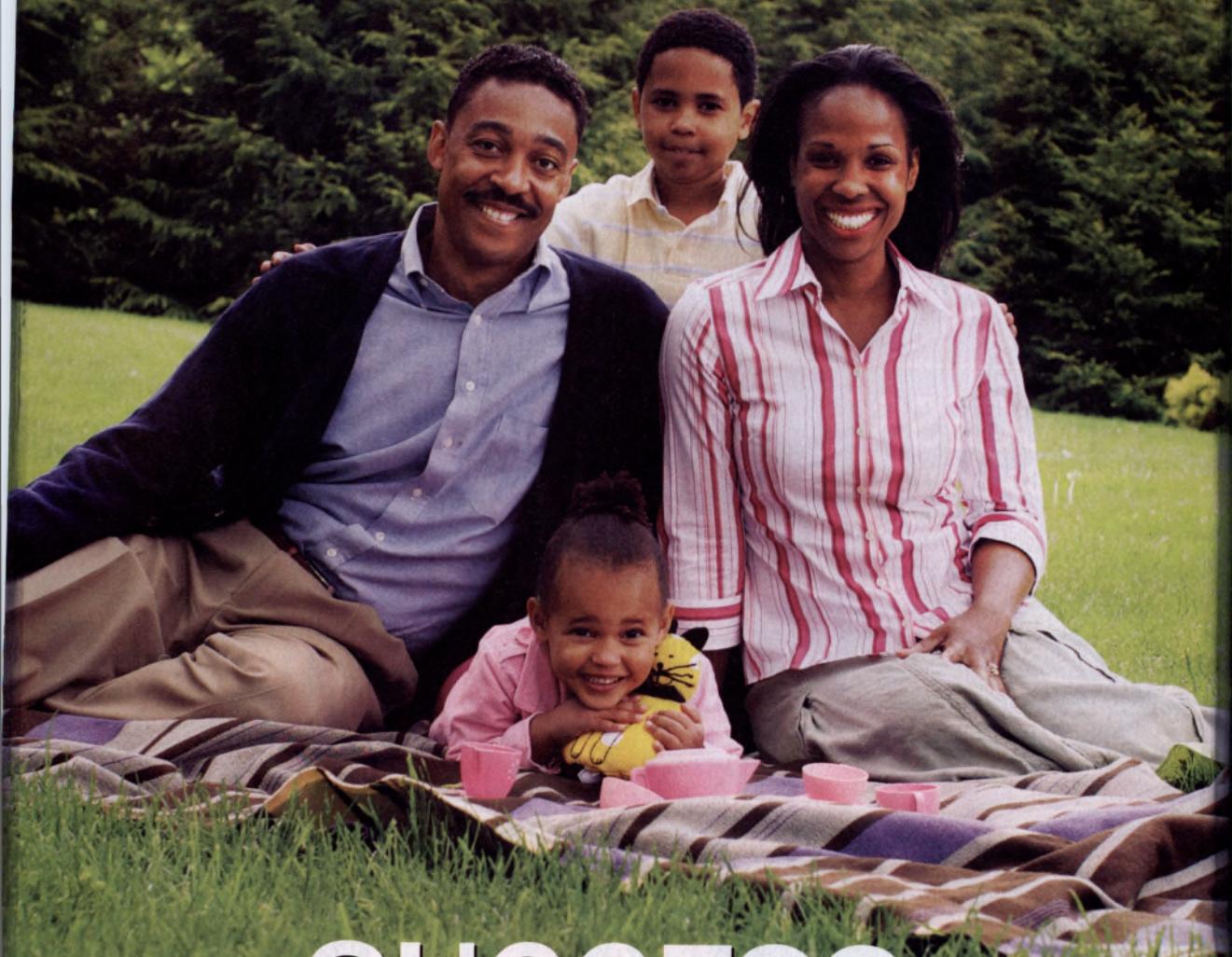


Awake!

NOVEMBER 2008



SUCCESS
How Can You Achieve It?

Awake!

AVERAGE PRINTING 35,754,000
PUBLISHED IN 81 LANGUAGES



How Does God View Aids to Worship? 18

Millions of professed Christians and non-Christians pray with the aid of objects and rituals. How does God view such practices?



Why the Nets Are Empty 20

Overfishing is threatening the future of a major food industry. See how this tragic situation developed and whether sweeping changes can be made.

© Janis Miglavs/DanitaDelimont.com

SUCCESS How Can You Achieve It? 3-9

Many people associate success with the attainment of fame, fortune, or power. But are these things the measure of real success? Read how real success—success as a person—is within the reach of all.

- 3 When Success Is Elusive
- 4 Where Can We Turn for Guidance?
- 6 Six Keys to Personal Success
- 10 Was It Designed?
The Navigational System
of the Butterfly
- 11 Looking Inside the Body
—Without Surgery
- 15 'Threading the Eye of the Needle'
- 24 A Train With No Wheels
- 26 Young People Ask
How Can I Improve in My Prayers?
- 29 Longevity
—Is the Secret in Okinawa?
- 30 Watching the World
- 31 How Would You Answer?
- 32 It Is Helping Them Lead
a More Meaningful Life





When Success Is Elusive

She was a singing phenomenon by her early 20's and was very rich.

Few people become so famous and financially successful at such an early age. But then things started to go wrong in her life. After two failed marriages, she had to spend time in alcohol- and drug-rehabilitation centers. Her whole life began to unravel.

SADLY, this young woman's story is all too common; tragic tales about celebrities frequently make the news. Even in the more conservative business world, seemingly successful people often have troubled lives. Concerning New York City's financial high-fliers, a newspaper report said: "[The] push for record profits is ruining careers, tearing apart families and keeping drug dealers busy . . . While record bonuses make some Wall Street bankers feel invincible, others become emotional wrecks from pressure to perform and some hit rock bottom."

Are such problems a result of misguided attempts to find happiness and success? It is true that we need a measure of financial security. But is our success in life contingent on amassing wealth? Studies indicate otherwise. For instance, a study in China showed that during a recent period when the average income grew by 250 percent, people actually became less satisfied with life.

Real success, then, must be a measure of something more substantial than secular careers and the cost of one's house, car, or watch. Should it not rather reflect what a person is as a whole, including the principles he lives by and

the purpose he has in life? A person may be smart and powerful, for example, but be morally bankrupt and devoid of love and true friends. Another might have fame and fortune but look back on his life and ask, 'What was it all for? What is the meaning of my life?'

It stands to reason, then, that truly successful people would have some depth to their lives, including sound principles to guide them. Hence, they would have inner peace, self-respect, and the respect of others. They would also have a purpose in life that transcends self and gives meaning and satisfaction. 'What principles?' some might ask. 'And what purpose?' Are the answers to such questions to be found within ourselves, or must we look elsewhere? The following articles will address those matters.

A WARPED VIEW OF SUCCESS

According to medical researchers, more and more young athletes are taking potentially harmful performance-enhancing drugs in order to excel in sports. *Education Update* online reported: "When college students in a recent survey were asked: 'If you knew you'd win or make the team by taking steroids, but in five years you'd get sick, would you still do it?,' nearly all said yes. When the question was changed to 'if you knew you would die within five years,' 65 percent still said yes."

Where Can We Turn for Guidance?

WHOMO can point the way to real success—not success in a secular sense but *success as a person*? As mentioned in the preceding article, true success, at the very least, must be linked to sound ethical principles and a noble purpose in life—things that do not depend on fame, fortune, or power.

Where can we find sound principles and answers to questions about life's purpose? Is it by looking within ourselves? Let's face it—as imperfect humans, we are prone to wrong desires that can lead us down the wrong path. (Genesis 8:21) Hence, millions continue to pursue the vanities that the Bible describes as “the desire of the flesh and the desire of the eyes and the showy display of one's means of life.” (1 John 2:16) That is not the way of real success but is a counterfeit that leads to disillusionment and unhappiness. For good reason, then, many look to our Creator for the answers to life's more profound questions.*

Should We Look to God?

Why is it reasonable to look to our Creator? He knows *why* he formed us and, therefore, what our purpose in life ought to be. He

* See the box “Beliefs That Devalue the Notion of Success.”

also knows *how* he formed us—physically, mentally, and emotionally. Thus, God knows the very best precepts that humans can live by. Moreover, God is the very embodiment of love, and therefore he *wants* us to be truly happy and successful. (1 John 4:8) Where can we turn for his loving guidance? To the Holy Bible, which God prepared for us using some 40 human penmen, or secretaries.* (2 Timothy 3:16, 17) How, though, can we be confident of the guidance found in that book?

“Wisdom is proved righteous by its works,” or results, said Jesus Christ, the foremost representative of God. (Matthew 11:19; John 7:29) Godly wisdom leads us along the way of success and lasting happiness—“the entire course of what is good”—whereas human wisdom that ignores God leads to failure and unhappiness.—Proverbs 2:8, 9; Jeremiah 8:9.

Consider the hippie era, which emerged on the world scene in the 1960's. Rejecting the standards and authority of the older generation, many hippies promoted, among other things, the use of drugs, a live-for-now philos-

* See the November 2007 special issue of this magazine, which discusses the theme “Can You Trust the Bible?” The articles in that issue provide archaeological, historical, scientific, and other evidence that the Bible truly is inspired of God.

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.

Publication of *Awake!* is part of a worldwide Bible educational work supported by voluntary donations. Unless otherwise indicated, Scripture quotations are from the modern-language *New World Translation of the Holy Scriptures—With References*.

Awake! (ISSN 0005-237X) is published monthly by Watchtower Bible and Tract Society of New York, Inc.; M. H. Larson, President; G. F. Simons, Secretary-Treasurer; 25 Columbia Heights, Brooklyn, NY 11201-2483. Periodicals Postage Paid at Brooklyn, N.Y., and at additional mailing offices. **POSTMASTER:** Send address changes to *Awake!*, 1000 Red Mills Road, Wallkill, NY 12589-3299. © 2008 Watch Tower Bible and Tract Society of Pennsylvania. All rights reserved. Printed in U.S.A.

BELIEFS THAT DEVALUE THE NOTION OF SUCCESS

Many people assert that there is no God and that life is a result of mindless evolution. If this view were true, life would simply be a product of a string of chemical and biological accidents, and our search for purpose and universal principles would be completely pointless.

Others believe that God created us and then abandoned us. In effect, this opinion renders us spiritual orphans, once again bereft of true purpose and standards. Consider: God provided each member of the animal kingdom with the instinctive wisdom needed to fulfill its niche in nature. As a result, his profound wisdom is manifest in the world around us. Would that same Creator form us and then leave us to flounder in the dark? By no means!—Romans 1:19, 20.

By rendering our search for purpose and universal principles futile, atheistic philosophies cheapen the very notion of success.

ophy, and sexual freedom. But did that way of life manifest true wisdom? Did it give people a real purpose in life and ethical standards that fostered genuine inner peace and lasting happiness? History suggests that it did not change people for the better but contributed to the ongoing moral deterioration of human society.

—2 Timothy 3:1-5.

In contrast with human philosophies, Biblical wisdom has withstood the test of time. (Isaiah 40:8) As you read the following article, you will likely see why, for it discusses six Bible principles that have helped millions of people, from virtually all nations, to become truly happy and successful—regardless of their economic or social status.

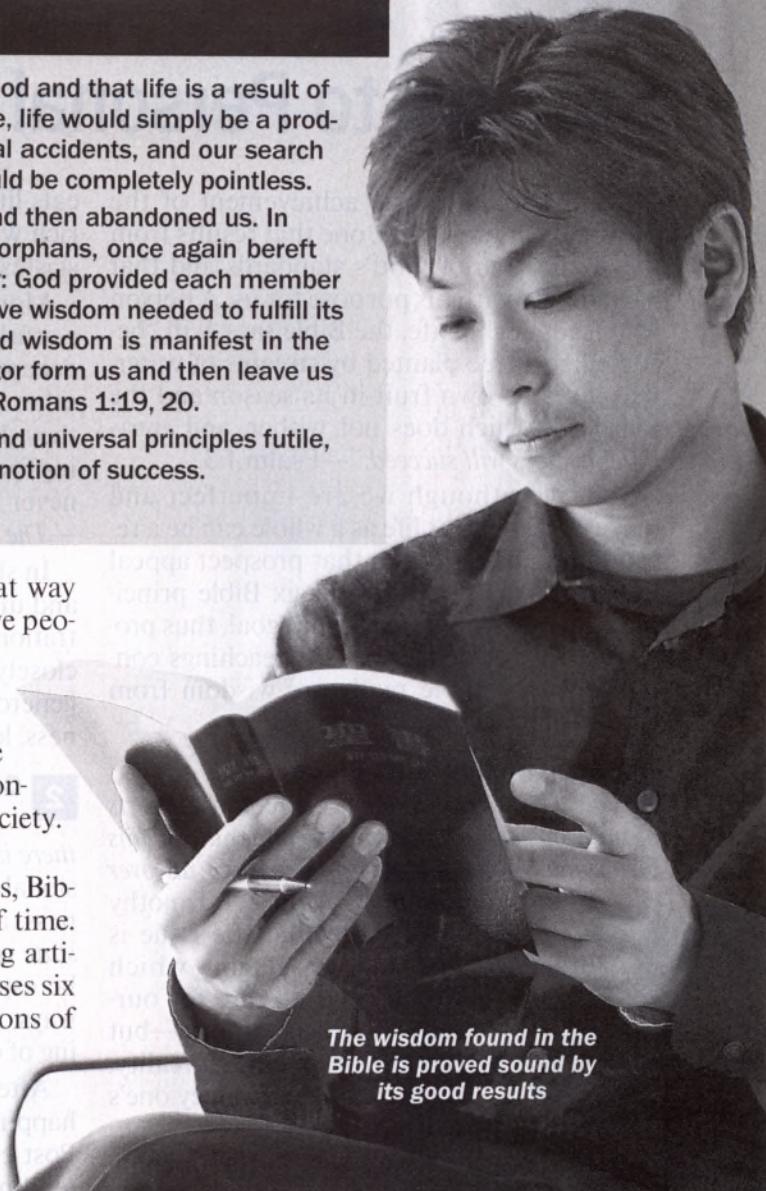
Languages: Afrikaans, Albanian, Amharic, Arabic, Armenian, Bislama, Bulgarian, Cebuano, Chichewa, Chinese, Chinese (Simplified), Chitonga, Chibemba, Croatian, Czech,⁺^{○○} Danish,⁺^{○○} Dutch,⁺^{○○} English,⁺^{○○} Estonian, Ewe, Fijian, Finnish,^{○○} French,^{#+○○} Georgian, German,^{#+○○} Greek, Gujarati, Hiligaynon, Hindi, Hungarian, Icelandic, Igbo, Iloko, Indonesian, Italian,^{#+○○} Japanese,^{#+○○} Kannada, Kirghiz, Korean,⁺^{○○} Latvian, Lingala, Lithuanian, Luvale, Macedonian, Malagasy, Malayalam, Maltese, Myanmar, Norwegian,⁺^{○○} Polish,^{#+○○} Portuguese,^{#+○○} Punjabi, Rarotongan, Romanian, Russian,^{#+○○} Samoan, Sepedi, Serbian, Sesotho, Shona, Silozi, Sinhala, Slovak, Slovenian, Spanish,^{#+○○} Swahili, Swedish,^{○○} Tagalog, Tamil, Thai, Tok Pisin, Tongan, Tsonga, Tswana, Turkish, Ukrainian, Urdu, Vietnamese, Xhosa, Yoruba, Zulu

⁺ Audiocassettes also available.

⁺ CD also available.

[○] MP3 CD-ROM also available.

[○] Audio recordings also available at www.jw.org.



*The wisdom found in the
Bible is proved sound by
its good results*

Would you welcome more information or a free home Bible study? Please send your request to Jehovah's Witnesses, using one of the addresses below. For a complete list of addresses, see www.watchtower.org/address. **America, United States of:** 25 Columbia Heights, Brooklyn, NY 11201-2483. **Australia:** Box 280, Ingleburn, NSW 1890. **Bahamas:** Box N-1247, Nassau, N.P. **Britain:** The Ridgeway, London NW7 1RN. **Canada:** P.O. Box 4100, Georgetown, ON L7G 4Y4. **Germany:** Am Steinfels, 65618 Selters. **Guam:** 143 Jehovah St., Barrigada, GU 96913. **Guyana:** 352-360 Tyrell St., Republic Park Phase 2 EBD. **Hawaii:** 2055 Kamehameha IV Road, Honolulu, HI 96819. **Jamaica:** P.O. Box 103, Old Harbour. **Japan:** 4-7-1 Nakashinden, Ebina City, Kanagawa Pref., 243-0496. **Puerto Rico:** P.O. Box 3980, Guayanabo, PR 00970. **South Africa:** Private Bag X2067, Krugersdorp, 1740. **Trinidad and Tobago, Republic of:** Lower Rapsey Street & Laxmi Lane, Curepe.

Six Keys to Personal Success

TRUE success is the achievement of the very best way of life, one that results from the application of God's standards and that harmonizes with his purpose for us. A person who leads such a life, the Bible says, will "become like a tree planted by streams of water, that gives its own fruit in its season and the foliage of which does not wither, and *everything he does will succeed.*"—Psalm 1:3.

Yes, even though we are imperfect and make mistakes, our life as a whole can be a resounding success! Does that prospect appeal to you? If so, the following six Bible principles can help you to reach that goal, thus providing clear evidence that the teachings contained in the Bible really are wisdom from God.—James 3:17.

1 Keep Money in Its Place

"The love of money is a root of all sorts of injurious things, and by reaching out for this love some have . . . stabbed themselves all over with many pains." (1 Timothy 6:10) Note that the issue is not money itself—which we all need to care for ourselves and our families—but the *love* of money. In reality,

that love makes money one's master, or god.

As we saw in the opening article of this series, people who avidly chase after riches as the key to success are, in fact, pursuing a mirage. Besides inviting disappointment, they invite many pains. For example, while ardently pursuing wealth, people often sacrifice relationships with family and friends. Others forgo needed sleep—if not because of work, then because of anxiety or worry. "The sleep of a laboring man is sweet, whether he

eats little or much; but the abundance of the rich will not allow him to sleep," says Ecclesiastes 5:12.—*Hebrew Names Version*.

Money is not just a cruel master but a deceitful one as well. Jesus Christ spoke of "the deceptive power of riches." (Mark 4:19) In other words, riches promise happiness, but they do not deliver. They just create a craving for more. "The man who loves money can never have enough," says Ecclesiastes 5:10.—*The New English Bible*.

In short, the love of money is self-defeating and ultimately leads to disappointment, frustration, or even crime. (Proverbs 28:20) More closely linked to happiness and success are generosity, a forgiving attitude, moral cleanliness, love, and spirituality.

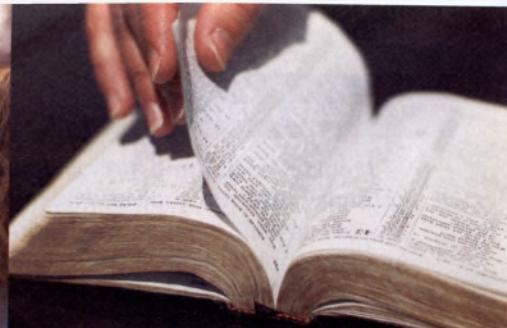
2 Cultivate a Generous Disposition

"There is more happiness in giving than there is in receiving." (Acts 20:35) While occasional giving can produce moments of happiness, a generous disposition can engender a state of happiness. Of course, generosity can be expressed in many ways. One of the best ways, and often the most appreciated, is giving of oneself.

After reviewing several studies on altruism, happiness, and health, researcher Stephen G. Post concluded that being altruistic and extending help to others are associated with greater longevity, an improved sense of well-being, and better physical and mental health, including a reduction in depression.

Moreover, those who give generously according to their means do not suffer loss because of it. Says Proverbs 11:25: "A generous man will prosper; he who refreshes others will himself be refreshed." (*New International Version*) In harmony with those





words, people who are truly generous at heart—who do not give with a view to repayment—are appreciated and loved, especially by God.
—Hebrews 13:16.

3 Forgive Freely

“Continue . . . forgiving one another freely if anyone has a cause for complaint against another. Even as Jehovah freely forgave you, so do you also.” (Colossians 3:13) Nowadays, forgiveness is often thrust aside; people prefer getting even over showing mercy. The result? Insult triggers insult, and violence begets violence.

The harm may not stop there. “In a study of more than 4,600 18- to 30-year-olds,” says a report in *The Gazette* of Montreal, Canada, researchers “found [that] the more hostile, frustrated and mean-spirited the personality” was, the more unhealthy the person’s lungs were. In fact, some of the harmful effects were even greater than those for a current smoker! Indeed, a forgiving attitude is not just a good social lubricant but also good medicine!

How can you become more forgiving? Start by taking an honest look at yourself. Do you not upset others at times? And do you not appreciate their forgiveness? So why not be generous in extending mercy to others? (Matthew 18:21-35) In this regard it is also important to develop self-control. “Count to ten” or in some other way give yourself time to cool off. And see self-control as a strength. “He that is slow to anger is better than a mighty man,” says Proverbs 16:32. “Better than a mighty man”—that suggests success, does it not?

4 Comply With God’s Standards

“The commandment of Jehovah is clean, making the eyes shine.” (Psalm 19:8) To put it simply, God’s standards are good for us—physically, mentally, and emotionally. Among other things, they shield us from such harmful practices as drug abuse, drunkenness, sexual misconduct, and viewing pornography. (2 Corinthians 7:1; Colossians 3:5) The resulting harm from these may come in the form of crime, poverty, mistrust, family

ADDITIONAL PRECEPTS THAT PROMOTE SUCCESS

■ **Have a wholesome fear of God.** “The fear of Jehovah is the start of wisdom.”—Proverbs 9:10.

■ **Choose friends wisely.** “He that is walking with wise persons will become wise, but he that is having dealings with the stupid ones will fare badly.”—Proverbs 13:20.

■ **Avoid excesses.** “A drunkard and a glutton will come to poverty.”—Proverbs 23:21.

■ **Do not seek vengeance.** “Return evil for evil to no one.”—Romans 12:17.

■ **Work hard.** “If anyone does not want to work, neither let him eat.”—2 Thessalonians 3:10.

■ **Apply the Golden Rule.** “All things . . . that you want men to do to you, you also must likewise do to them.”—Matthew 7:12.

■ **Control your tongue.** “He that would love life and see good days, let him restrain his tongue from what is bad.”—1 Peter 3:10.

Medical doctor and author Dean Ornish writes: “Love and intimacy are at a root of what makes us sick and what makes us well, what causes sadness and what brings happiness, what makes us suffer and what leads to healing. If a new drug had the same impact, virtually every doctor in the country would be recommending it for their patients. It would be malpractice not to prescribe it.”



breakdown, mental and emotional problems, disease, and even untimely death.

On the positive side, those who comply with God’s standards foster wholesome, secure relationships, as well as self-respect and inner peace. At Isaiah 48:17, 18, God says that he is “the One teaching you to benefit yourself, the One causing you to tread in the way in which you should walk.” And he adds: “O if only you would actually pay attention to my commandments! Then your peace would become just like a river, and your righteousness like the waves of the sea.” Yes, our Creator wants the very best for us. He wants us “to tread in the way” of real success.

5 Show Unselfish Love

“Love builds up.” (1 Corinthians 8:1) Can you imagine a life without love? What a hollow, unhappy existence that would be! “If I . . . do not have love [for others], I am nothing. . . . I am not profited at all,” wrote the Christian apostle Paul under divine inspiration.—1 Corinthians 13:2, 3.

The form of love mentioned here is not the sexual kind, which, of course, has its place. Rather, it is a richer, more lasting love governed by godly principles.* (Matthew 22:37-39) Moreover, it is not passive, in the sense of receiving it, but active, in the sense of show-

* In nearly all its occurrences in the Christian Greek Scriptures, or “New Testament,” “love” is a translation of the Greek word *a-ga'pe*. *A-ga'pe* is a moral love based on deliberate assent of the will as a matter of principle, duty, and propriety. *A-ga'pe*, however, is not without feeling but can be warm and intense.—1 Peter 1:22.

ing it. Paul went on to say that this love is also patient and kind. It is not jealous, boastful, or proud. It unselfishly looks out for the welfare of others, and it does not easily take offense but is forgiving. Such love is upbuilding. Moreover, it helps us to be successful in our relationships with others, especially family members.—1 Corinthians 13:4-8.

For parents, love means showing warm affection to their children and setting clear, Bible-based moral and other behavioral boundaries for them. Children raised in such an environment enjoy a sense of security and family stability, and they feel truly loved and appreciated.—Ephesians 5:33-6:4; Colossians 3:20.

Jack, a young man in the United States, was reared in a family that applied Bible principles. After leaving home, Jack wrote to his parents. In part, he said: “Something I’ve always tried to do is follow the [Bible] command: ‘Honor your father and your mother . . . and it may go well with you.’ (Deuteronomy 5:16) Things have gone well for me. And now more than ever, I appreciate that it has been a result of your earnest, loving parenting. Thank you for all your hard work and support in raising me.” If you are a parent, how would you feel if you received a letter like that? Would it not make your heart swell?

Principled love also “rejoices with the truth”—spiritual truth found in the Bible. (1 Corinthians 13:6; John 17:17) To illustrate: A couple who have marital problems decide to read together Jesus’ words found

at Mark 10:9: "What God yoked together [in marriage] let no man put apart." Now they have to examine their hearts. Do they truly 'rejoice with Bible truth'? Will they view and treat marriage as sacred, as God does? Are they willing to make the effort to resolve their problems in the spirit of love? If so, they can make their marriage a success, and they will be able to rejoice in the results.

6 Be Conscious of Your Spiritual Need

"Happy are those conscious of their spiritual need." (Matthew 5:3) Unlike animals, humans have the capacity to appreciate spiritual things. Hence, we ask such questions as, What is the purpose of life? Is there a Creator? What happens to us when we die? What does the future hold?

Worldwide, millions of sincere people have found that the Bible answers those questions. The last question, for example, relates to God's purpose for mankind. What is that purpose? It is for the earth to be a paradise inhabited forever by people who love both God and his standards. Says Psalm 37:29: "The



righteous themselves will possess the earth, and they will reside forever upon it."

Clearly, our Creator wants more for us than temporary success for a mere 70 or 80 years. He wants us to be successful forever! So now is the time for you to learn about your Creator. Jesus said: "This means everlasting life, their taking in knowledge of you, the only true God, and of the one whom you sent forth, Jesus Christ." (John 17:3) As you gain that knowledge and apply it in your life, you will discover for yourself that "the blessing of Jehovah . . . is what makes rich, and he adds no pain with it."—Proverbs 10:22.



FROM DESPAIR TO SUCCESS

When war started in his homeland, Milanko, who lives in the Balkans, joined the army. Because of his courageous exploits, he was nicknamed Rambo, after a violent movie hero. In time, though, Milanko became disillusioned with the military because of the corruption and hypocrisy he saw. "That," he writes, "led to many vices—alcohol, cigarettes, drugs, gambling, and promiscuity. I was heading for the bottom and could not see a way out."

At that critical time in his life, Milanko began to read the Bible. Later, while visiting a relative, he saw a copy of the Watchtower magazine, published by Jehovah's Witnesses. He liked what he read and soon began to study the Bible with the Witnesses. Bible truth put him on the path to happiness and real success. "It gave me new strength," he says. "I gave up all my vices, became a new person, and was baptized as one of Jehovah's Witnesses. People who knew me before no longer call me Rambo, but Bunny—my childhood nickname—because of my now gentle nature."



WAS IT DESIGNED?

The Navigational System of the Butterfly

Using a brain that is about the size of the tip of a ballpoint pen, the monarch butterfly migrates as far as 1,800 miles from Canada to a small patch of forest in Mexico. How does the insect find its way?

Consider: Monarch butterflies have a solar compass that is fixed to the position of the sun. But there is more. These insects also use a remarkably accurate circadian clock—a biological function based on the 24-hour day—to make corrections for the sun's movement. Dr. Steven Reppert, a neurobiologist, says that monarch butterflies "have an entirely different way of building a circadian clock than the other insects and animals studied so far."

Learning more about the secrets of the monarchs' inner timepiece might give scientists further insight into the circadian clocks of humans and animals. It could also lead to new therapies for neurological afflictions. "I want to understand how the brain incorporates information about time and space," says Reppert, "and the monarch is a spectacular example."

What do you think? Is the complex navigational system of the monarch butterfly the product of chance? Or is it evidence of an intelligent Designer?

Background: © Fritz Poelking/age fotostock

The monarch butterfly migrates up to 1,800 miles from Canada to a small patch of forest in Mexico



Looking Inside the Body WITHOUT SURGERY

THANKS to advances in computers, mathematics, and science, the scalpel is giving way to nonsurgical tools in the diagnosis of certain diseases. Besides X-ray imaging, now over 100 years old, the technologies include computed tomography (CT scans), positron-emission tomography (PET scans), magnetic resonance imaging (MRI), and ultrasound imaging, or sonography.* How do these techniques work? What are their health risks? And what are their advantages?

X-ray Radiography

How does it work? X-rays have a shorter wavelength than visible light and can penetrate body tissues. When a certain part of the body is x-rayed, dense tissues, such as bones, absorb the rays and appear as bright areas on the developed film, called a radiograph. Soft tissues appear in shades of gray. X-rays are commonly used to diagnose problems or disease involving teeth, bones, breasts, and the chest. To distinguish between adjacent soft tissues of the same density, a doctor may inject a radiopaque dye into the patient's bloodstream to enhance the contrast. Nowadays, X-rays are often digitized and viewed on a computer screen.

Risks: There is a slight chance of damage to cells

* Tomography is a method of producing three-dimensional images of internal structures of the body. The word is derived from *tomo*, meaning "section" or "layer," and *graphein*, meaning "to write."

and tissues, but the risk is usually very low compared with the benefits.* Women who may be pregnant should inform their doctor before they submit to an X-ray. Contrast agents, such as iodine, may cause allergic reactions. So inform your doctor or technician if you have any allergies to iodine or to seafood, which contains this element.

Benefits: X-ray imaging is fast, generally painless, relatively inexpensive, and quite easy to perform. Hence, it is particularly useful in such areas as mammography and emergency diagnosis. No radiation remains in the body after the X-ray is administered, and usually there are no side effects.[#]

* For a comparison of radiation doses, see the box "How Much Radiation Exposure?"

[#] This article merely provides an overview of imaging techniques and their risks and benefits. For additional information, please consult specialized publications or a radiologist.



X-ray



CT

Computed Tomography

How does it work? CT scans involve a more sophisticated and intense use of X-rays, along with special sensors. The patient lies on a table that slides into a tunnel in the machine. Images are produced by numerous narrow beams of radiation and detectors that rotate 360 degrees around the patient. The process has been compared to examining a loaf of bread by photographically cutting it into very thin slices. A computer reassembles the “slices,” providing a detailed cross-sectional view of the body’s interior. The latest machines scan the body in a helical, or spiral, fashion, thereby speeding up the process. Because CT scans provide much detail, they are often used for examining the chest, the abdomen, and the skeleton, and for diagnosing various cancers and other disorders.

Risks: CT scans usually involve higher doses of radiation than regular X-rays. The additional exposure carries a small but significant increased risk of cancer, and this should be carefully weighed against the benefits. Some patients have an allergic reaction to contrast agents, which commonly include iodine; and in certain patients, there may also be an element of risk to the kidneys. If a contrast fluid is used, nursing mothers may have to wait 24 hours or more before resuming breastfeeding.

Benefits: Painless and noninvasive, CT scans provide finely detailed data that can be digitally converted into three-dimensional

images. Scans are relatively fast and simple, and they can save lives by revealing internal injuries. CT scanners do not affect implanted medical devices.

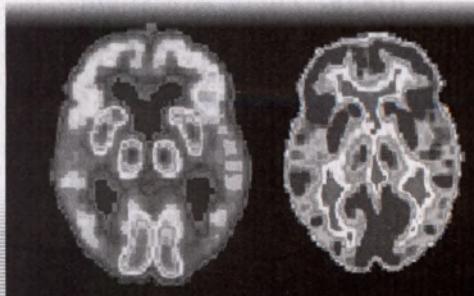
Positron-Emission Tomography

How does it work? For a PET scan, a radioactive substance is attached, or tagged, to a natural body compound, most commonly glucose, and injected into the body. The image results from the emission of positrons—positively charged particles—from the tissues. PET scans operate on the principle that cancerous cells use more glucose than normal ones do, thus attracting a larger amount of the radioactive substance. As a result, diseased tissues emit a greater number of positrons, which register as a variation in color or degree of brightness on the final image.

Whereas CT scans and MRI scans reveal the shape and structure of organs and tissues, PET scans show how they are functioning, thus revealing changes at an earlier stage. PET scans can be performed in combination with CT scans, the superimposed image enhancing the detail. PET scans may give false results, however, if patients have eaten within a certain time prior to the scan or if their blood sugar levels, perhaps because of diabetes, are outside the acceptable range. Also, because the radioactivity is very short-lived, timing is important.

Risks: Because the amount of radioactive substance used is very low and its radioactivity short-lived, radiation exposure is low. Still, it can pose a risk to a developing fetus. Hence,

Courtesy Alzheimer's Disease Education and Referral Center, a service of the National Institute on Aging

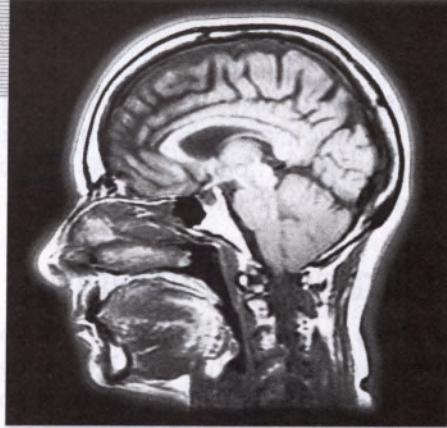


PET

MRI

women who may be pregnant should inform their doctor and the imaging staff. And women of childbearing age may be asked to give a blood or urine sample to test for pregnancy. If a PET scan is used in conjunction with a CT scan, then the risks associated with CT scans should also be taken into account.

Benefits: Because PET scans show not just the shape of organs and tissues but also how well they are working, these scans can uncover problems before changes in tissue structure can be seen with CT or MRI.



Magnetic Resonance Imaging

How does it work? MRI uses a powerful magnetic field along with radio waves (not X-rays) and a computer to produce highly detailed "slice-by-slice" pictures of virtually all internal structures of the body. The results enable physicians to examine parts of the body in minute detail and identify disease in ways that are not possible with other techniques. For example, MRI is one of the few imaging tools that can see through bone, making it an excellent tool for examining the brain and other soft tissue.

Patients must remain still during the imaging process. And because the scan takes place as the patient slides through a rather small tunnel in the machine, some people experience claustrophobia. In recent times, though, open MRI scanners have been developed for patients who are anxious or obese. Naturally, no metal objects such as pens, watches, jewelry, hairpins, and metal zippers as well as credit cards and other mag-

netically sensitive items are allowed into the examination room.

Risks: If a contrast fluid is used, there is a slight risk of allergic reaction, but the risk is less than that associated with the iodine-based substances commonly used with X-rays and CT scans. Otherwise, MRI poses no known risk to the patient. However, because of the effect of the strong magnetic field, patients with certain surgical implants or metal fragments from injuries may be unable to have an MRI. So if an MRI is recommended for you, be sure to tell your doctor and your MRI technologist if you have any of those things.

HOW MUCH RADIATION EXPOSURE?

Daily we are exposed to background radiation, whether from cosmic rays coming from outer space or from naturally occurring radioactive substances such as radon gas. The following comparison may help you to evaluate risks associated with certain medical tests. Measurements are averages in millisieverts (mSv).

A five-hour flight in a commercial airplane: 0.03 mSv

Ten days of natural background radiation: 0.1 mSv

One dental X-ray: 0.04-0.15 mSv

One regular chest X-ray: 0.1 mSv

One mammogram: 0.7 mSv

One CT scan of the chest: 8.0 mSv

If you require an examination, do not hesitate to ask your doctor or radiologist for specific information about radiation exposure levels or any other concern you may have.

Benefits: MRI does not use potentially harmful radiation, and it is particularly good at detecting tissue abnormalities, especially those that may be obscured by bone.

Ultrasound Imaging

How does it work? Also called ultrasound scanning, or sonography, this technology is essentially a form of sonar that uses sound waves above the range of human hearing. When the waves reach a boundary where there is a change in tissue density—the surface of an organ, for example—an echo results. A computer analyzes the echo, revealing two- or three-dimensional features of the organ, such as its depth, size, shape, and consistency. Low-frequency waves enable the imaging of deeper parts of the body; ultrahigh frequencies permit the study of surface organs such as the eyes and the layers of skin, perhaps assisting in the diagnosis of skin cancer.

In most instances, the examiner uses a handheld device called a transducer. After applying a clear gel to the skin, he rubs the transducer over the area of interest, and the resulting image immediately shows up on a computer screen. When necessary, a small transducer can be attached to a probe and inserted into a natural opening in the body to make certain internal examinations possible.

A technology called Doppler ultrasound is sensitive to movement and is used to reveal blood flow. This, in turn, can be helpful when making diagnoses involving organs and tumors, which tend to have an abnormally large amount of blood vessels.

Ultrasound imaging helps physicians to diagnose an array of con-

ditions and to discern the underlying cause of symptoms, from heart-valve disorders to lumps in the breast or the status of an unborn infant. On the other hand, because ultrasound waves are reflected by gas, the technology has limitations when applied to certain parts of the abdomen. Also, the resolution may not be as high as that of other technologies, such as radiography.

Risks: Even though ultrasound is generally safe when used properly, it is a form of energy and can produce physical effects in tissues, including those of the unborn. Prenatal ultrasound, therefore, should not be considered risk free.

Benefits: The technology is widely available, noninvasive, and relatively inexpensive. It also provides real-time imaging.

Future Technologies

At present, the main thrust of research seems to be to improve technology that is already available. For example, researchers are developing MRI scanners that operate with a much weaker magnetic field than that of present devices, thus considerably reducing costs. A new technology under development is called molecular imaging (MI). Designed to detect changes within the body at the molecular level, MI promises very early detection and treatment of disease.

Imaging technology has reduced the need for many painful, risky, and even unneeded exploratory operations. And when imaging leads to early diagnosis and treatment of disease, the outcome may be much better. The equipment, however, is expensive—some machines costing well over a million dollars.

Of course, the prevention of disease is better than its detection and cure. So try to stay healthy through proper diet, regular exercise, sufficient rest, and a positive mental outlook. "A heart that is joyful does good as a curer," says Proverbs 17:22.

Ultrasound



'Threading the Eye of the Needle'

BY AWAKE! WRITER IN AUSTRALIA

WHEN British explorers discovered Bass Strait in 1798, naval officials were delighted. Separating the island state of Tasmania from the Australian mainland, this ocean passage cut 700 miles off the voyage from England to Sydney.

Bass Strait, however, has proved to be one of the roughest stretches of water in the world. There, westerly gales, strong currents, and a shallow average depth of some 200 feet conspire to create confusing seas and huge waves. Also dangerous are the jagged reefs of King Island, which lies in the middle of the strait at its western entrance.

Negotiating Bass Strait nowadays presents no problem. But that was not the case in the days of sailing vessels and primitive navigational aids. Sailing into the western entrance of the strait was a nerve-racking experience, aptly described as 'threading the eye of the needle.'

Sailing the Great Circle Route

During the early 19th century, ships took up to five months to travel the 12,000 miles from England to eastern Australia, and the voyage was anything but pleasant! Usually, the hundreds of passengers—mostly emigrants and convicts—were crammed below decks in deplorable conditions. Seasickness, malnutrition, and disease were rampant, as



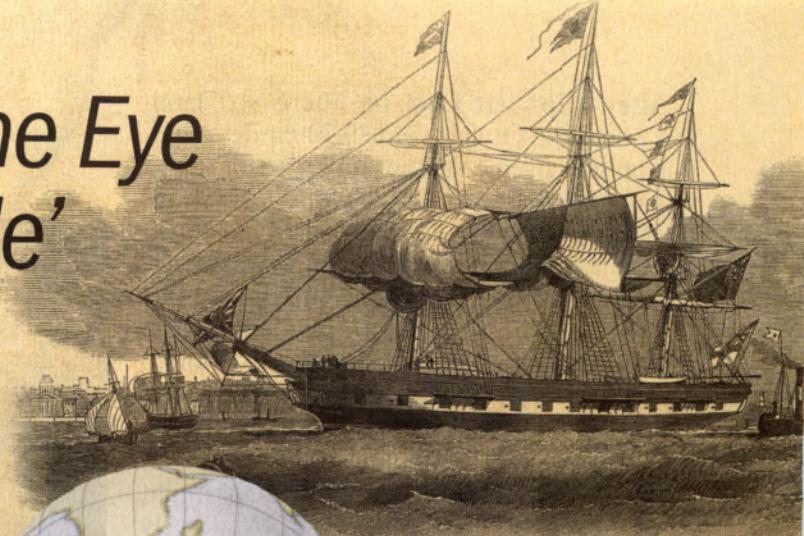
Forbes sailed the "Marco Polo" (above) from England to Australia, using the much faster great circle route

were vermin. Death was commonplace.* Still, the hope of a better life gave many passengers strength and stamina.

In 1852, things took a turn for the better when Captain James (Bully) Forbes found a shorter route. Abandoning the 39th parallel, which seemed to be the shortest path across the southern Indian Ocean to Australia, Forbes took the great circle route from England to southeastern Australia, which led him farther south, toward Antarctica.[#] Despite icebergs and huge waves, Forbes' ship, the *Marco Polo*, with 701 emigrants aboard, docked at Melbourne, in Victoria, after just 68 days, cutting the travel time nearly in half. The record was opportune indeed, for Victoria's gold rush was in full swing. News of the swift voyage prompted thousands of would-be miners to scramble for passage to the land Down Under.

* During 1852, 1 child in 5 aged 12 months or less died en route from England to Australia.

[#] A cord pulled tightly between any two points on a sphere will lie along the shortest distance—the great circle.



▲ From the newspaper: *The Illustrated London News*, February 19, 1853

After ships left England, their next landfall was Cape Otway, some 9,700 miles away. Navigators used a sextant and a set of tables to calculate latitude, and they used the ship's chronometer, set to Greenwich Mean Time, to ascertain longitude. Local time was determined by the position of the sun. Each hour of difference between local time and Greenwich time represented 15 degrees of longitude. The two readings—latitude and longitude—enabled a good navigator to determine his position with reasonable accuracy.

But things could go wrong. Clouds might obscure the sun for days on end. And early chronometers were not always precise. One second gained or lost every day for three months could put a vessel up to 30 miles off course. In rain, fog, or darkness, straying ships could miss the entrance to Bass Strait and come to grief on the rocky coastline of either King Island or Victoria. Doubtless, many a traveler echoed the sentiments of one captain who, upon sighting Cape Otway from a safe distance, cried out: "Thank God! We have made no mistake." It is testimony to the skill of 19th-century mariners that most were able to 'thread the eye of the needle' without incident. Some vessels, though, were less fortunate.

A Ship's Graveyard

Before dawn on June 1, 1878, the clipper *Loch Ard* sailed through thick mist toward Victoria's coastline. The mist had lingered from the previous day and had hampered the captain's noon sextant sighting. As a result, he was much nearer the coast of mainland Australia than he thought. Suddenly, the mist lifted to reveal sheer cliffs, 300 feet high, just a mile away. The crew worked frantically to turn the ship, but wind and tide conspired against them. In less than an hour, the *Loch Ard* struck a reef with a great crash and sank 15 minutes later.

Of the 54 people aboard, only two survived—ship's apprentice Tom Pearce and passen-

**After crashing onto a reef,
the "Loch Ard" sank in 15 minutes**



ger Eva Carmichael, both under 20 years of age. Tom clung for hours to an upturned lifeboat in the cold winter waters. Finally, the tide swept him into a narrow gorge between the cliffs. Seeing a small beach littered with wreckage, he swam to safety. Eva could not swim, so she clung to wreckage for about four hours before being swept into the same gorge. Seeing Tom on the beach, she cried for help. Tom plunged into the surf and, after struggling for an hour, dragged a now semiconscious Eva ashore. She related: "He took me into a wild-looking cave a few hundred feet from the beach and finding a case of brandy, broke a bottle and made me swallow some, which revived me. He pulled some long grass and shrubs for me to lie on. I soon sank into a state [of] unconsciousness and must have remained so for hours." Meanwhile, Tom climbed the cliff and raised the alarm. Less than 24 hours after the *Loch Ard* sank, Tom and Eva were taken to a nearby homestead. Eva had lost both her parents and her five siblings—three brothers and two sisters—in the wreck.

Today, thousands of vessels, large and small, ply Bass Strait safely every year. En route, they may pass more than a hundred confirmed wrecks. Some of the wreck sites,

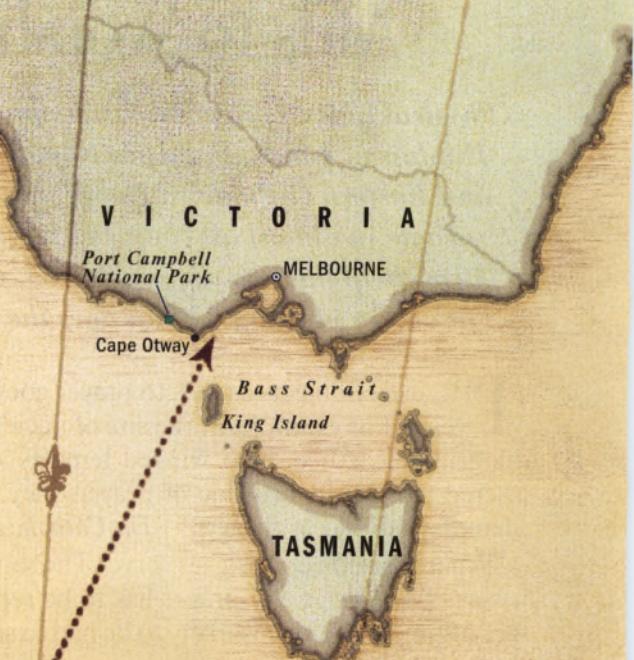
T R A L I A

Port Campbell National Park showing (1) where the "Loch Ard" hit the reef and (2) where Tom Pearce's cave is located



Photo: AP/Wide World Photos

such as Loch Ard Gorge in Port Campbell National Park, Victoria, are visited by tourists. The sites are a poignant reminder of those courageous 19th-century souls who, after voyaging halfway around the world, braved the final leg—the “needle’s eye”—in search of a better life.



Sailing into the western entrance of Bass Strait was described as ‘threading the eye of the needle’

WHAT BECAME OF TOM AND EVA?



Tom Pearce and Eva Carmichael, the only survivors of the *Loch Ard* shipwreck, became instant celebrities in Australia. “Newspapers sensationalised the wreck, hailed Pearce as a hero, Eva Carmichael as a beauty and seemed determined that the two should marry,” says the book *Cape Otway—Coast of Secrets*. Although Tom proposed, Eva declined his offer and three months later returned to Ireland. There she married and raised a family. She died in 1934 at 73 years of age. Tom returned to sea and was promptly shipwrecked a second time. Again he survived. After working for many years as a master of steamships, he died in 1909 at the age of 50.



Both photos: Flagstaff Hill Maritime Village, Warrnambool

How Does God View Aids to Worship?

Physical aids to prayer are common in Buddhism, Hinduism, Islam, Judaism, Roman Catholicism, and Eastern Orthodoxy. Hence, many millions of people in almost all countries believe that such items help them to approach God, win his favor, or obtain blessings. What does the Bible teach?

THE use of objects as aids to prayer goes back thousands of years. For example, at the site of ancient Nineveh, archaeologists unearthed “two winged females standing before the sacred tree in the attitude of prayer; they . . . hold in the left [hand] a garland or rosary.”—*The Catholic Encyclopedia*.

What function do rosaries serve? The same encyclopedia answers: “Whenever any prayer has to be repeated a large number of times recourse is likely to be had to some mechanical apparatus less troublesome than counting upon the fingers.”

Prayer wheels take the repetition of prayer a step further. Each turn of the wheel, whether by hand, wind, water, or electricity, is seen as the equivalent of offering a prayer. Prayer wheels are often used in conjunction with mantras—mystical formulas or verses. Consider how God feels about such things.

“Do Not Say the Same Things Over and Over Again”

Jesus Christ, who is recognized even by millions of non-Christians as a prophet of God, explained the Creator’s view of repetitive prayer, saying: “When praying, do not say the same things over and over again, just as the people of the nations do, for they imagine they will get a hearing for their use of many words.”*—Matthew 6:7.

Hence, if God disapproves our saying “the same things over and over again,” would not objects that are used as an aid to such constantly repeated prayers also be un-

* In his model prayer, Jesus did not say: “You must pray, then, this *prayer*,” which would contradict what he had just stated. Rather, he said: “You must pray, then, this *way*.” (Matthew 6:9-13) His point? As the model prayer reveals, we should give spiritual concerns priority over material interests.



acceptable? Accordingly, the Bible does not contain a single reference to a faithful servant of the true God ever using rosaries, prayer wheels, or other such objects in worship. The reasons become even clearer when we understand the true nature and purpose of prayer.

Prayer That Pleases God

In Jesus' model prayer, he specifically referred to God as "Our Father." Yes, our Creator is not some aloof being or mystical force that must be appeased by incantations, rituals, or mantras. Rather, he is a loving Father, and he wants us to recognize him as such and to love him. "I love the Father," said Jesus. (John 14:31) A prophet in ancient Israel said: "O Jehovah, you are our Father."—Isaiah 64:8.

How can we draw close to Jehovah as a spiritual Father? (James 4:8) As in any relationship, we draw close to God by two-way communication. God "speaks" to us through the pages of the Bible—his written Word—wherein he reveals his activities, personality, and purpose for us. (2 Timothy 3:16) In turn, we speak to God by means of prayer, or worshipful address. Such prayer should, of course, be sincere and intimate, not formal and ritualistic.

Consider: Within a warm, loving family, how would normal, intelligent children communicate with their parents? Would they utter the same words or phrases repeatedly, perhaps counting the repetitions with some device? Of course not! Rather, they would speak meaningfully and respectfully, from the heart.

HAVE YOU WONDERED?

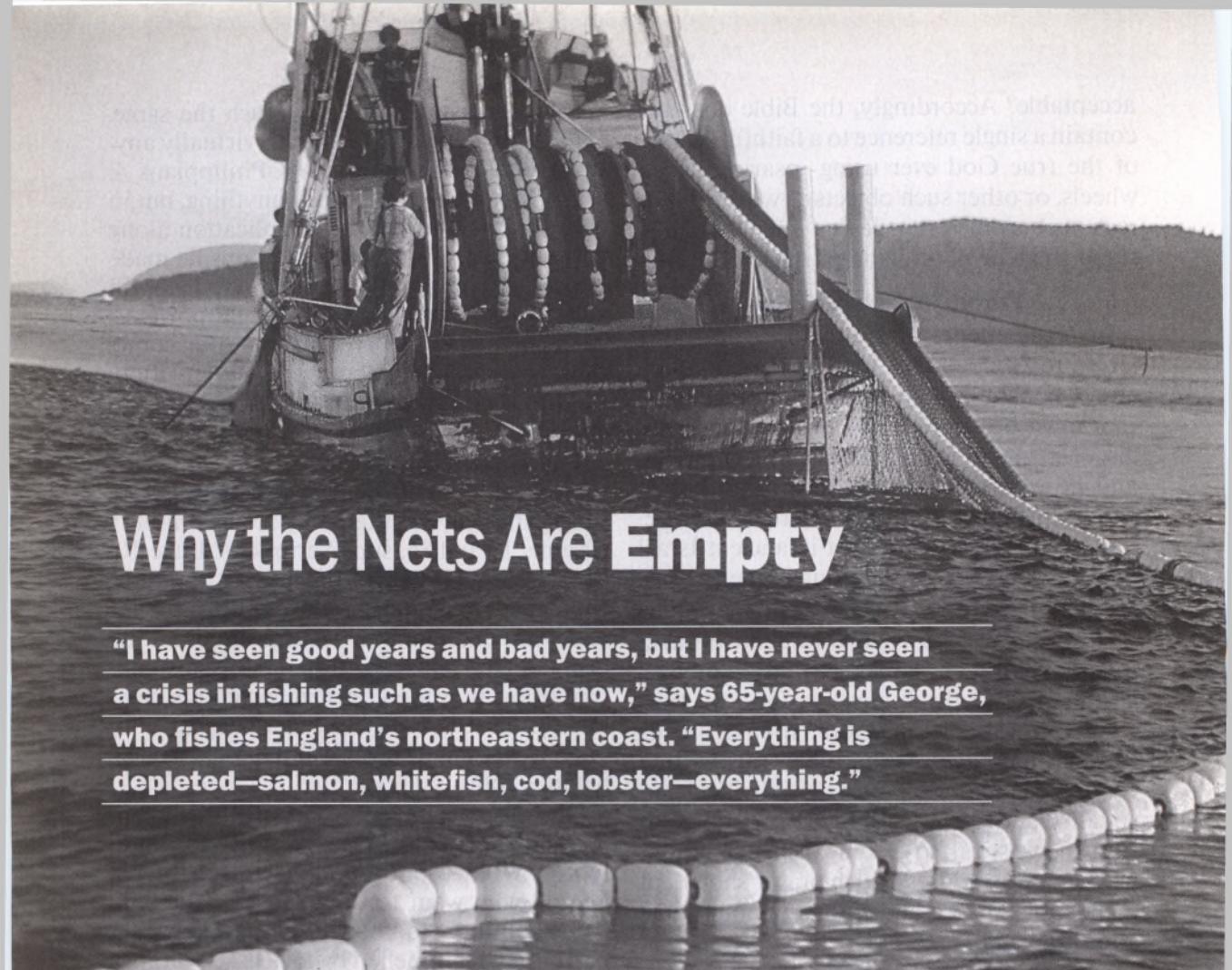
- Does Jesus' counsel against repetitious prayers have any bearing on the use of rosaries and prayer wheels?—Matthew 6:7.
- What should our prayers reveal about our view of God?—Isaiah 64:8.
- If we reject religious falsehoods, how will God view us?—2 Corinthians 6:17, 18.

Prayer to God should be much the same. Indeed, we can go to God with virtually anything that concerns us. Says Philippians 4:6, 7: "Do not be anxious over anything, but in everything by prayer and supplication along with thanksgiving let your petitions be made known to God; and the peace of God . . . will guard your hearts and your mental powers." Naturally, when we are anxious over something, we may pray about the matter often. But this is not the same as word-for-word repetition.—Matthew 7:7-11.

The Bible contains many examples of prayers that please God, including psalms, or songs, and prayers uttered by Jesus himself.* (Psalms 17 and 86, superscriptions; Luke 10: 21, 22; 22:40-44) One of the latter is found at John chapter 17. Take a few minutes to read it. As you do, note how Jesus poured out his heart to God. Observe, too, the unselfish nature of his prayer—how it reflected his deep love for his followers. "Holy Father," he said, "watch over them because of the wicked one," Satan.—John 17:11, 15.

Do you detect even a hint of impersonal, mechanical ritual in Jesus' words? Absolutely not! What a fine example he set for us! Yes, all who want to draw close to the true God should get to know him accurately as a person. Then, impelled by love based on that knowledge, they must reject religious customs and practices that displease God. To such ones Jehovah says: "I shall be a father to you, and you will be sons and daughters to me."—2 Corinthians 6:17, 18.

* Although psalms were sung on various occasions, they were not uttered repetitiously like a mantra, nor were they used in rituals involving rosaries or prayer wheels.



Why the Nets Are Empty

"I have seen good years and bad years, but I have never seen a crisis in fishing such as we have now," says 65-year-old George, who fishes England's northeastern coast. "Everything is depleted—salmon, whitefish, cod, lobster—everything."

GEORGE'S concern is far from unique; similar disturbing reports come from the seven seas. In Peru, Agustín is the captain of a 350-ton fishing vessel. "The sardine shortage began about 12 years ago," he says. "In Peru there was an abundance of fish all year round, but now we are often idle for months on end. We never used to fish more than 15 miles from shore, but now we sail up to 200 miles to find a catch."

Antonio, who lives in Galicia, Spain, says: "I have been fishing for more than 20 years. Little by little, I have seen the sea's resources consumed. We are taking more out of the sea than it can produce."

Overfished oceans cannot be photographed as dramatically as bulldozed rain forests, but the devastation is just as real. A recent warning from the United Nations Food and Agriculture Organization on overfishing said: "The situation is particularly grave and forbidding given that some 75 per cent of world fisheries are already being fully exploited, overexploited, or depleted."

Fish are the main source of animal protein for a fifth of mankind. Therefore, the security of one of our most important foods is at stake. Fish are not uniformly abundant in the seas. In fact, as far as life is concerned, most of the open ocean is like a desert. The most



productive fishing grounds tend to be near the coast and in areas where there are upwellings of water rich in nutrients. The nutrients feed phytoplankton, which is at the base of the marine food chain. In what way are fishermen destroying the very fisheries on which they depend for a living? The history of one particular fishery provides some answers.

The Grand Banks —The Destruction Begins

Something similar to a gold rush began when Italian-born navigator and explorer John Cabot* crossed the Atlantic from England and discovered the Grand Banks fishery, in an area of shallow seas off the coast of Canada. This was just five years after the historic voyage of Christopher Columbus in 1492. Soon hundreds of fishermen were braving the Atlantic to fish the Grand Banks. No European had ever seen water so full of cod.

Cod was as good as gold. Prized for its white, virtually fat-free flesh, it is still the favorite of the world market. An Atlantic cod usually weighs between 3 and 20 pounds, but some on the Grand Banks were as big as a man. In succeeding centuries fishermen increased their catches as they learned to use trawl nets and long-lines with thousands of hooks.

The Impact of Industrial Fishing

By the 19th century, some Europeans began to voice concern over fish stocks, especially in regard to herring. However, Professor Thomas Huxley, president of the British Roy-

* John Cabot was born in Italy, where he was called Giovanni Caboto. He moved to Bristol, England, in the 1480's and departed from there on his voyage in 1497.

Like bulldozed rain forests, overfished seas have been devastated

al Society, declared at London's 1883 International Fisheries Exhibition: "The multitudes of these fishes is so inconceivably great that the number we catch is relatively insignificant... I believe, then, that the cod fishery... and probably all the great sea fisheries are inexhaustible."

Few people doubted Huxley's view even after steam-powered, industrial fishing began on the Grand Banks. Demand for cod increased, especially after 1925 when Clarence Birdseye of Massachusetts, U.S.A., invented a quick-freezing process for fish. Using diesel-powered trawlers, fishermen responded by landing even greater catches. But further exploitation was to come.

In 1951 an odd-looking ship from Britain arrived to fish the Grand Banks. It was 280 feet in length and had a capacity of 2,600 gross tons. This was the world's first factory-freezer trawler. It had a ramp at the stern, where winches could haul in its vast net, and on the lower decks, it had banks of automatic filleting machines and freezers. Using radar, fish-finders, and echolocators, the ship could hunt down shoals of fish day and night for weeks on end.

Other nations recognized the commercial potential, and soon hundreds of similar vessels were trawling the seas, hauling in up to 200 tons of fish an hour. Some ships had a

IN OUR NEXT ISSUE

- Why Are We Here?
- When Was Jesus Born?
- Living Through Dramatic Changes in Korea

**"Some 75 per cent of world fisheries
are already being fully exploited,
overexploited, or depleted."**

—United Nations Food and Agriculture Organization

capacity of 8,000 tons and had nets that were large enough to engulf a jumbo jet.

A Final Blow

"In the late 1970's," says the book *Ocean's End*, "most people still clung to the delusion that the ocean's bounty was infinite." A growing fleet of giant trawlers worked the Grand Banks through the 1980's. Scientists warned that cod populations were on the verge of collapse. But tens of thousands of people now depended on this fishery for a livelihood, and politicians balked at making an unpopular decision. Finally, in 1992, scientists showed that in 30 years the population of cod had been reduced by a shocking 98.9 percent. Cod fishing on the Grand Banks was banned. But it was too late. Five hundred years after its discovery, one of the world's richest fisheries had been fished to destruction.

Fishermen hoped that the cod would soon return. But cod live for more than 20 years and are slow to mature. In the years since 1992, the hoped-for recovery has still not occurred.

Worldwide Crisis in Fishing

What happened on the Grand Banks is a disturbing example of the global problem in the fishing industry. In 2002, Britain's minister for the environment said that "60 per cent

of the world's fish stocks are now being fished to destruction." Tuna, swordfish, shark, and rockfish are among the many species at risk.

Many prosperous nations, having already ruined their own fishing grounds, are now looking for distant fisheries to exploit. The coasts of Africa, for example, have some of the world's most fertile fishing grounds. Many African rulers can ill afford to deny fishing licenses, which are a major source of foreign currency for government coffers. Not surprisingly, local people are angry about the depletion of their fish stocks.

Why Does Overfishing Continue?

To an outsider, the solution seems simple —stop overfishing. But it is not that simple. Commercial fishing requires a massive investment in equipment. Thus, each fisherman hopes that others will stop fishing so that he can continue. As a result, usually no one stops. Moreover, governments are often the biggest investors in fishing, which makes them part of the problem. The magazine *Issues in Science and Technology* says: "Nations often viewed [UN] goals for fisheries conservation as a moral code that other nations should meet but that they themselves were prepared to violate."

Sport fishermen also share responsibility. Reporting on a U.S. study, the journal *New Scientist* said: "Recreational fishing accounts for 64 per cent of the reported catch of overfished species along the Gulf of Mexico." Since both sport and commercial fishermen have powerful influence, politicians tend to do what promotes their popularity rather than what protects fish stocks.

Can the world's fisheries be protected? Boyce Thorne-Miller says in his book *The Living Ocean*: "Nothing specific can save ocean species until a sweeping change in human attitudes is realized." Happily, the Creator, Jehovah God, has established a Kingdom that will ensure the future security of the entire earth.—Daniel 2:44; Matthew 6:10.

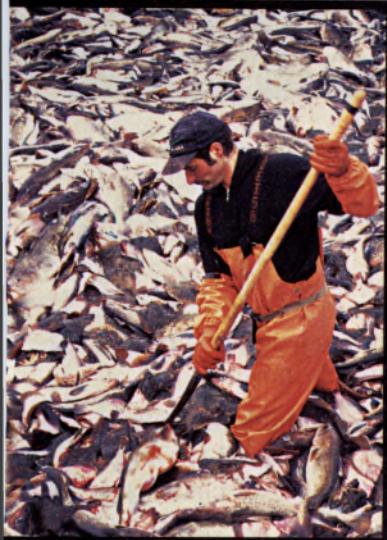
1. The ark did not have a pointed bow and stern.
2. Noah took seven "clean" animals, such as sheep, into the ark.
3. Noah took only two of each kind of "unclean" animal into the ark.
4. Hezekiah—Matthew 1:10.
5. Manasseh—Matthew 1:10.
6. Amnon—Matthew 1:10.

ANSWERS TO PAGE 31

Cambodia



◀ Commercial
fishing, Alaska



Fish are the main source of animal protein for a fifth of mankind

Democratic Republic of Congo





BY AWAKE! WRITER
IN HONG KONG



A Train With No Wheels

EVEN before boarding the gleaming new streamlined train in Shanghai, China, passengers sense that they are traveling on a railway with a difference. That feeling is heightened as the train whispers away from its ultramodern station and accelerates rapidly and smoothly to more than 265 miles an hour, making it the fastest commercial railway on earth. It completes the 19-mile journey to Pudong International Airport in just eight minutes. But there is something particularly special about this train—it has no wheels!

The Shanghai-Pudong line boasts the world's only commercial magnetic levitation,

or maglev, railway. Rather than riding on metal wheels, the train is supported entirely by a magnetic field. And instead of having a human driver, it is fitted with technology that constantly monitors its exact position and radios the data to a central control station. There, human operators, aided by computers, precisely control the train's movements.

Maglev Versus Conventional Railways

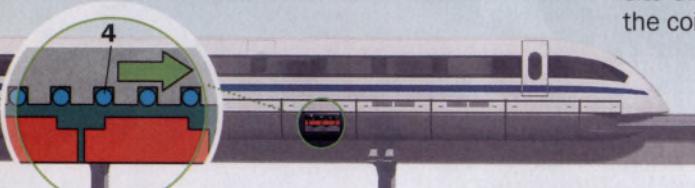
The construction of this special train and its guideway posed a number of challenges. For instance, only a narrow air space separates the moving train from its guideway. Hence, because of Shanghai's soft soil, engineers had to include special joints in the

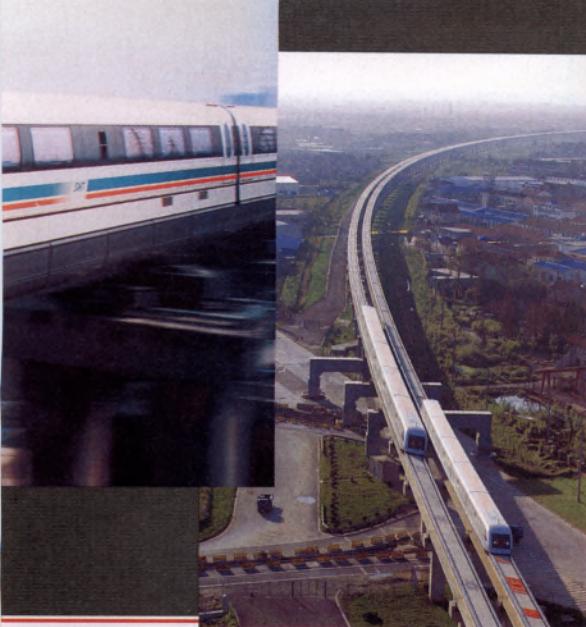
Pages 24 and 25: All photos and diagrams: © Fritz Stüber Productions/Courtesy Transrapid International GmbH & Co. KG

HOW DOES MAGNETIC LEVITATION WORK?

Electrically regulated electromagnets (1) attached to the skirts of each car, together with magnets on the underside of the train's guideway (2), elevate the train until the two sets of magnets are separated by nearly half an inch. Other magnets (3) keep the train aligned laterally. Coils (4) in the guideway produce a magnetic field that propels the train along.

To conserve electricity, the central control station applies power to a section of the guideway (5) only when the train is passing over that section. Greater power is applied in areas where the train must accelerate or climb a grade. When the train has to slow down or go in the opposite direction, the magnetic field of the coils in the guideway is reversed.





More than 265 miles an hour!

conditioning system! Additionally, the train can climb steeper slopes and handle tighter curves than its wheeled counterpart, thus reducing the need to alter the landscape.

With all these advantages, it might seem surprising that more maglev railways have not been built. One factor is the greater initial cost. Indeed, Chinese officials have put on hold a proposal to build a maglev line between Shanghai and Beijing because construction would cost twice that of a normal high-speed line. Also, a maglev line would not be integrated with China's existing rail network.

The Shanghai maglev railway uses German technology, and maglev research continues in Germany, Japan, and elsewhere. In December 2003, Japan's developmental maglev train set a world rail speed record of 361 miles an hour. For now, the train in Shanghai remains unique as a commercial enterprise.

As the maglev leaves Pudong on its return trip to Shanghai, the eyes of the passengers are glued to the digital speedometers located in each car, keen to see when they indicate top speed. Indeed, on their first ride, many passengers miss much of the scenery, so they make a second trip. Watching the terrain flash by, they fully understand why the maglev has been called a "plane without wings."

IS IT SAFE?

Although the maglev train travels at very high speeds, its wraparound skirts (6) hug the guideway, making derailment highly unlikely. Safety belts are not required, and passengers are free to move about, even when the train is at cruising speed. In case of a loss of power, special brakes, powered by onboard batteries, produce an opposing magnetic field that slows the train to six miles an hour. The train then gently sets down on skids and glides to a stop.

Do the train's powerful magnets pose a health risk—for instance, to passengers with pacemakers? Test results show no cause for concern. In fact, the external magnetic field is weaker than that surrounding some conventional trains.

6

2
3
1

5

How can I improve in my prayers?

"When you have so much pressure at school, at work, or with friends and family, you sometimes forget who's most important—God."

—Faviola, 15, United States.

PRAY incessantly." (1 Thessalonians 5:17) "Persevere in prayer." (Romans 12:12) "Let your petitions be made known to God." (Philippians 4:6) If you're a Christian, you probably know those scriptures well. You likely also realize that prayer is the most amazing form of communication there is. Just think—at any time of the day or night, you can speak to Almighty God! And the Bible says: "He hears us."^{*}—1 John 5:14.

Still, like the youth quoted at the outset, you might find prayer to be a challenge. If so, what can you do about it? This article will help you to (1) identify the obstacle, (2) create a goal with regard to your prayers, and (3) unlock the "door" so that you can achieve your goal.

First, let's identify the obstacle. What par-

ticular aspect of prayer is most challenging for you? Write your answer below.

Your next step is to create a goal. Below, check a goal that *you* would like to meet, or write one on the line next to "Other."

- I would like to pray more often.
- I would like to make my prayers more varied.
- I would like to make my prayers more heartfelt.
- Other.....

Unlocking the "Door"

Prayer is like a door that you can open at any time. However, many youths would say that they do not open the door as frequently or as freely as they should. If that's so in your case, don't give up! You've already identified the challenge and set a goal. Now you just need a key to unlock the door. Consider some obstacles that you might face, along with suggestions on how to overcome them.

* Because the Creator's hearing doesn't depend on sound waves, he can even "hear" expressions that are uttered voicelessly in the heart.—Psalm 19:14.

■ The Lock: NEGLECT. “Sometimes because of my hectic schedule, prayer gets pushed aside.”—Preeti, 20, Britain.

The Key: “Keep strict watch that how you walk is not as unwise but as wise persons, buying out the opportune time for yourselves, because the days are wicked.”—Ephesians 5:15, 16.

Suggestion: In advance, pick what might be a good time to pray each day. You could even write it down on paper, much as you would write down a reminder for an appointment. “If I don’t set a specific time to pray, I become preoccupied with other things,” says 18-year-old Yoshiko in Japan.

■ The Lock: DISTRACTION. “I lose my concentration, and my mind seems to be on everything except what I’m saying.”—Pamela, 17, Mexico.

The Key: “Out of the abundance of the heart the mouth speaks.”—Matthew 12:34.

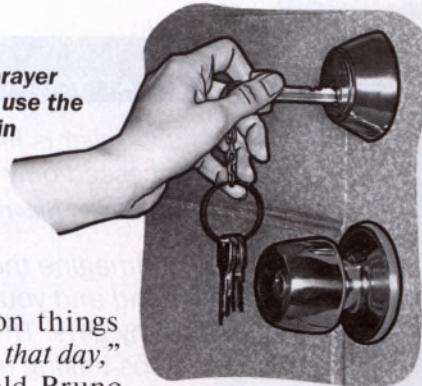
Suggestion: If your mind still has a tendency to wander, try saying shorter prayers—at least until your concentration improves. Another idea: Pray about matters that are close to your heart. “As I got into my teens,” says 14-year-old Marina in Russia, “I began to meditate on the fact that prayer is actual communication with God. This motivated me to open my heart in prayer to him.”

■ The Lock: ROUTINE. “When I pray, I find myself saying the same words over and over.”—Dupe, 17, Benin.

The Key: “I shall certainly meditate on all your activity, and with your dealings I will concern myself.”—Psalm 77:12.

Suggestion: If your prayers seem to be on automatic pilot, each day write down one specific blessing in your life. Then thank Jehovah for that blessing. Keep this up for a week, and you will have prayed about seven new topics without repeating yourself. Take the same approach to daily events. “When I pray, I

If the door of prayer seems locked, use the keys provided in God’s Word, the Bible



try to focus on things that happened *that day*,” says 21-year-old Bruno in Brazil. Samantha, 18, in the United States, does the same. “I try to remember everything *today* that was different from other days, and then I pray about those things,” she says. “That helps me to keep from saying the same words over and over.”*

■ The Lock: DOUBT. “Once when I prayed about a problem at school, it didn’t go away. In fact, *more* problems arose. I thought, ‘Why pray anymore? Jehovah isn’t listening anyway!’”—Minori, 15, Japan.

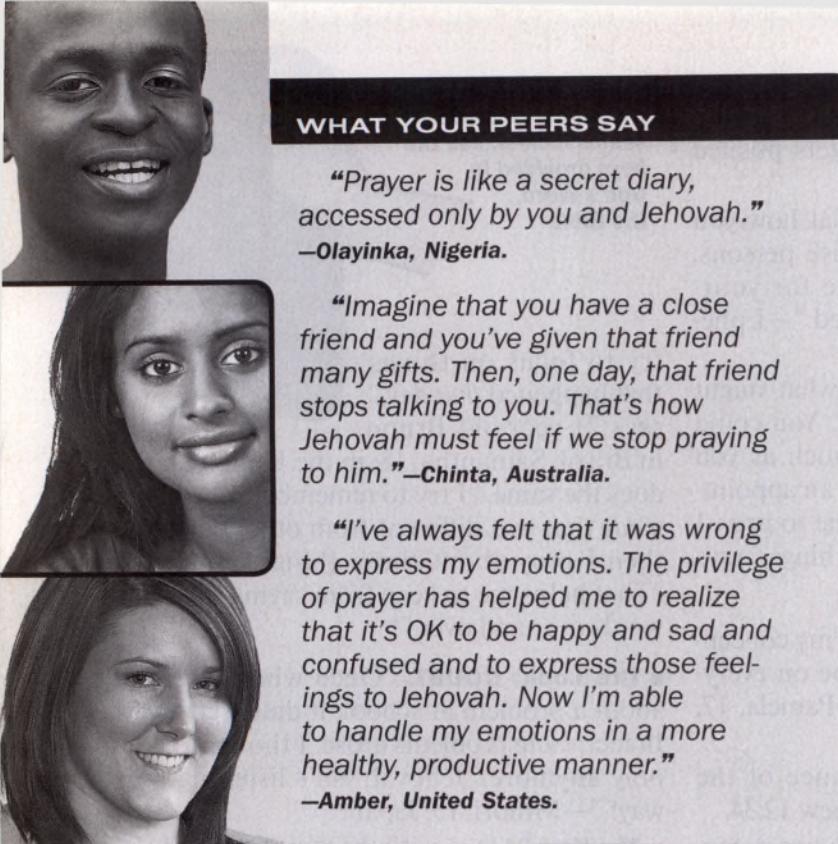
The Key: “Along with the temptation he [Jehovah God] will also make the way out in order for you to be able to endure it.”—1 Corinthians 10:13.

Suggestion: One thing is certain: Jehovah is the “Hearer of prayer.” (Psalm 65:2) So after praying about a matter, try to see the bigger picture. Instead of waiting for the answer that you expect, look for one that may have already come. The fact that you’re still enduring as a Christian means that in all likelihood Jehovah *did* answer your prayer—not by removing the problem but by giving you the strength to bear it.—Philippians 4:13.

■ The Lock: EMBARRASSMENT. “When I think of what my schoolmates will say if they see me praying before lunch, I get embarrassed.”—Hikaru, 17, Japan.

The Key: “There is . . . a right time for everything we want to do.”—Ecclesiastes 3:1, Beck.

* See “The Bible’s Viewpoint: How Does God View Aids to Worship?” on page 18.



WHAT YOUR PEERS SAY

"Prayer is like a secret diary, accessed only by you and Jehovah."
—Olayinka, Nigeria.

"Imagine that you have a close friend and you've given that friend many gifts. Then, one day, that friend stops talking to you. That's how Jehovah must feel if we stop praying to him."—Chinta, Australia.

"I've always felt that it was wrong to express my emotions. The privilege of prayer has helped me to realize that it's OK to be happy and sad and confused and to express those feelings to Jehovah. Now I'm able to handle my emotions in a more healthy, productive manner."

—Amber, United States.

to him sometimes."—Elizabeth, 20, Ireland.

The Key: "Throw all your anxiety upon [God], because he cares for you."—1 Peter 5:7.

Suggestion: As a personal study project, do research and meditate on the following scriptures: Luke 12:6, 7; John 6:44; Hebrews 4:16; 6:10; 2 Peter 3:9. These verses will help you realize that Jehovah *wants* to hear from you and that you don't have to be some type of spiritual giant to gain his listening ear. The psalmist David—who was no stranger to anxiety and distress—expressed the confidence that "Jehovah is near to those that are broken at heart; and those who are crushed in spirit

Suggestion: While discreet silent prayer can attract favorable notice, you don't *have* to make a public spectacle of your prayers. For example, the brief prayer that faithful Nehemiah offered before King Artaxerxes was evidently silent, and there is no record that the king was even aware that Nehemiah was praying. (Nehemiah 2:1-5) You too can offer a silent prayer to Jehovah without drawing attention to yourself.—Philippians 4:5.

■ The Lock: FEELINGS OF UNWORTHINESS.

"Jehovah already knows about my problems. And if *I'm* fed up with them, I feel that *he* probably is too! I just don't feel worthy to talk

he saves."^{*}—Psalm 34:18.

The very fact that Jehovah *himself* hears your prayers says something about his interest in you. "Jehovah hasn't delegated listening to our prayers to the angels," says 17-year-old Nicole in Italy. "Obviously, since he personally listens to our prayers, he must consider them important."

* If you feel that your prayers are hindered because of serious sin on your part, by all means talk to your parents. Also, "call [on] the older men of the congregation [for help]." (James 5:14) The elders can help you to get your relationship with God back on track.

More articles from the "Young People Ask" series can be found at the Web site
www.watchtower.org/ype

TO THINK ABOUT

- What are some things of concern to Jehovah that you might pray about?
- What matters pertaining to others might you take to Jehovah in prayer?

Longevity

IS THE SECRET IN OKINAWA?

BY AWAKE! WRITER IN JAPAN



■ The islands of Okinawa, Japan, were estimated to have nearly 740 centenarians in 2006—90 percent of whom were women—out of a population of 1.3 million. This represents about 50 centenarians for every 100,000 people, according to the Okinawa Centenarian Study, headed by Dr. Makoto Suzuki. In most developed lands, the ratio is thought to be between 10 and 20 per 100,000.

The ongoing study, said to be “the longest continuously running centenarian study in the world,” found that “an unusual number of centenarians [were] in extraordinarily healthy shape.” To find out why, Suzuki and his team examined the lifestyle and genetics of over 900 centenarians, as well as many other Okinawans in their 70’s or older. The researchers found that the subjects tended to be lean and fit, that their arteries were clean, and that they had remarkably low rates of cancer and heart disease. And of those in their late 90’s, fewer had dementia than comparable populations in other developed lands. The secret?

One major factor was genetics. But there were other factors too—the avoidance of tobacco, moderation in the use of alcohol, and a good diet. The Okinawan diet tends to be low in calories and high in vegetables and fruits, natural fiber, and good fats (omega-3, monounsaturated fat). And the people have the habit of eating only until they are about 80 percent full. “You should stop at the first feeling of fullness you get,” says Dr. Bradley Willcox, a coinvestigator in the study. “There’s about a 20-minute delay before the stomach tells the brain.”

Okinawans keep physically active through gardening, daily walking, traditional dancing, or other activities. Personality testing revealed the centenarians to be optimistic and adaptable. They handled stress well, and the women especially manifested “strong social integration.”

“There’s no magic pill” for longevity, says Willcox. As the study revealed, it is influenced by genes, diet, exercise, good habits, “and healthy ways of coping with stress.”

Happiness and Health

It has long been thought that happy and positive people tend to be generally healthier than stressed, hostile, or pessimistic people. In one recent study, researchers concluded that people with "upbeat moods" have lower levels of cortisol—a stress hormone that may contribute to a range of ills when it is chronically elevated. Such people also have lower levels of "two proteins that indicate widespread inflammation in the body." According to Dr. Andrew Steptoe of University College, London, "mood states are not just a matter of heredity, but depend on our social relationships and fulfillment in life."

Moon Sighting Goes High-Tech

For hundreds of years, Muslims have scanned the skies for the first sliver of the new moon that ends the month of Ramadan and begins the Feast of Fast-Breaking. Traditionally, in some areas that sighting had to be made with the naked eye, after which a religious leader would make an announcement to the faithful. Within the past few years, however, some clerics have sanctioned high-tech methods. Iranian astronomers, accompanied by clerics who verify their sightings, now use high-definition telescopes, night-vision equipment, and even planes loaded with sensitive observation equipment. An

■ The official Web site of Jehovah's Witnesses (www.watchtower.org) currently provides information in 314 languages. Last year, there were over 22 million visits to the site—an average of more than 60,000 every day.

■ "The challenge of securing safe and plentiful water for all is one of the most daunting challenges faced by the world today. . . . Too often, where we need water we find guns."—BAN KI-MOON, UN SECRETARY-GENERAL

early sighting means an early start to the holiday.

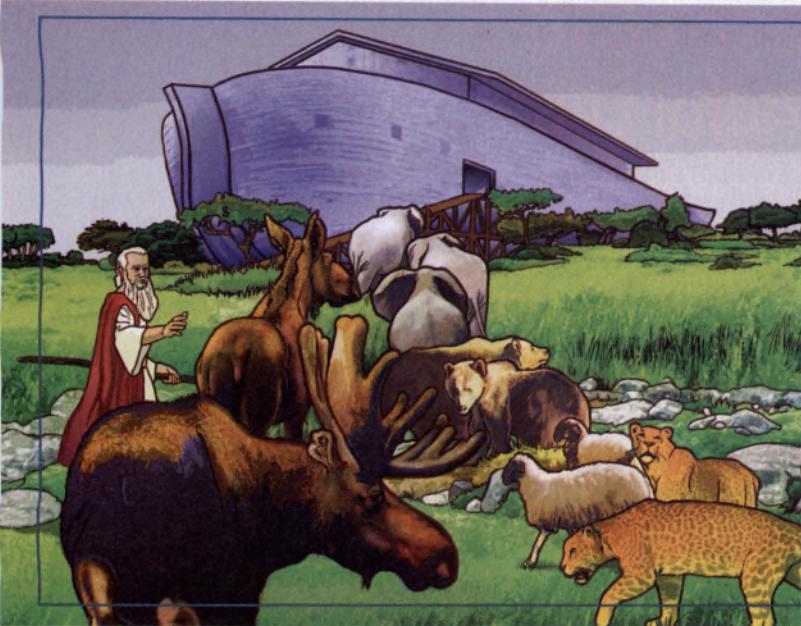
Social Skills in Infants?

Babies as young as six months develop "social judging skills before they [can] talk," say researchers at Yale University, U.S.A. Babies aged six months to ten months watched a large-eyed toy try to climb hills, while other toys either helped it or pushed it backward. The children were then "presented with the toys to see which they would play with," explains the *Houston Chronicle*. "Nearly every baby picked the helpful toy over the bad one." So to some extent, "even infants can tell the difference between naughty and nice playmates, and know which to choose," says the newspaper.

"Thirst for Bottled Water"

"America's thirst for bottled water seems unquenchable, reaching nearly 30 billion bottles a year," says *U.S. News & World Report*. Many consumers do not realize, however, that most bottled water is simply tap water, so "anyone who is opting for bottled over municipal [water] for health reasons is misguided," says the magazine. What flows out of the tap in many countries is monitored to ensure *conformity to strict standards*. And when compared with the "outrageously expensive" bottled alternatives, tap water is also "practically free!"





What Is Wrong With This Picture?

Identify three things in this picture that do not match the Bible account at Genesis 7:1-9, 13-16, 23; 8:15-19.

1

2

CLUE: Compare Leviticus 11:3 and Deuteronomy 14:4.

3

CLUE: Compare Deuteronomy 14:7-19.

FOR DISCUSSION: How did Noah's sons and daughters-in-law help him? How can you imitate Noah's children?

From This Issue

Answer these questions, and provide the missing Bible verse(s).

PAGE 6 What can a man who loves money never have?

Ecclesiastes 5:_____

PAGE 9 Who will be happy? Matthew 5:_____

PAGE 18 When praying, what should a person not do?

Matthew 6:_____

PAGE 28 What should we do with all our anxiety?

1 Peter 5:_____



Children's Picture Search

Can you find these pictures in this issue? In your own words, describe what is happening in each picture.

Who Is Part of Jesus' Family Tree?

Consider the clues. Look up the scriptures. Then write the correct names in the spaces provided.

4

CLUE: Despite my father's bad example, I was a king who "kept sticking to Jehovah."

Read 2 Kings 18:1-6.



5

CLUE: I abused my power by shedding innocent blood in great quantity. Read 2 Kings 21:16.

6

CLUE: I followed my father's bad example and was assassinated by my own servants.

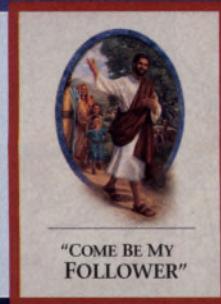
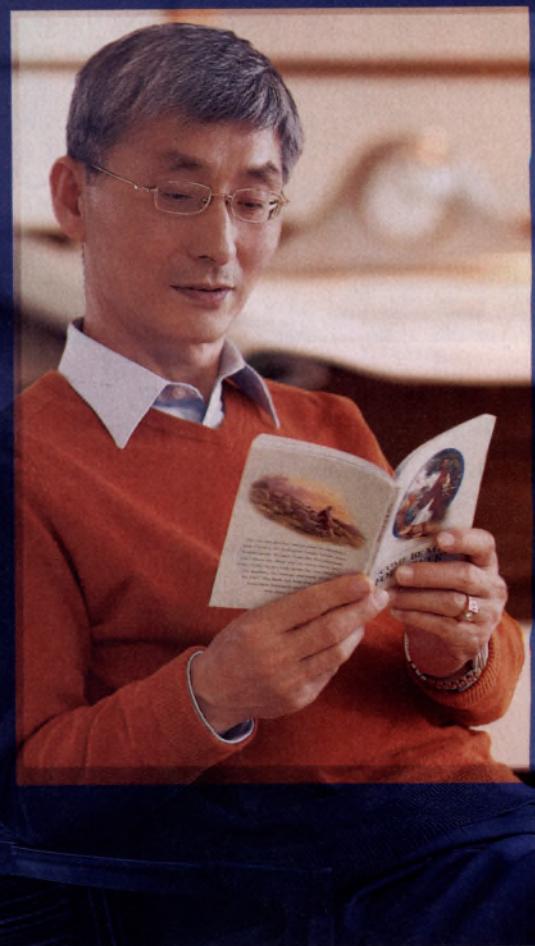
Read 2 Kings 21:19-23.

It Is Helping Them Lead a More Meaningful Life

■ The book *"Come Be My Follower"* has had a profound effect on many who have read it. "Jesus has been made more real to me," said one woman. "I have grown in my appreciation of his role. I want to live a more meaningful life now and be a part of publishing the good news that mankind so desperately needs."

A father writes: "The book has awakened me to the importance of imitating the perfect example that Jesus left us . . . In this book I have learned to meditate on Jesus' teachings and on the qualities that he displayed when he was here on earth—humility, love, great patience, obedience, and perseverance. Jesus left an excellent example that has encouraged me to continue on."

Another reader expressed full agreement with the statement on the back cover, which says, in part: "Jesus Christ is the God-given Leader whom every human needs. . . . This book will help you to know Jesus more intimately and to follow him more closely." The reader then said, "The book truly helps us to love Jesus, to exercise faith in him, and to obey and follow him."



"COME BE MY FOLLOWER"