grooming More

"Over the past five years, men's grooming time has increased to an average of 3.1 hours a week—compared to the average woman's 2.5 hours," reports London's newspaper *The Daily Telegraph*. The increased interest in personal appearance is reflected in the growing market for skin care, hair care, personal hygiene, and fragrance products designed specifically for men, which was worth "£13.6 billion [US \$25 billion] last year and is expected to rise to £16.1 billion [US \$29 billion] by 2008." The manager of one grooming salon for men told the paper: "Business has been booming with clients regularly spending up to £200 [US \$360] on facials, manicures and pedicures." In addition, the paper notes that "60 percent of male fragrances are now sold directly to men, rather than to girlfriends or wives."



Dr. Richard Goldbloom, who two years ago spearheaded the first newborn literacy program in Canada, says: "One of the things we've learned and observed is that when you do read to a baby, they really pay attention from very early infancy. They are listening." Research indicates that just giving books to children from a very early age improves their vocabulary and reading skills. According to the newspaper, "the point is not to force toddlers to learn to read, but to expose them to both quality

and quantity of language so they can acquire vocabulary and letter and sound recognition—and, eventually, actual reading skills."

## Unprotected Species Disappearing

In recent years conservationists have succeeded in protecting over 10 percent of the earth's surface, states Peru's newspaper *El Comercio*. Despite this commendable effort, "at least 300 species of birds, mammals, turtles, and amphibians, considered critically threatened"

are completely unprotected by the present system of nature reserves. The problem, says Gustavo Fonseca, executive vice president for programs and science of Conservation International, is that present conservation goals may be "politically attractive" but inadequate. "We must focus specifically on conserving those places where we find the highest concentrations of threatened endemic species," he states. Highlighting another threat to endangered species, the paper reports that trade in endangered species is one of the largest illicit commercial activities on the planet, after trafficking in drugs and weap-

ons. Nearly half of all the species of animals sold on the international black market come from the forests of South America.

#### Beware of Spiked Drinks

In Australia "up to five people a day are sexually assaulted after having their drinks spiked in pubs, clubs and private parties," warns *The Australian* newspaper. Drinks are spiked when alcohol or drugs are added without the drinker's knowledge. Some of the drugs used have no color, taste, or smell. Victims can become disoriented, immobilized, or unconscious. Some of them have died. A

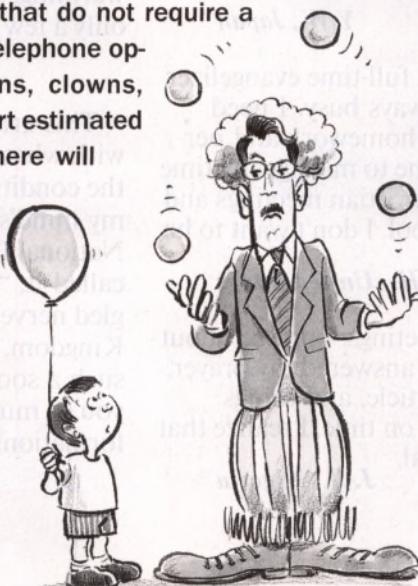
nationwide study by the Australian Institute of Criminology revealed that "an estimated 4500 people have their drinks spiked each year, with up to 40 per cent suffering sexual assault," states the paper. When the effects of the spiked drinks wear off, individuals may not even remember what happened to them.

#### Hope for Earth's Ozone Layer?

"Levels of chlorofluorocarbons (CFCs) in the atmosphere have at last begun to decline," reports ECOS magazine, published by the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO). Atmospheric CFCs damage earth's protective ozone layer. For over 50 years, the quantity of CFCs present in the upper atmosphere steadily increased until the year 2000. Since then, CFC concentrations have been "falling by almost one per cent per year," states ECOS. This decline, says the report, "suggests that the ozone hole could close by about the middle of this century." These chemicals, however, are still causing damage. The report states: "Despite the decrease, this year's hole in the ozone layer over Antarctica . . . reached nearly 29 million square kilometres [11 million square miles], more than three times the area of Australia."

#### Overstocked With Professionals

"Obtaining a degree today does not guarantee getting a job," states *El Universal* newspaper of Mexico City. A recent study conducted in Mexico revealed that "between 1991 and 2000, 40 percent of professionals had to take jobs unrelated to their degree course." This means that some 750,000 university graduates are performing jobs that do not require a degree, such as those of "telephone operators, drivers, magicians, clowns, [and] bartenders." The report estimated that by 2006, in Mexico there will be 131,000 more administrators, 100,000 more accountants, 92,000 more computer engineers, 92,000 more elementary-school teachers, and 87,000 more lawyers than there are jobs available in these professions.



## From Our Readers

**Moses** I just read the series “Moses—Man or Myth?” (April 8, 2004) I have to confess that I didn’t expect to see so much information in answer to the assertions of scholars that Moses was fictitious!



I am sure that for sincere people, just reading one part of this series will be enough to strengthen their faith in Jehovah.

*Y. M., Russia*

**Time** Thank you so much for the article “Be on Time!” (April 8, 2004) Serving the congregation, being a family head, and working secularly place a lot of demands on my

time. I have taken advantage of previous suggestions in the magazines, but it is good to see an article like this again. I especially liked the statement “Our Creator intended for us to be time conscious.” That really puts things in perspective. Please continue writing practical articles like this one.

*J. S., United States*

I often leave things until the last minute, and although I am not tardy, I do oversleep. I’ve had many dangerous experiences because of rushing. This article encouraged me to try to leave a bit more leeway with my time.

*Y. W., Japan*

I am 18 years old. Since I am a full-time evangelizer and also attend school, I am always busy. I need time for preaching and also for homework and personal study. The article helped me to manage my time better, so as to be punctual at Christian meetings and other activities, as well as at school. I don’t want to be late anymore. Many thanks!

*J. H., United States*

I always used to be late for meetings. I prayed about it, and I am happy that Jehovah answered my prayer. I tried the suggestions in the article, and things worked out very well. Now I am on time. I realize that it is love that makes one punctual.

*J. A., Nigeria*

**Bad Habits** I just had to write and express my appreciation for the article “The Bible’s Viewpoint: Is It Possible to Overcome Bad Habits?” (April 8, 2004) I have been battling a weight problem for some time. I would lose weight, but then I would gain it back. Although the article did not deal with that specific problem, the information applied. It helped me to examine my bad habits and see how they have contributed to my weight gain. Thank you so much for reminding us of Jehovah’s awareness of and concern for the personal matters we contend with.

*M. S., United States*

**Coastal Dunes** Many thanks for the article “Poland’s Amazing Coastal Dunes.” (March 22, 2004) As I have often visited and admired Słowiński National Park, the article moved me deeply. Jehovah deserves the praise for preparing such amazing wonders of nature for us. I found the article to be especially heart-warming, since my mother was born only a few miles away from the park.

*I. L., Germany*

This article helped me to realize with what longing I look forward to the conditions in God’s new world. In my mind’s eye, I can go to Słowiński National Park and find, as the article called it, “nature’s therapy for jangled nerves.” Under the rule of God’s Kingdom, the whole planet will have such a soothing effect on us! Thank you so much for this well-written information!

*J. G., Poland*

# An Unusual Pair

Marine scientists diving at night in deep water off Australia's Great Barrier Reef recently experienced their first-ever encounter with a live male blanket octopus. What was so unusual about this?

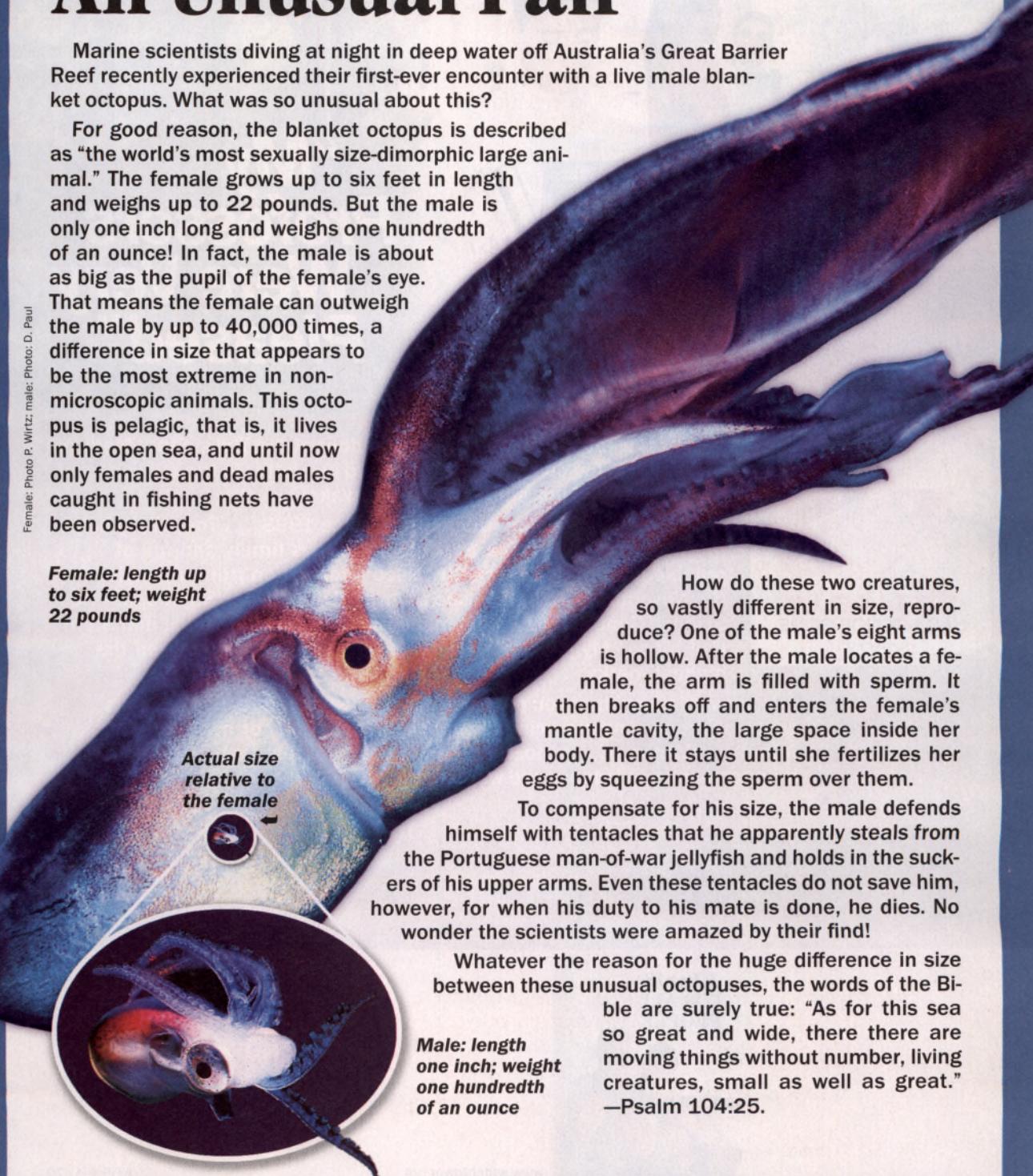
For good reason, the blanket octopus is described as "the world's most sexually size-dimorphic large animal." The female grows up to six feet in length and weighs up to 22 pounds. But the male is only one inch long and weighs one hundredth of an ounce! In fact, the male is about as big as the pupil of the female's eye. That means the female can outweigh the male by up to 40,000 times, a difference in size that appears to be the most extreme in non-microscopic animals. This octopus is pelagic, that is, it lives in the open sea, and until now only females and dead males caught in fishing nets have been observed.

**Female:** length up to six feet; weight 22 pounds

Actual size relative to the female



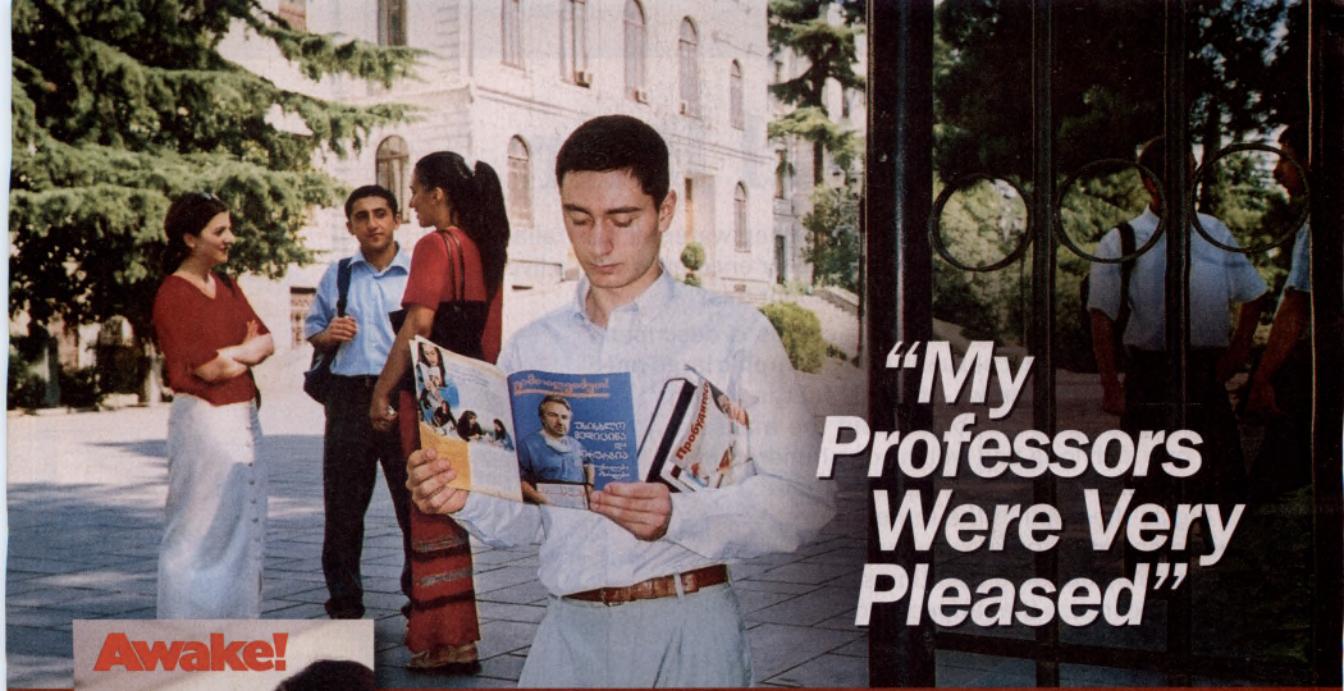
**Male:** length one inch; weight one hundredth of an ounce



How do these two creatures, so vastly different in size, reproduce? One of the male's eight arms is hollow. After the male locates a female, the arm is filled with sperm. It then breaks off and enters the female's mantle cavity, the large space inside her body. There it stays until she fertilizes her eggs by squeezing the sperm over them.

To compensate for his size, the male defends himself with tentacles that he apparently steals from the Portuguese man-of-war jellyfish and holds in the suckers of his upper arms. Even these tentacles do not save him, however, for when his duty to his mate is done, he dies. No wonder the scientists were amazed by their find!

Whatever the reason for the huge difference in size between these unusual octopuses, the words of the Bible are surely true: "As for this sea so great and wide, there are moving things without number, living creatures, small as well as great." —Psalm 104:25.



## "My Professors Were Very Pleased"

**Awake!**

**STEM CELLS**  
HAS SCIENCE GONE  
TOO FAR?

That is what a first-year medical student at the Tbilisi State Medical University in the country of Georgia said in a letter to the publishers of Awake! Why did this student write to Awake?!

"I have been reading your journals since 1998. . . . They really help me with my studies. The articles are always timely and full of reliable information. Recently I used information from the series in the November 22, 2002, issue of Awake! magazine, 'Stem Cells—Has Science Gone Too Far?' for a paper on the subject 'Cloning and Stem Cell Kinds.' My professors were very pleased, and I received the highest marks.

"I am very happy that you publish articles on such interesting subjects, especially regarding medicine. Even though neither I nor my family are Jehovah's Witnesses, we thoroughly enjoy your journals, as they help us to broaden our knowledge of the world around us."

