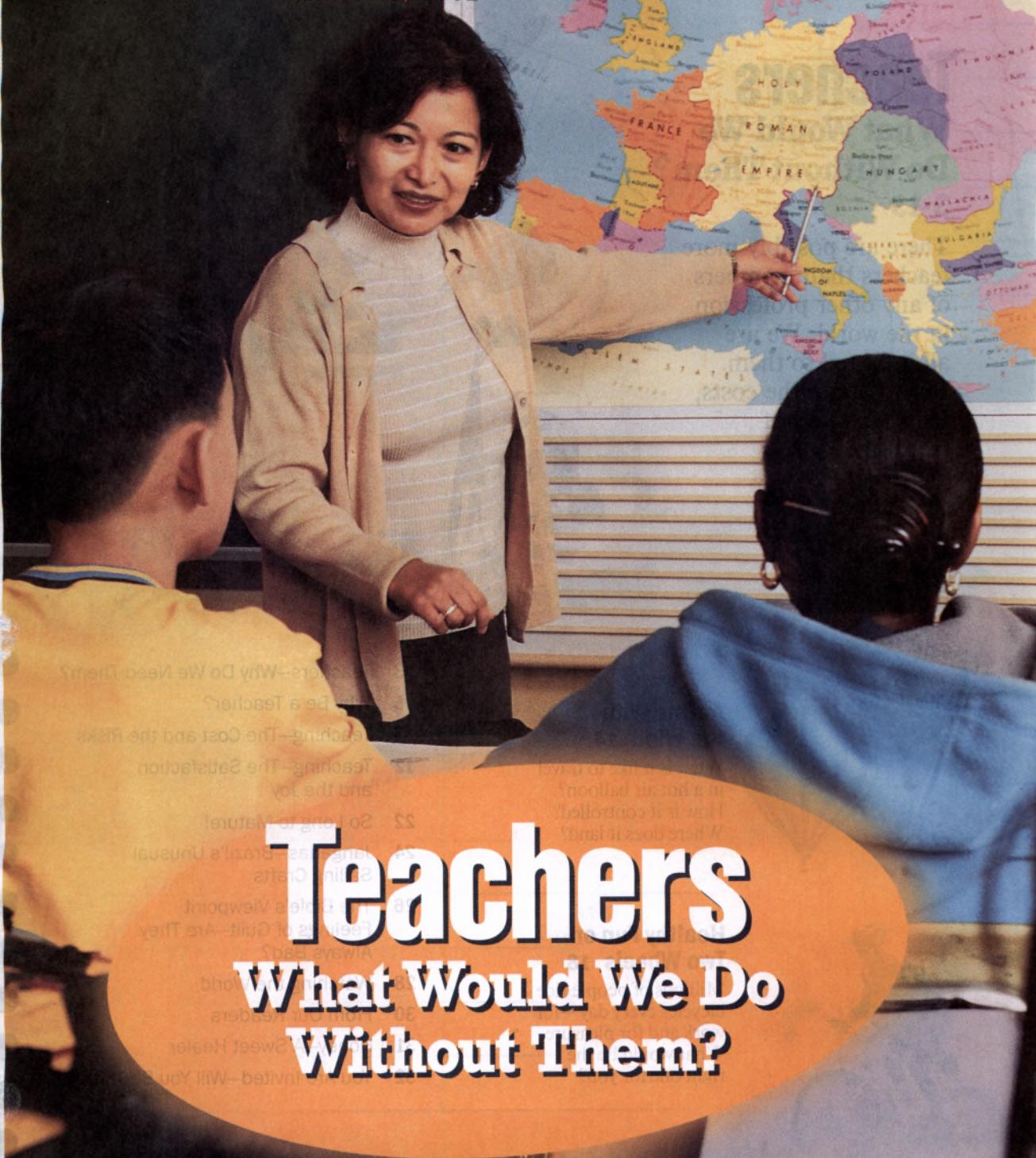


Awake!

MARCH 8, 2002



Teachers What Would We Do Without Them?

Teachers What Would We Do Without Them?

3-13

There are possibly more teachers than members of any other profession in the world. We are all indebted to them. But what are the costs, risks, and joys of teaching?

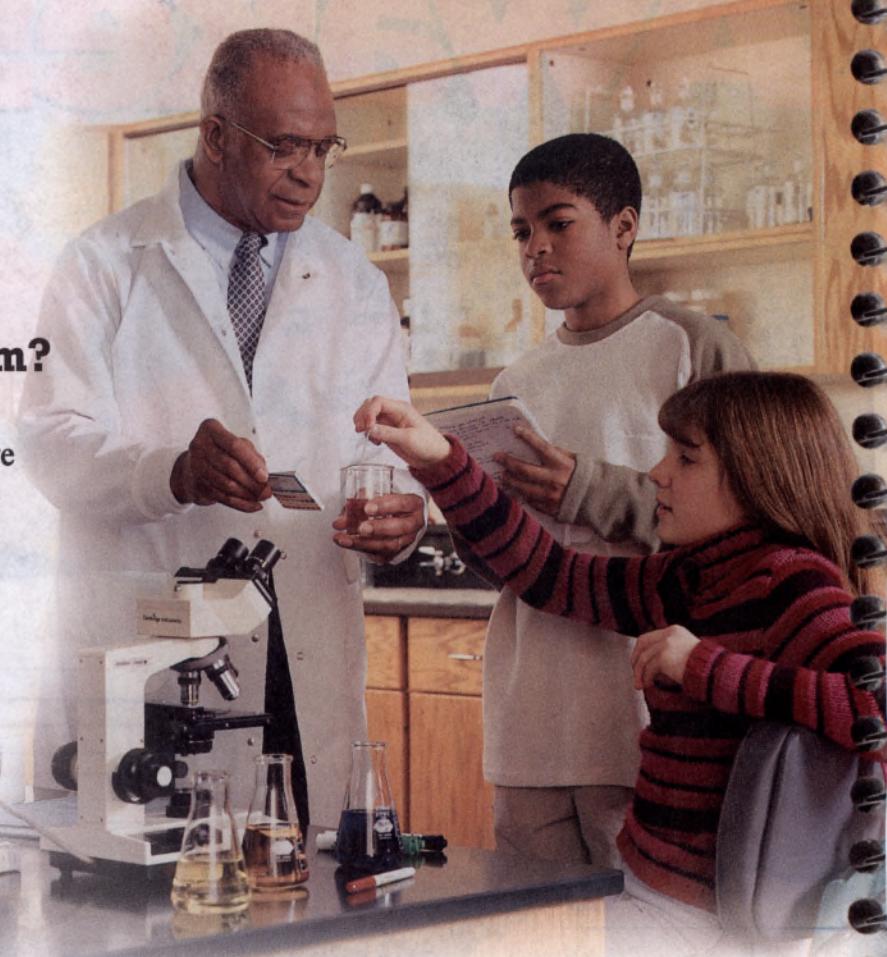


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Teachers

Why Do We Need Them?

"Better than a thousand days of diligent study is one day with a great teacher."—Japanese proverb.

DO YOU recall a teacher who really impressed you at school? Or if you are still a student, do you have a favorite teacher? If so, why?

A good teacher instills confidence and makes learning a fascinating challenge. One 70-year-old from England remembers with affection his English teacher at his school in Birmingham. "Mr. Clewley made me aware of abilities I did not know I had. I was shy and retiring, and yet he coached me to appear in the school drama competition. In my final year, I won the drama prize. I could not have done it without his encouragement. Too bad I never saw him in later years to thank him for his dedication to his students."

Margit, a pleasant woman in her 50's, from Munich, Germany, says: "There was one teacher I was especially fond of. She had a fine way of explaining the more complicated things in a simple manner. She encouraged us to ask questions when we couldn't understand something. She was not aloof but, rather, friendly. That made classes more enjoyable."

Peter, an Australian, remembers a mathematics teacher who, as he said, "helped us to see the relevance of what we were learning by giving practical examples. When we were studying trigonometry, he showed us how to measure the height of a building without even touching it, just by using the principles of trigonometry. I remember saying to myself, 'Now that's really something!'"

Pauline, from northern England, confessed to her teacher: "I have a hard time with numbers." He asked: "Would you like to do better?

I can help you." She continues: "Over the next few months, he gave me extra attention, even helping me after school. I knew that he wanted me to succeed—that he cared. Knowing this made me work harder, and I improved."

Angie, from Scotland, now in her 30's, recalls Mr. Graham, her history teacher. "He made history so interesting! He related the events as a story and was really enthusiastic about each subject. He made it all come alive." She also recalls with affection Mrs. Hewitt, her elderly first-grade teacher. "She was kind and caring. One day in class, I went to ask her a question. She swooped me up in her arms. She made me feel that she really cared about me."

Timothy, from southern Greece, expressed his appreciation. "I still remember my science teacher. He changed forever the way I would look at the world around me and at life. He created an atmosphere of awe and wonderment in the classroom. He instilled in us a passion for knowledge and a love of understanding."

Ramona, from California, U.S.A., is another example. She writes: "My high-school teacher loved English. Her enthusiasm was so contagious! She made even the difficult parts seem easy."

Jane, from Canada, spoke enthusiastically about a physical education teacher who "was full of ideas for fun and learning. He took us to the great outdoors and introduced us to cross-country skiing and ice fishing. We even made bannock, a type of Indian bread, over a campfire that we'd built ourselves. All of this was a wonderful experience for an indoor girl who normally had her nose in her books!"

Helen is a shy lady who was born in Shanghai and went to school in Hong Kong. She recalls: "In fifth grade I had a teacher, Mr. Chan, who taught physical education and painting. I was slight of build and was very poor at volleyball and basketball. He did not embarrass me. He let me play badminton and other games for which I was better suited. He was considerate and kind.

"Likewise with painting—I was no good at painting objects or people. So he let me paint patterns and designs, for which I had more of a flair. Because I was younger than the other students, he convinced me to stay in that grade for another year. This was a turning point in my schooling. I gained confidence and progressed. I will always be grateful to him."

Which teachers seem to make the biggest impact? William Ayers answers in his book *To Teach—The Journey of a Teacher*: "Good teaching requires most of all a thoughtful, caring teacher committed to the lives of students. . . . Good teaching is not a matter of specific techniques or styles, plans or actions. . . . Teaching is primarily a matter of love." So who is the successful teacher? He says: "The teacher who touched your heart, the teacher who understood you or who cared about you as a person, the teacher whose passion for something—music, math, Latin, kites—was infectious and energizing."

Without a doubt, many teachers have received expressions of appreciation from students and even parents and have thus been encouraged to continue teaching in spite of set-

backs. The common denominator of so many of these remarks is the genuine interest and kindness shown by the teacher toward the student.

Of course, not all teachers take such a positive approach. Then, too, teachers are often subject to many pressures that curtail what they can do for their students. This leads us to the question, Why do people go into such a difficult profession?

"Teaching is primarily a matter of love"



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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Why Be a Teacher?

"Most teachers choose their career because it is a helping profession."

[Teaching is a] commitment to making a difference in children's lives."—*Teachers, Schools, and Society*.

ALTHOUGH some teachers make it look easy, teaching can be a marathon of hurdles—coping with oversize classes, excessive paperwork, overbearing bureaucracy, unresponsive students, and inadequate pay. Pedro, a teacher in Madrid, Spain, put it this way: "Being a teacher is not at all easy. It demands a great deal of self-sacrifice. Nevertheless, despite the difficulties, I still consider teaching more rewarding than a job in the world of commerce."

The challenge can be overwhelming in the big-city schools of most countries. Drugs, crime, lax morality, and sometimes parental indifference seriously affect school atmosphere and discipline. Rebellious attitudes are commonplace. Why, then, do so many qualified people choose to be teachers?

Leemarys and Diana are teachers in New York City. They work with children from kindergarten level up to ten years of age. Both are bilingual (English-Spanish) and deal mainly with Hispanic children. Our question was . . .

What Motivates a Teacher?

Leemarys said: "What motivates me? My love for children. I know that for some children I am the only one supporting them in their efforts."

Diana said: "I tutored my eight-year-old nephew, who was having difficulties at school—especially with reading. It was such a great feeling to see him and others learn! So I decided I wanted to teach, and I quit my job at the bank."

Awake! asked the same question of teachers in several countries, and the following is a sample of the answers received.

Giuliano, an Italian in his 40's, explained: "I chose this profession because I was fascinated by it when I was a student (at right). I considered it creative and rich in stimuli. My initial enthusiasm helped me to overcome the difficulties I experienced early in my career."



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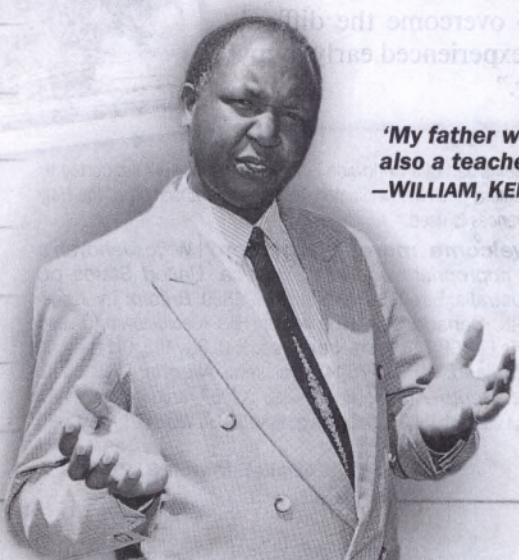
Nick, from New South Wales, Australia, said: "There was a lack of job prospects in my chemical research field, but there were plenty of opportunities in education. I have since found that I enjoy teaching, and the students seem to enjoy my teaching them too."

Parental example has often been a major factor for those choosing to be teachers. William, from Kenya, answered our query: "My desire to teach was influenced to a large extent by my father, who was a teacher back in 1952. Knowing that I am shaping young people's minds is a factor that has made me hold on to this profession."

Rosemary, also from Kenya, told us: "I always had a desire to help less fortunate people. So it was a choice between being a nurse or a teacher. The offer to teach came first. The fact that I am also a mother has increased my love of the profession."

Berthold, from Düren, Germany, had a different motive for teaching: "My wife convinced me that I would make a good teacher." And it turned out that she was right. He added: "My profession now gives me great joy. Unless a teacher is convinced of the value of education and is also interested in young people, it is impossible for him or her to become a good, successful, motivated, and satisfied teacher."

A Japanese teacher, Masahiro, from Nakatsu City, said: "What moved me to become



**'My father was
also a teacher.'**
—WILLIAM, KENYA

Suggestions for Teacher-Parent Communication

- ✓ Get to know the parents. This is not wasted time. It is a mutually beneficial investment of time. It is your opportunity to establish a rapport with those who could be your best collaborators.
- ✓ Speak at the level of the parent—do not condescend or patronize. Avoid teacher's jargon.
- ✓ When talking about the children, accentuate the positive. Commendation does more than condemnation. Explain what the parents can do to help the child succeed.
- ✓ Let the parents talk, and then truly listen.
- ✓ Get to understand the child's home environment. If possible, visit the home.
- ✓ Fix a date for the next consultation. Follow-up is important. It shows that your interest is genuine.—Based on *Teaching in America*.

a teacher was having a wonderful teacher in my first year of middle school. He taught us with real devotion. And the main reason I have continued in my profession is that I love children."

Yoshiya, now 54 years old and also from Japan, had a well-paying factory job but felt he was a slave to it and to commuting. "One day I thought to myself, 'How long am I going to continue this life-style?' I decided to seek a job that had more to do with people than with things. Teaching is unique. You work with young people. It is humane."

Valentina, from St. Petersburg, Russia, also appreciates that side of being a teacher. She said: "Teaching is the career of my choice. I have been an elementary-school teacher for 37 years. I enjoy working with children, especially younger ones. I love my work, and that is why I have not yet retired."

William Ayers, himself a teacher, wrote: "People are called to teaching because they



*"I enjoy working
with children."*
—VALENTINA, RUSSIA



*"Teaching is unique.
You work with young
people."*—YOSHIYA, JAPAN

love children and youth, or because they love being with them, watching them open up and grow and become more able, more competent, more powerful in the world. . . . People teach . . . as a gift of oneself to others. I teach in the hope of making the world a better place."

Yes, in spite of difficulties and drawbacks, thousands of dedicated women and men are drawn to the teaching profession. What are some of the major challenges they face? The next article will consider that question.

Teaching The Cost and the Risks

*"So much is expected of the teaching profession,
yet so often the dedicated educators in our schools
receive little public . . . praise for their efforts."*

—Ken Eltis, University of Sydney, Australia.



DIANA, U.S.A.

IT HAS to be admitted that this "most vital profession," as it has been called, presents many challenges—from inadequate pay to inferior classroom conditions; from excessive paperwork to oversize classes; from disrespect and violence to parental indifference. How do some teachers handle these challenges?



'Drug dealing is prevalent but far too seldom discovered.'
—MICHAEL, GERMANY

Lack of Respect

We asked four teachers from New York City what they consider to be major problems. Unanimously they answered: "Lack of respect."

According to William, of Kenya, things have changed in this regard in Africa too. He said: "Discipline among the children is on the decline. When I was growing up [he is now in his 40's], teachers ranked among the most respected people in African society. The teacher was always seen by young and old as a role model. This respect is on the decline. Western culture is slowly influencing young ones, even in rural Africa. Movies, videos, and literature depict lack of respect for authority as something heroic."

Giuliano, who teaches in Italy, laments: "Children are affected by the spirit of rebellion, insubordination, and disobedience that permeates the whole of society."

Drugs and Violence

Sad to say, drugs have become a problem in schools—so much so that U.S. teacher and author LouAnne Johnson writes: "Drug-abuse prevention is part of nearly every school curriculum, *starting in kindergarten*. [Italics ours.] Children know much more about drugs . . . than most adults do."

She adds: "Students who feel lost, unloved, lonely, bored, or insecure are most likely to experiment with drugs."—*Two Parts Textbook, One Part Love*.

Ken, a teacher in Australia, asked: "How are our teachers to deal with the schooling of a nine-year-old introduced to drugs by his own parents, and now addicted?" Michael, in his 30's, teaches in a comprehensive school in Germany. He writes: "As to drug dealing, we are well aware that this happens; it is just far too seldom discovered." He also comments on the lack of discipline and says that it "shows in a general destructive mania," adding: "Tables and walls are smeared, and furniture is damaged. Some of my students have been involved with the police for shoplifting or things like that. No wonder thefts at school are also frequent!"

Amira teaches in Guanajuato State, Mexico. She admits: "We face problems of violence and drug addiction in the family that directly affect the children. They are immersed in an environment in which they learn foul language and other vices. Another big problem is poverty. Although schooling here is free, the parents have to buy the notebooks, pens, and other materials. But food must come first."



"We face problems of violence and drug addiction in the family."
—AMIRA, MEXICO

Guns in School?

In the United States, recent shooting incidents at schools have highlighted that gun-related violence is not a minor problem in that land. One report states: "It is estimated that 135,000 guns are brought to the nation's 87,125 public schools each day. To reduce the number of guns in schools, officials are using metal detectors, surveillance cameras, specially trained dogs to sniff out guns, locker

It is estimated that 135,000 guns are brought to U.S. schools each day

sweeps, identification tags, and a prohibition against bringing book bags to school." (*Teaching in America*) Such security measures make one ask, Are we talking of schools or prisons? The report adds that more than 6,000 students have been expelled for taking guns to school!

Iris, a teacher in New York City, told *Awake!*: "The students sneak weapons into the schools. The scanners do not keep the weapons out. Vandalism in the school is another major problem."

Against this anarchic background, conscientious teachers struggle to impart education and values. Little wonder that many teachers suffer from depression and burnout. Rolf Busch, president of the Teachers' Association in Thuringia, Germany, said: "Almost one third of the one million teachers in Germany get sick because of stress. They feel burned out on the job."

Children Having Babies

Another major problem is adolescent sexual activity. George S. Morrison, author of *Teaching in America*, says of that land: "About 1 million teenagers (11 percent of 15- to 19-year-old girls) become pregnant each year." The United States has the highest teenage pregnancy rate of all the developed countries.

This situation is confirmed by Iris, who said: "All the adolescents talk about is sex and parties. It's an obsession. And now we have the Internet on the school computers! That means chat groups and pornography." Angel, from Madrid, Spain, reported: "Sexual promiscuity is a fact of life among the students. We've had cases of very young students getting pregnant."

"Glorified Babysitters"

Another complaint of some teachers is that many parents do not shoulder their own responsibility to educate their children in the home. Teachers feel that parents should be the very first educators of their children. Good manners and etiquette should start at home. Little wonder that Sandra Feldman, president of the American Federation of Teachers, says that "teachers . . . need to be treated more like other professionals and less like glorified babysitters."

Parents often fail to back up the discipline given at school. Leemarys, quoted in the preceding article, told *Awake!*: "If you report delinquent kids to the principal, the next thing you know, you are being attacked by the parents!" Busch, quoted earlier, said

"Teachers . . . need to be treated more like other professionals and less like glorified babysitters."

***SANDRA FELDMAN,
PRESIDENT OF THE AMERICAN
FEDERATION OF TEACHERS***



about dealing with difficult students: "Family upbringing is on the way out. You can no longer assume that most children come from families with a good, reasonable upbringing." Estela, from Mendoza, Argentina, said: "We teachers are afraid of the students. If we give them low grades, they throw stones at us or attack us. If we have a car, they damage it."

What Makes a Successful Teacher?

How do you define a good teacher? Is it a person who can develop a child's memory so that he can repeat facts and pass tests? Or is it a person who teaches one to question, to think, and to reason? Who helps a child to become a better citizen?

"When we as teachers recognize that we are partners with our students in life's long and complex journey, when we begin to treat them with the dignity and respect they deserve for simply being, then we are on the road to becoming worthy teachers. It is just that simple—and just that difficult."

—To Teach—The Journey of a Teacher.

A good teacher recognizes each student's potential and knows how to make it blos-



som and flourish. William Ayers observed: "We must find a better way, a way that builds on strengths, experiences, skills, and abilities . . . I am reminded of the plea of a Native American parent whose five-year-old son had been labelled a 'slow learner': 'Wind-Wolf knows the names and migration patterns of more than forty birds. He

knows there are thirteen tail feathers on a perfectly balanced eagle. What he needs is a teacher who knows his full measure.'"

To get the best out of each child, the teacher must discover what interests or motivates him or her and what makes the child tick. And a dedicated teacher must love children.

Is it any wonder that in many countries there is a teacher shortage? Vartan Gregorian, president of Carnegie Corporation of New York, warned: "Our [U.S.] schools will need up to 2.5 million new teachers over the next decade." Major cities "are actively seeking teachers from India, the West Indies, South Africa, Europe and anywhere else where good teachers can be found." This, of course, means that those areas may well suffer a teacher shortage.

Why the Teacher Shortage?

Yoshinori, a Japanese schoolteacher with 32 years of experience, said that "teaching is a noble work with good incentive, and it is highly respected in Japanese society." Unfortunate-

ly, this is not true of every culture. Gregorian, quoted earlier, also stated that teachers "are not given professional respect, recognition and compensation. . . . Teaching in most [U.S.] states pays less than any other occupation requiring a bachelor's or master's degree."

Ken Eltis, quoted at the outset, wrote: "What happens when teachers discover that many jobs requiring much lesser qualifications pay substantially more than teaching? Or when students they have taught only twelve months ago . . . are earning more than they do now or are even likely to in five years time? Such a realisation must threaten a teacher's sense of self-worth."

William Ayers wrote: "Teachers are badly paid . . . We earn on average a quarter of

Must Learning Always Be Fun?

Teacher William Ayers made a list of ten myths about teaching. One of them is: "Good teachers make learning fun." He continues: "Fun is distracting, amusing. Clowns are fun. Jokes can be fun. Learning can be engaging, engrossing, amazing, disorienting, involving, and often deeply pleasurable. If it's fun, fine. But it doesn't need to be fun." He adds: "Teaching requires a vast range of knowledge, ability, skill, judgment, and understanding—and it requires a thoughtful, caring person at its center."—*To Teach—The Journey of a Teacher*.

Sumio, of Nagoya City, Japan, finds this problem among his students: "Many high school students have no interest in anything but having fun and doing what doesn't call for any effort."

Rosa, a student counselor from Brooklyn, New York, said: "The general attitude of the students is that learning is boring. The teacher is boring. They think that everything should be fun. They fail to realize that you get out of learning what you put into it."

The fun fixation makes it harder for young people to make an effort and sacrifices. Sumio, quoted above, said: "The bottom line is that they can't think of things in the long term. There are very few high school students who think that if they work hard for something now, it will be worth the effort in the future."

what lawyers are paid, half of what accountants make, less than truck drivers and shipyard workers. . . . There is no other profession that demands so much and receives so little in financial compensation." (*To Teach—The Journey of a Teacher*) On the same subject, Janet Reno, former U.S. attorney general, said in November 2000: "We can send men to the moon. . . . We pay our athletes big salaries. Why can't we pay our teachers?"

"Teachers in general are underpaid," said Leemarys. "With all my years of study, I am

still getting only a low annual salary here in New York City, with all the stress and hassle that big-city life implies." Valentina, a teacher in St. Petersburg, Russia, said: "A teacher's job is a thankless one as far as income is concerned. The pay has always been below the standard minimum." Marlene, from Chubut, Argentina, echoes this sentiment: "Low salaries force us to work in two or three locations, running from one place to another. This really reduces our effectiveness." Arthur, a teacher from Nairobi, Kenya, told *Awake!*: "With the declining economy, my life as a teacher has not been easy. As many of my colleagues would admit, poor remuneration has always discouraged people from moving into our profession."

Diana, a teacher from New York City, complained about the excessive paperwork that ties up teachers for hours. Another teacher wrote: "Most of the day is spent on the three R's of ritual, repetition, and routine." One common gripe was: "Forms to fill out, those crazy forms—all day long."

Not Enough Teachers, Too Many Pupils

Berthold, from Düren, Germany, expressed another regular complaint: "Classes are too large! Some here have up to 34 pupils. This means that we cannot pay attention to students with problems. They go unnoticed. Individual needs are neglected."

Leemarys, quoted earlier, explained: "Last year my biggest problem, aside from noncaring parents, was the fact that I had 35 children in my class. Imagine trying to work with 35 six-year-olds!"

Iris said: "Here in New York there is a shortage of teachers, especially for math and science. They can get better jobs elsewhere. So the city has hired many foreign teachers."

Obviously, teaching is a demanding profession. What, then, keeps teachers motivated? Why do they continue and persevere? Our final article will consider these questions.

Teaching

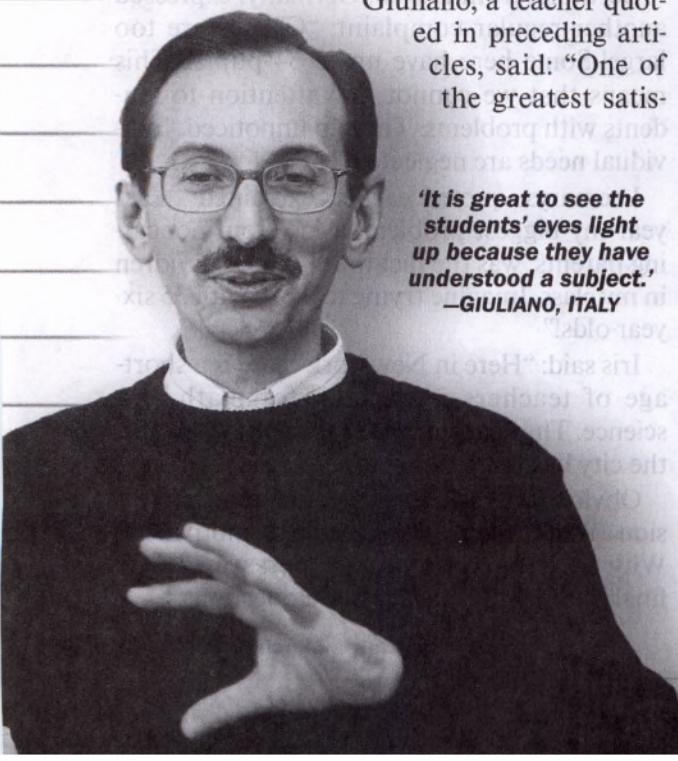
The Satisfaction and the Joy

"What keeps me going? Although teaching can be difficult and exhausting, seeing children all excited about learning and seeing their progress is what motivates me to carry on."—Leemarys, a New York City teacher.

IN SPITE of all the challenges, setbacks, and disappointments, millions of teachers worldwide persevere in their chosen profession. And what motivates thousands of students to strive to qualify to be teachers when they know that they may not receive adequate recognition? What keeps them going?

Inna, a Russian schoolteacher, explained: "It is a wonderful experience to see your former students as adults, to hear them express that what they learned from you proved to be worthwhile. It is so encouraging when they say that they have fond memories of the years they spent with you."

Giuliano, a teacher quoted in preceding articles, said: "One of the greatest satis-



'It is great to see the students' eyes light up because they have understood a subject.'
—GIULIANO, ITALY

factions is realizing that you have succeeded in stimulating the pupils' interest in a subject. For example, after I had explained a point of history, some students said: 'Don't stop. Tell us more!' These spontaneous expressions can light up a gray morning in school because you realize that you have aroused emotions in the youngsters that are new to them. It's great to see their faces when their eyes light up because they have understood a subject."

Elena, a teacher in Italy, stated: "I believe that satisfaction is found more often in the small everyday things, in the pupils' little successes, rather than in earth-shattering results, which seldom materialize."

Connie, an Australian in her early 30's, said: "It is very rewarding when a student with whom you have bonded academically takes the time to write a letter expressing appreciation for your efforts."

Oscar, from Mendoza, Argentina, shared the same sentiment: "It makes me feel that it is all worthwhile when my students meet me on the street or elsewhere and show appreciation for what I have taught them." Angel, of Madrid, Spain, said: "The greatest satisfaction for me, having dedicated part of my life to this wonderful but difficult profession, is, without a doubt, to see young ones I have taught become upright men and women, in part as a result of my efforts."

Leemarys, quoted at the outset, said: "I really feel that teachers are a special breed. We

are also a little crazy for taking on such an amazingly great responsibility. But if you can make a difference—be it with ten children or just one—you did your job, and there is no nicer feeling. You do it with joy.”

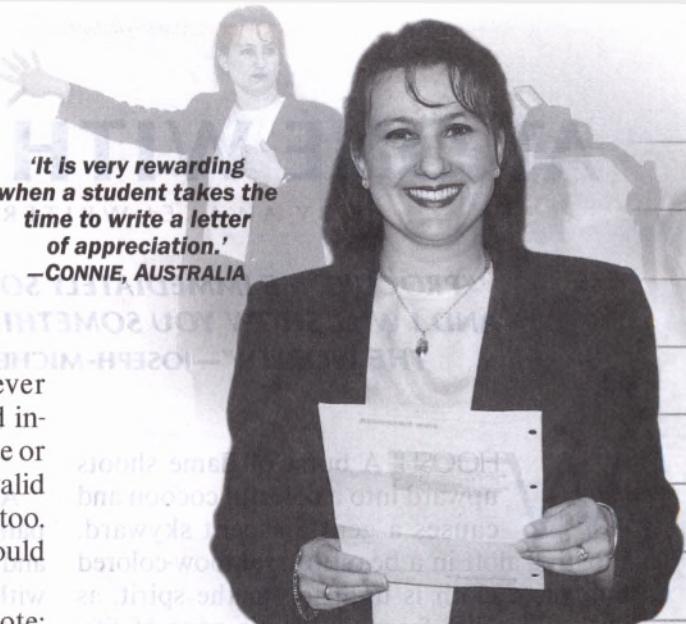
Have You Thanked Your Teachers?

Have you, as a student or parent, ever thanked a teacher for the time, effort, and interest shown? Or even sent a thank-you note or letter? Arthur, of Nairobi, Kenya, made a valid point: “Teachers thrive on commendation too. The government, parents, and students should highly esteem them and their services.”

Author-teacher LouAnne Johnson wrote: “For every negative letter I receive about a teacher, I receive a hundred positive ones, which confirms my belief that there are many more good teachers than bad.” Interestingly, many people actually hire a detective to “help in locating a former teacher. People want to find their teachers and thank them.”

Teachers lay the essential foundation for a person’s education. Even the best professors at the most prestigious universities are indebted to teachers who took time and effort to prime and cultivate their desire for education, knowledge, and understanding. Arthur, in Nairobi, says: “All top policymakers in the

*‘It is very rewarding when a student takes the time to write a letter of appreciation.’
—CONNIE, AUSTRALIA*



public and private sectors have been taught by a teacher at some point in their lives.”

How grateful we should be to those women and men who provoked our curiosity, who stirred the mind and the heart, who showed us how to satisfy our thirst for knowledge and understanding!

How much more grateful we should be to the Great Educator, Jehovah God, who inspired the words of Proverbs 2:1-6: “My son, if you will receive my sayings and treasure up my own commandments with yourself, so as to pay attention to wisdom with your ear, that you may incline your heart to discernment; if, moreover, you call out for understanding itself and you give forth your voice for discernment itself, if you keep seeking for it as for silver, and as for hid treasures you keep searching for it, in that case you will understand the fear of Jehovah, and you will find the very knowledge of God. For Jehovah himself gives wisdom; out of his mouth there are knowledge and discernment.”

Notice the conditional “if” that occurs three times in that thought-provoking text. Imagine, if we are willing to accept that challenge, we can “find the very knowledge of God”! That, surely, is the greatest education of all.

A Happy Parent

The following letter was received by a New York City teacher:

“I would like to thank you from the bottom of my heart and from the depth of my soul for what you have done for my children. Through your care, kindness, and skill, you have helped them to achieve great heights that I am sure they would never have experienced without you. You have made me very proud of my children—an experience I shall never forget. Sincerely, S. B.”

Do you know a teacher you could encourage?

AT ONE WITH THE WIND

BY AWAKE! WRITER IN CANADA

**"PROCURE ME IMMEDIATELY SOME TAFFETA AND ROPE,
AND I WILL SHOW YOU SOMETHING THAT WILL ASTONISH
THE WORLD!"—JOSEPH-MICHEL MONTGOLFIER, 1782.**

WHOOSH! A burst of flame shoots upward into a colorful cocoon and causes a gentle ascent skyward. Floating aloft in a beautiful, rainbow-colored bubble of cloth is uplifting to the spirit, as well as a relief from the hectic pace of life. It is "tranquil and exciting at the same time," mused one longtime hot-air balloon enthusiast.

Ever since the first successful launching in the early 1780's by Joseph-Michel and Jacques-Étienne Montgolfier, balloon flight has fascinated man. (See box below.) Yet, it is only since the 1960's—with the introduction of flame-retardant fabric, coupled with a safe and inexpensive system of burning propane used to heat and regulate the air temperature inside the balloon—that ballooning as a pleasure sport has really got off the ground.

THE EARLY HISTORY OF BALLOON FLIGHT



Joseph-Michel and Jacques-Étienne Montgolfier, sons of a wealthy paper manufacturer of Annonay, France, are honored in history for building and launching the first hot-air balloon. Their initial experiments during the early 1780's involved paper balloons, which they believed were made to rise because of the smoke from burning straw and wool. Before long, they realized that it was the heated air that created the lift.

Later, as they began making cloth balloons, they observed

Close-Up Look

A close-up look at a beautiful balloon reveals panels of colorful material fastened together and tapered from top to bottom. When filled with air, some balloons measure 50 feet wide and more than 80 feet high.

Imaginative fliers express their individuality and dream up their own shapes and sizes, which range from animals to bottles and even to clowns. Whatever the design, the flight principles remain the same for these silent fliers of the sky.

Both pilot and passengers share space in a light, sturdy wicker gondola, or basket, that is attached to the balloon with cables and is positioned directly under the balloon's opening. Some baskets are made of aluminum. Look again just above the gondola. You will see the fuel burner and regulator secured on a metal

that by launching progressively larger balloons, they were able to achieve higher altitudes and they could lift additional payload. In June 1783, from the public square in Annonay, they released the largest balloon they had built to date. It floated skyward for about ten minutes before descending to earth.

With that achievement, they concluded that it was time to launch a balloon that carried people. First, though, in September 1783, thousands of spectators gathered at Versailles

platform just below the mouth of the balloon. Fuel tanks are inside the basket.

Prepare to Ascend

An airplane needs a long runway for take-off. However, an open site about the size of a small field is all that a hot-air balloon requires. Of prime importance is finding a location where there are no obstructions immediately overhead. Are you anxious to go for a ride in this quiet aircraft? Even before you climb into the basket, some preliminary steps have to be taken.

First, the empty balloon is spread out on the ground downwind from the basket, which is placed on its side. Air is then blown into the mouth of the balloon, using a large motorized fan. Thereafter, heated air is directed into the balloon to make it rise and lift the basket into an upright position. Next, a final check is made of all equipment, including the fuel connections, as well as of the vent and deflation control lines to be sure that they hang down into the basket. Now the pilot is ready to take on passengers and lift off. Some balloonists carry radio equipment and keep regular contact with the ground crew that follows in a chase vehicle to pick up the balloon and passengers when they land.

to witness the release of a balloon with a rooster, a duck, and a sheep on board. All three survived the eight-minute flight with no ill effects. Shortly thereafter, on November 21, 1783, the first flight with humans on board was attempted. Louis XVI was persuaded to allow two noblemen to have the honor. They were launched from Château de la Muette and floated over Paris for about five miles. After about 25 minutes, they made a forced landing when the balloon caught fire.

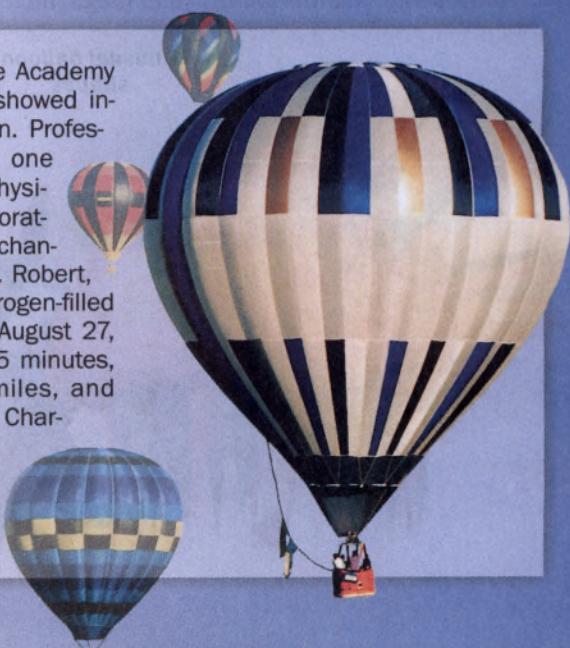
About this time, the Academy of Sciences in Paris showed interest in this invention. Professor Jacques Charles, one of the best-known physicists of the day, collaborated with two clever mechanics, Charles and M. N. Robert, and built the first hydrogen-filled balloon, testing it on August 27, 1783. It floated for 45 minutes, covering about 15 miles, and became known as a Charlière. This type of balloon remains in use to this day in almost its original form.



Interior of a balloon during inflation



Heated air is directed into the balloon for liftoff and flight



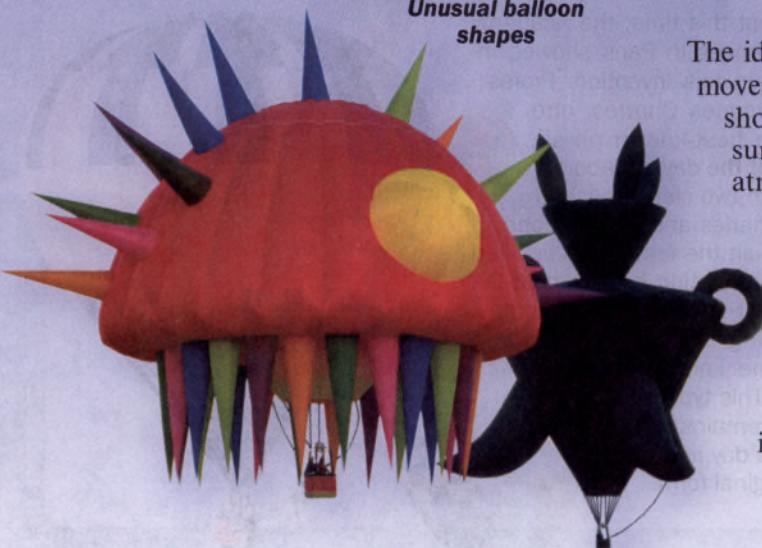
At One With the Wind

Most balloonists prefer altitudes of less than 400 feet so that they can peacefully drift over the countryside and observe activity below. At this elevation even the sounds of people on the ground laughing and shouting can be heard. The sight from the ground is enchanting and reminds one of a dandelion seed floating in a gentle breeze. Some fliers routinely soar to heights of 2,000 feet or more. It is not advisable, however, to maintain an altitude above 10,000 feet without an oxygen supply.—See the box "High-Altitude Flight."

Once you are up, how do you get down? Gravity. And you can control your descent by pulling the vent cord and letting out some of the hot air. Horizontal travel, however, is another matter. The pilot is at the mercy of the elements. "Every flight is different, since the winds dictate the direction and speed," explains an experienced balloonist. And different levels of air currents can alter the speed and direction. It is not uncommon for wind to be moving in one direction at 300 feet above the earth's surface and in the opposite direction at 600 feet.

Since the balloon travels at the speed of the wind, you feel as if you were suspended motionless with the earth turning beneath you. "Balloonists are so at one with the wind [that] once aloft they can spread out a map and it won't blow away," claims *Smithsonian* magazine.

Unusual balloon shapes



Getting a Feel for Flying

The ideal time to make a flight is when air movement is at a minimum. This is usually shortly after sunrise or shortly before sunset. Mornings are preferred, since the atmosphere is normally cooler then and the balloon has more lift. Late afternoon flights carry the risk of running out of daylight.

Getting a feel for ballooning comes after much practice. The key is to find an air mass moving in a desired direction and stay within it. Experienced fliers master what is



HIGH-ALTITUDE FLIGHT

An Englishman named Henry Coxwell emerged as the foremost altitude pilot. In September 1862, he was commissioned by James Glaisher of the British Meteorological Society to take him aloft for high-altitude scientific observations. They ascended to an altitude of almost six miles, with no oxygen breathing equipment!

After reaching an altitude above 26,000 feet and breathing with difficulty in the cold, rarified air, Coxwell made preparations to descend. However, because of the continuous rotation of the balloon, the deflation valve rope had become twisted and Coxwell had to climb into the rigging to free the tangled line. Glaisher was already unconscious, and Coxwell had to pull the cord with his teeth, since his hands were paralyzed from the cold. Finally, they began to descend.

Both men eventually recuperated enough to slow the balloon's descent. They had reached an altitude in the region of 30,000 feet, a record that stood for more than a century. Their flight in an open-basket balloon ranks among the greatest of aeronautical feats, since they did it without an oxygen supply, with a minimum of protective clothing, and with virtually no knowledge of the upper atmosphere.

called stair-stepping. They climb to a certain altitude and stabilize the craft. Then after a short burst of the burner, hot air ascends to the apex of the balloon and steps the silent craft higher.

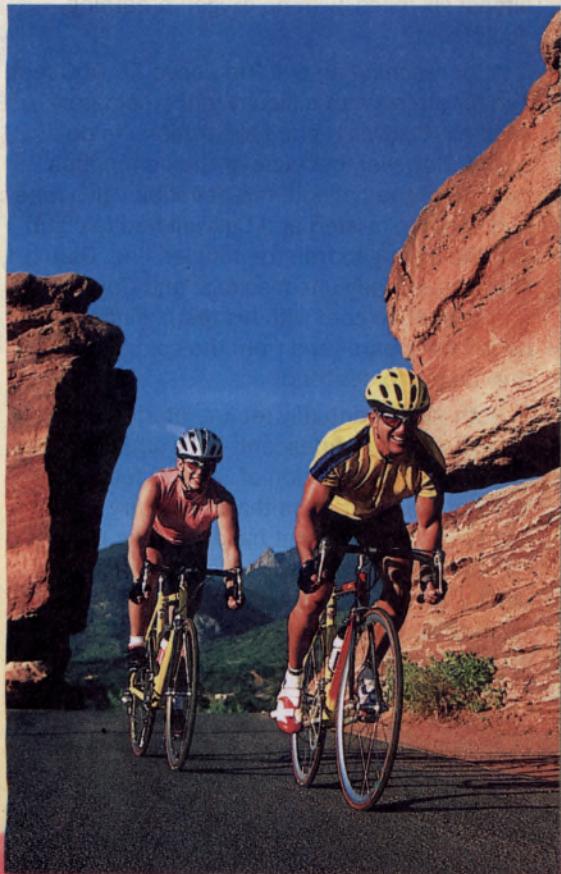
Proper blasting rhythm and constant attention are essential so that the pilot does not lose control of the balloon. Even a brief lapse in concentration can cause an unexpected descent. An alert pilot remembers that the heat source is generally 50 to 60 feet below the high point of the balloon, so it could take between 15 and 30 seconds before the craft responds to the heat from a blast of flame.

The landing can be exhilarating, especially if it is a high-wind landing and in a confined area! Under such circumstances, says one balloon expert, "it is better to have a rapid, bone-jarring landing on the correct spot than a soft landing in the lion cage at a zoo." A slow descent, however, is most desirable when wind conditions are ideal.

Recreational hot-air ballooning will continue to blossom in all its radiant colors as many participate in races, rallies, and festivals and others fly simply for the sheer pleasure of the experience.

Healthy Fun ON TWO WHEELS

BY AWAKE! WRITER IN BRITAIN



WHAT vehicle is cheaper than most others, faster than a car in many urban areas, better for your health, and fun? A bicycle. Cycling is good exercise that combines practicality with pleasure. In an age when many people are concerned about their health, travel on two wheels is well worth your consideration.

Baron Karl von Drais, a German inventor, is credited with the invention of the bicycle. His scooterlike contraption, appearing about 1817, was basic in design. The draisine, as it was called, consisted of two wheels, a seat, and a handlebar for steering—but no pedals. Self-propulsion appeared in 1839 when a Scottish blacksmith, Kirkpatrick Macmillan, attached treadles connected by levers to cranks on the rear wheel. Then came a turning point in the popularity of two-wheeled transport. A French father and son, Pierre and Ernest Michaux, fitted pedals to cranks on the front wheel and made the velocipede (from the Lat-



in *velox*, "swift," and *pedis*, "foot"), a faster and more manageable machine.

Speed increased as the front wheel size grew. The ordinary bicycle, also known as a penny-farthing, was developed in England and had an enormous front wheel with a diameter of five feet, which contrasted sharply with a small rear wheel. It was called a penny-farthing bicycle, based on the contrast between a large penny coin and the much smaller farthing.

Next was the safety bicycle, a cycle that offered riders the versatility of the ordinary but with a lower center of gravity and wheels of equal or nearly equal size. In 1879, Englishman Henry Lawson exhibited a machine in Paris that had a rear wheel driven by a chain. This model was eventually known as the *bicyclette*.

Most modern bicycles have a front wheel the same size as the rear one. Thus, the basic design has changed little. Today's family of utility, touring, racing, and mountain bicycles offers riders comfortable mobility on two lightweight wheels with rubber tires.

Healthy Fun

Noiseless, pollution free, often quicker than motorized traffic over short distances, bicycles are transport workhorses in many lands. In Africa, Asia, and elsewhere, bicycles have become "carryall" transportation, as their riders—or pushers—use them to take their wares to market. Not infrequently, the bicycle carries more than one rider, as relatives and friends straddle the crossbar or perch on an uncomfortable luggage pannier.

In Western lands, where the automobile holds pride of place for personal trans-

A penny-farthing

Police Gazette, 1889

port, growing health concerns coupled with a desire to escape the urban treadmill have renewed cycling's popularity. Specially reserved bicycle lanes or paths have sprung up along numerous thoroughfares. In Britain, for example, many local government authorities pride themselves on the miles of paths they reserve for cyclists.

Discounting possible pollution from exhaust fumes, cycling can be healthy. It "is a protection against cardiovascular disease, the number one cause of death and premature death in the UK," observes transport consultant Adrian Davis. Cycling requires a higher intensity of effort, some 60 to 85 percent of a person's maximum capacity, compared with the 45 to 50 percent used when walking. With minimal weight on a cyclist's limbs, the risk of damage to the bones is also less than when pounding the streets on foot.

Yet another health benefit of cycling is the good feeling it gives the rider. Research reveals that the exercise involved triggers the release in the brain of chemicals called endorphins, which can enhance mood. Apart from a feel-good factor, cycling certainly offers a look-good factor. How so? "At a moderate speed the pedaller [of a bicycle] will burn off roughly seven calories per minute, or 200 calories in half an hour," reports *The Guardian* newspaper. The consequences? Maybe a trimmer waistline and an end to flabby thighs.

Safe Fun

A growing concern in automobile-dominated lands is the safety of cyclists. For example, should one wear a safety helmet? Taking precautions is surely wise. On the other hand, simply wearing a helmet does not ensure that the



A velocipede

Men: A Pictorial Archive from Nineteenth-Century Sources/Dover Publications, Inc.



A penny-farthing

Police Gazette, 1889

Bicycles are transport workhorses in many lands



cyclist will be safe from injury. Columnist Celia Hall drew attention to a study of 1,700 cyclists of varying ages who all wore helmets. One of the startling findings of the study was that wearing a helmet gave the riders a false sense of security. Worse still, 6 percent of them wore helmets that did not fit properly. In an accident, an ill-fitting helmet increases the risk of injury by 50 percent. If you wear a safety helmet, make sure that it fits. Check your child's helmet regularly. Too big a helmet can be fatal.

Drivers of vehicles frequently view cyclists as an irritation and tend to ignore their presence. Therefore, make yourself seen. Wear safety clothing—fluorescent by day, reflective by night. Your bike also needs to be visible, even in the dark. Reflectors on

In some places helmets are required by law



the pedals together with clean front and rear lights are often legal requirements and are certainly wise precautions. Be sure that your choice of safety equipment meets the legal standards in your country.

A well-maintained cycle is vital to safety. Check it out, and clean and service it regularly. After taking all these precautions, you may find it wise in your area to cycle "off road." But to do this safely, you will need the right type of bicycle.—See the box "The Right One for You."

Cycling as a Sport

For some, cycling is a sport. Recent scandals surrounding the famous Tour de France have



In Our Next Issue

■ Earthquake Survivors Tell Their Story

■ I Lost My Unborn Baby

■ How Can I Preach to My Schoolmates?

The Right One for You

Mountain bikes are really all-terrain models with a small, sturdy frame, straight handlebars, higher pedals than conventional models, and wide tires that grip rough surfaces. A variety of gears offer the rider greater ease when going uphill.

If you ride on both hard road surfaces and uneven ground, then you need a hybrid model, a cross between a mountain bike and a conventional one. Such a bike has narrower tires and slightly lower pedals. Conventional cycles offer a more upright riding position and fewer gears.



Whichever model you choose, make sure it is the right size for you. Try it out first. Adjust the handlebars, saddle, and pedals to suit you. When you straddle the crossbar, you should be able to place your feet on the ground (see above).

You will have the safest and most comfortable riding position if you adjust the saddle height so that you can straighten your leg with your heel resting on the pedal at its closest point to the ground (see left). Generally the handlebars should be fixed at saddle height.—Source: *Which?* magazine.

linked cycle racing with drug taking and deception. *Time* magazine, in an article entitled "May the Best Drug Win!" claimed that the race was "in a shambles." Amid debates about doping and chemicals that enhance performance, the reputation of the sport has been marred.

Wise cyclists carefully consider how much

time and effort they spend on their sport. Even when health benefits make cycling appealing, balanced people recognize that exercise is simply one factor in achieving a long and healthy life. However, the next time you mount your cycle to ride, enjoy the healthy fun of riding on two wheels!



So Long to Mature!

BY AWAKE! WRITER IN BOLIVIA

**How does the huge
"Puya raimondii" grow
with so little soil?**

WHY do visitors drive two to three hours from the Andean city of La Paz, across part of the barren wastes of the Altiplano, to an isolated area called Comanche? Why do some botanists come from the ends of the earth to visit this high outcrop of rock that is dwarfed by the vastness of the landscape?

The answer: To see what has been called both the most colossal of all the herbs and the most remarkable plant of the Andes—the *Puya raimondii*. If you visit in the spring, you may be fortunate enough to see a most extraordinary flower display, which, according to some, takes a hundred years to develop.

You won't find the *Puya raimondii* anywhere else for hundreds of miles; in fact, this rare species grows in only a few places, all in the Andes Mountains. Since it has no woody structure, as trees and shrubs have, botanists classify it as an herb. But you have never seen an herb with these dimensions! The huge rosette of narrow, heavily spiked leaves extends far beyond the reach of even the tallest of men. Peering within, you realize that this is a death trap for small birds. The narrowing spaces between the leaves nearly always contain the dried carcasses of birds that entered the foliage, perhaps to escape a hawk, only to be impaled on deadly spikes.

You will probably find the flowers the most interesting part of this plant. Among the scores of plants in this colony, you will usually find only one or two in bloom, if any.

To witness this giant of the flora in bloom is truly a thrilling experience. Towering above its leafy base is the tallest flower spike in the botanical world. On it, thousands of yellow flowers reach 30 feet into the air—higher than a three-story building! Clinging to the rocks and reaching for the sky, the *Puya raimondii* stands in magnificent isolation.



The "Puya raimondii's" thousands of flowers attract many birds

But sadly, the *Puya raimondii* is threatened with extinction. For some reason, people like to burn this plant. Whether they do it for the fun of seeing a flaming torch of such grand proportions, for warmth when the temperature plummets, or for fear that sheep will become entangled in its spiny leaves and die is a matter of speculation. Nevertheless, the puya has endured despite fire, frost, winds, scorching sun, and a scarcity of soil. How does it do it?

The *Puya raimondii* belongs to a large family of some 2,000 species that seem to specialize in surviving where other plants do not—the bromeliads. Except for one type, all of them are native only to the Americas. Like the puya, many of them have roots

that, more than anything else, fix them in place. They have microscopic scales on their leaves that enable them to absorb moisture from the air rather than from the ground. Also, when there is dew or rain, it trickles down into central reservoirs that provide not only for the plant but also for an abundance of tiny creatures. But of all the bromeliads, the *Puya raimondii* is the biggest.

What attracts interest in this “queen of the Andes,” as it has been nicknamed, is the remarkably long time that it takes to mature and flower. A noted botanist counted the leaf scars of a dead specimen and estimated its age to be 150 years. Others claim that the plants live only 70 years. Local people call them centenary plants, believing that they take a hundred years to come to their flowering period. The first one ever to be grown under cultivation from seed reportedly flowered in just 28 years in California in 1986. Whatever the truth about the puyas growing high in the Andes, they do take a very long time to mature.

A "Puya raimondii" that survived a fire



Jangadas

Brazil's Unusual Sailing Crafts

BY AWAKE! WRITER
IN BRAZIL

FOR centuries intrepid fishermen, called jangadeiros, have plied the sunny, northeast coast of Brazil in their primitive but beautiful jangadas. Let me tell you what I learned about these unusual sailing crafts.

At first sight, a jangada might remind you of a craft hastily put together by castaways. But do not be fooled. Jangadas reach speeds of nearly eight miles per hour and take part in regattas. Although of simple design, they can stay at sea for several days and can be found alongside large transatlantic liners, up to 40 miles offshore.*

The jangada was first used in Brazil as an open-sea fishing vessel at the close of the 17th century,

when Portuguese colonizers fitted a triangular sail onto the flimsy crafts used by the natives. The name jangada, which means "joining together," is credited to the Portuguese. Before arriving in Brazil, they had visited India, where they assimilated this Tamil word.

Since those early days, the jangada has undergone some changes. Originally, its hull consisted of between five and eight logs of light, balsalike wood, such as piúva, held together by fibers, without a single bolt or nail. Nowadays, most hulls are made with timbers similar to those used in boatbuilding, which makes them more durable. Another innovation is a wooden box lined with zinc and styrofoam, which is used to store the catch. The size of the jangada remains unchanged—between 16 and 26 feet long and up to 6 feet wide.

* In 1941, four jangadeiros sailed 1,800 miles from the city of Fortaleza to Rio de Janeiro. Their story was recounted in the documentary *It's All True*, directed by Orson Welles.

**Traditional log jangada,
now in disuse**



**A jangada normally
weighs about 650 pounds**



In recent decades competition with modern fishing boats has forced many jangadeiros to seek other employment, such as taking tourists for rides on jangadas. There are still a few small traditional fishing colonies along the coast of northeast Brazil. Life there is simple. In many, while the men are at sea, the women supplement the family income by producing delicate lacework.

It is from a fishing colony at Mucuripe beach that I am about to set out on my first trip on a jangada.

My Day as a Jangadeiro

On the beach at 4:00 a.m., I am introduced to my four crew mates. Our captain is Assis. After the sail has been hoisted, my first task is to help push the jangada off the logs of carnauba wood on which

it rests and into the sea. Almost immediately the jangada becomes waterlogged and seems to sink. Happily, that is just my impression. Jangadas are practically unsinkable. They do sometimes capsize, the crew inform me, and it takes an experienced sailor and strong swimmer to right them again. In any case, as we venture farther out to sea, the waves constantly wash over the deck.

Our captain assumes his post at the stern, where he controls the sail and the rudder. Another jangadeiro stands at the prow. The other two crew members, tied to uprights, lean over to counterbalance the sloping of the jangada. As an observer, I decide that the best policy is to hold on tight to the uprights. Seasickness is a common problem for first-time sailors like me, but I try to put up with the queasiness as well as I can.

After sailing for about two hours, we reach our destination. The crew quickly stow the sail and drop anchor—a stone enclosed in a wooden frame—and fishing commences. The crew use lines, not rods. That is why their hands are covered with scars and calluses. In addition to fishing, they sometimes catch lobsters with a trap called a *mazuá*, which is made of bamboo and nylon cord. To protect themselves from the sun, some wear wide-brimmed straw hats, while others just use a cap.

For the jangadeiro, life is a harsh routine of salt, sweat, and sun. An ever-decreasing number of young men are choosing to learn this profession, which over the centuries has been passed down from father to son.

Midafternoon we start back in the company of several other jangadas. With their elegant white sails set against the bright green sea and blue sky, they conquer the fury of the waves—a truly breathtaking sight that has inspired many a poem and song.

When we reach land, I help push the jangada back to its berth on the sand. A jangada normally weighs 650 pounds, but to our tired arms, it seems much heavier. The jangadeiros sell their catch to a dealer, who will then sell the fish to the public. Our journey was short, and we caught only a few pounds of fish. But a jangada can transport a catch of up to 2,200 pounds of fish. I thank the crew and make my way home, tired but satisfied. At night, lying awake, I imagine that I can still feel the sway of the jangada, Brazil's primitive but unusual sailing craft.

FEELINGS OF GUILT —ARE THEY ALWAYS BAD?

MANY people today view guilt feelings as undesirable. They feel the way German philosopher Friedrich Nietzsche did, who said: "Guilt is the most terrible sickness that has ever raged in man."

But some researchers are now coming to a different conclusion. "Guilt is an essential part of being a feeling, responsible person," says Susan Forward, Ph.D., an internationally recognized therapist and author. "It's a tool of the conscience." So, then, are all feelings of guilt bad? Are there any circumstances where guilt feelings might be helpful?

What Is Guilt?

A feeling of guilt is triggered when we realize that we have hurt someone we care about or when we otherwise fall short of the standards we feel we should live by. As one reference work puts it, guilt relates to "a sense of indebtedness because of a person's culpability for a failure, offense, crime, or sin."

In the Hebrew Scriptures, guilt was associated with an Israelite's failure to live up to God's Law—over half the references to it being in the Bible books of Leviticus and Numbers. Interestingly, the word is almost absent from the Christian Greek Scriptures. But on the few occasions it does appear, it similarly relates to serious offenses against God.—Mark 3:29; 1 Corinthians 11:27.

Unfortunately, we may feel guilty without really being guilty. For example, if a person is a perfectionist and tends to set unreasonable standards for himself, each disappointment may trigger a feeling of undeserved guilt. (Ecclesiastes 7:16) Or we might allow legitimate remorse over a mistake or wrong to intensify into feelings of shame and end up punishing ourselves unnecessarily. What good, then, can feelings of guilt accomplish?

Guilt Feelings Can Be Good

Feeling guilt can be good in at least three ways. First, it signals that we are aware of acceptable standards. It shows that we have a working conscience. (Romans 2:15) In fact, a book published by the American Psychiatric Association treats the absence of guilt feelings as societally threatening behavior. Those with defiled or deadened consciences have trouble seeing the difference between right and wrong, and that can be dangerous.—Titus 1:15, 16.

Second, a guilty conscience can help us avoid undesirable actions. Just as physical pain alerts us to a potential health problem, the emotional pain associated with guilt alerts us to a moral or spiritual problem that needs our attention. Once we are aware of the weakness, we are more inclined to avoid hurting ourselves, our loved ones, or others again in the future.—Matthew 7:12.

Finally, confessions of guilt can help both the guilty and the victim. King David's guilt, for example, was accompanied by intense emotional agony. "When I kept silent my bones wore out through my groaning all day long," he wrote. But when he finally confessed his sin to God, David gladly sang out: "With joyful cries at providing escape you will surround me." (Psalm 32:3, 7) Confession can make even the victim feel better because an admission of guilt can assure the victim that the other person loves him or her enough to regret causing so much pain.—2 Samuel 11:2-15.

A Balanced View of Guilt Feelings

For a balanced view of guilt, notice the stark contrast in the way that Jesus and the Pharisees regarded sinners and sin. At Luke 7:36-50, we read about an immoral woman who entered the house of a Pharisee, where Jesus was dining. She approached Jesus, washed his feet with her tears, and perfumed them with expensive oil.

The pious Pharisee looked down on this woman as beneath his dignity and attention. He said to himself: "This man [Jesus], if he

were a prophet, would know who and what kind of woman it is that is touching him, that she is a sinner." (Luke 7:39) Jesus quickly corrected his thinking. "You did not grease my head with oil," Jesus said. "But this woman greased my feet with perfumed oil. By virtue of this, I tell you, her sins, many though they are, are forgiven, because she loved much." No doubt these kind words lifted the woman's spirits and lightened her heart.—Luke 7:46, 47.

Jesus was in no way condoning immorality. Rather, he was teaching that proud Pharisee the superiority of love as the motivation for serving God. (Matthew 22:36-40) It was right, of course, that the woman feel guilty over her immoral past. Evidently, she was repentant, for she cried, made no effort to justify her former conduct, and took positive steps to honor Jesus publicly. Seeing this, Jesus told her: "Your faith has saved you; go your way in peace."—Luke 7:50.

On the other hand, the Pharisee continued to look down on her as a sinner. Perhaps he hoped to 'put the fear of God in her' and shame her. But constantly trying to make others feel guilty if they do not always do things the way we think they should is unloving and, in the long run, counterproductive. (2 Corinthians 9:7) The best results come from imitating Jesus—by setting the right example, commanding others honestly, and expressing confidence in them even though at times reproof and counsel may be needed.—Matthew 11:28-30; Romans 12:10; Ephesians 4:29.

Feeling guilty, then, can be good, even necessary, when we have done something wrong. Proverbs 14:9 (Knox) says: "Fools make light of the guilt that needs atonement." A guilty conscience can and should move us to confession and other positive action. However, our basic reason for serving Jehovah should always be, not guilt, but love. (Job 1:9-11; 2:4, 5) The Bible assures us that when good people are encouraged and refreshed with this in mind, they will do all they can. More important, they will be happy doing it.

Watching the World

'Religion of Secondary Importance'

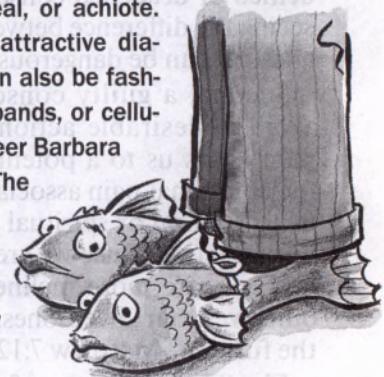
A recent survey among Brazil's urban adult poor has revealed that while 67 percent claim to be Catholic, only 35 percent actually profess faith in Jesus, Mary, and church doctrine. Even fewer—a mere 30 percent—attend church services every week. The survey, commissioned by the National Conference of Brazilian Bishops, also shows that many disagree with official teaching on premarital sex (44 percent), divorce (59 percent), remarriage (63 percent), and the use of contraception (73 percent). According to theologian Severino Vicente, the church is losing ground because of its shortage of priests, its dwindling influence on Brazil's educational system, and its superficial teaching of doctrines. He states: "The new generation of Catholics has been educated in relativism and views religion as a matter of secondary importance."

Danger—At Home!

Hospital statistics for 1999, published by Britain's Department of Trade and Industry, showed that "76 people were killed each week in domestic accidents—more than died in road accidents," reports *The Guardian* of London. "DIY [do-it-yourself] tools, stairs, carpets and kettles of boiling water" were among the most frequent causes of death. More than 3,000 people each year went to the emergency room after falling over laundry baskets, more than 10,000 were hospitalized for accidents that occurred while attempting to pull up socks or tights, and more

Fishy Footwear

In a new industry in the Andes Mountains of Peru, shoes are being made from trout skin, reports *El Comercio* newspaper of Lima. The skins of fish from hatcheries or fish farms are cleaned and cured with natural tanners. Next they are oiled and then dyed with natural products such as turmeric, cochineal, or achiole. This treatment does not destroy the attractive diamondlike design on the skins, which can also be fashioned into "coin purses, wallets, watchbands, or cellular phone covers." Says industrial engineer Barbara León, who spearheaded the project: "The most important thing is that no artificial tanner such as chromium is ever used. This avoids contamination problems and makes the trout skin a totally ecological product."



than 13,000 injuries were sustained while preparing vegetables. Some 100,000 accidents were alcohol related. A spokeswoman for the Royal Society for the Prevention of Accidents observed: "At work and on the roads we are regulated, but at home we let our guard down. You can do serious damage if you pull a tea cosy [teapot cover] off and drop the teapot full of hot water on your foot."

Viking Food Preservative

A thousand years ago, Vikings took water from peat-moss bogs on their voyages because it stayed fresh for months. And on land Scandinavians traditionally preserved fish and plant foods such as carrots and turnips by storing them in peat bogs. Researchers have long thought that tannins or a lack of oxygen in the bogs is what slows the decay of organic material. Now CNN reports that Dr. Terence Painter of the Norwegian

University of Science and Technology and his associates have isolated from the moss a complex sugar that they believe is the real preservative. To demonstrate its effectiveness, they buried some salmon skins in wood cellulose and buried other skins in peat or coated them with moss extract. "Fish stored in the peat or extract stayed fresh for up to a month, while the non-treated fish stank after two days," says the report.

Smog Increases Heart Attack Risk

"The thick smog that smothers many Canadian cities in summer can trigger heart attacks within two hours," reports the *National Post* newspaper of Canada. Smog contains particulates—tiny, invisible pollutants discharged primarily by automobiles, power plants, and fireplaces. "Patients who were already susceptible to heart attacks, such as diabetics, people

with heart disease or seniors, experienced a 48% rise in their risk of a heart attack in the two hours after being exposed to severe air pollution containing particulates," says the paper. "The risk increased to 62% in 24 hours." When smog warnings are issued, "try and spend more time indoors, preferably with the air conditioning on," suggests Dr. Murray Mittleman of Harvard University's medical school. "These particles are so small they do penetrate into indoor air and air conditioning will filter them out."

The Power of a Nap

According to British sleep expert Professor Jim Horne of Loughborough University, the best remedy for afternoon drowsiness "is simply to take

a ten-minute nap," reports *The Times* of London. Horne claims: "It's like any treatment: the nearer to the time of suffering that you administer the dose, the more effective it is." Some corporations in the United States have installed napping rooms—with beds, blankets, pillows, and soothing sounds for their staff, along with alarm clocks set to sound every 20 minutes. But Professor Horne cautions that if you snooze too long—say, 25 minutes—you may wake up feeling bad. "Once the body gets beyond ten minutes it starts to think that it is night time and the full-blown sleep process starts setting in."

Obesity and Cancer

"Obesity is the main avoidable cause of cancer among

non-smokers in the Western world," reports *The Times* of London. Fifty years of research has shown that life-style changes—including losing weight if obese—could halve the occurrence of cancer in nonsmokers. "If you are a non-smoker, the two things that really matter are being overweight and the viruses that cause stomach and cervical cancer," says Professor Julian Peto of Britain's Institute of Cancer Research. "Experiments with animals that have had their diet restricted show a much-reduced cancer risk." A person is considered medically obese if the body weight is more than 20 percent over the desirable body weight for his or her age, sex, height, and body build.

Laughter—Still the Best Medicine!

"A dose of comedy taken daily for four weeks has now been found to reduce significantly the symptoms of depression," reports *The Independent* of London. "Some of the patients who were told to spend 30 minutes a day listening to therapeutic tapes of comedians were cured, while others found that the severity of their symptoms had been halved." More than 100 studies in the United States have indicated that laughter induced by humor can be beneficial. Not only people who are depressed but also those who had allergies, high blood pressure, weakened immune systems, and even cancer and rheumatoid arthritis have responded. Laughter has long been known to promote well-being, but just how is not clearly understood. Psychotherapist Dr. Ed Dunkleblau offers some cautionary advice though: Avoid abusive and sarcastic humor, and be careful about being too funny. Otherwise, the patient may feel that his problem is not being taken seriously.



Living Together Before Marriage

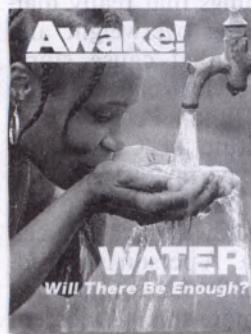
"Parents who lived together before they married are almost twice as likely to separate," states Canada's *National Post*. Heather Juby, coauthor of a study conducted by Statistics Canada, said that researchers expected to find that having a child was a symbol of the parents' commitment to each other. "But," she noted, "the couples that are more open to cohabitation are also more open to separation." The researchers found that 25.4 percent of those who cohabited before marrying separated, compared with 13.6 percent of parents who did not live together before marriage. "People who live together first have less stable relationships," says Juby, "because people who were prepared to [co-habit] are people who perhaps value less the commitment to marriage."

From Our Readers

Water The series "Water—Will There Be Enough?" (June 22, 2001) was very informative. I noticed, though, that you say that "the production of one ton of steel can consume 280 tons of water." There must

be some error here. As a water consultant, I know that in some Indian steel mills, we only consume 20 to 23 tons of water.

N.K.K., India



"Awake!" responds: The figure we cited actually refers to how much water is used in the production of steel—not how much water is "consumed." It turns out that most of the water used in steel production is not consumed but recycled. We regret the misunderstanding.

Dalmatin Bible While reading the article "The Dalmatin Bible—Rare but Not Forgotten" (June 22, 2001), I was surprised to read on page 15: "Apparently, he [Dalmatin] translated from the original languages but with close reference to Martin Luther's German translation of the Latin *Vulgate*." I thought that Luther translated from the original Bible languages.

R. S., Germany

"Awake!" responds: We did not mean to imply that Luther used the "Vulgate" exclusively when translating the Hebrew Scriptures. Though no one knows all the details regarding Luther's German translation, it is generally accepted that the "Vulgate" was one of the tools Luther used in understanding the original-language texts. Luther no doubt also used other sources available at that time, such as the Greek translation known as the "Septuagint."

Navajo I wanted to thank you for the uplifting and beautiful article "God's Name Changed My Life!" (July 8, 2001), as told by the Navajo woman Sandy Yazzie Tsosie. Her words touched my heart and brought me to tears. To read about her journey to find love and happiness and to overcome her depression has given me hope. I realize just how much Jehovah God loves us all!

A. S., United States

Unspeakable Tragedy I thought that certain things only happened in the movies. So I was shocked to read the experience "Coping With an Unspeakable Tragedy." (July 22, 2001) As soon as I finished reading it, I prayed and asked Jehovah to support Jonathan, Oscar, and Oscar's grandparents. Experiences like this spur us on to give the best of ourselves to Jehovah before "time and unforeseen occurrence" befall us.—Ecclesiastes 9:11.

E. P., Italy

Reading the horrific story of the tragedy that struck Theresa and her family touched me to the depths of my heart. I really want her family to know that I too cannot wait to embrace Theresa in the new world promised by Jehovah.

L. T., Italy

I have held back from getting baptized for six years now. I did not have the determination to make certain changes. But the experience of Theresa caused me to meditate. I came to the conclusion that I am not able to live without Jehovah, and I poured out my heart to him. Even though the family's experience was tragic, it encouraged me.

M. L., Czech Republic

I was surprised that one of Jehovah's Witnesses would be the victim of such a crime, but the article helped me to realize that Jehovah does not give us miraculous protection. I do not know when I may confront tragedy myself, but seeing the strong faith of Theresa's family in dealing with this situation has made me determined to stand up to any test.

S. O., Japan

Honey A Sweet Healer

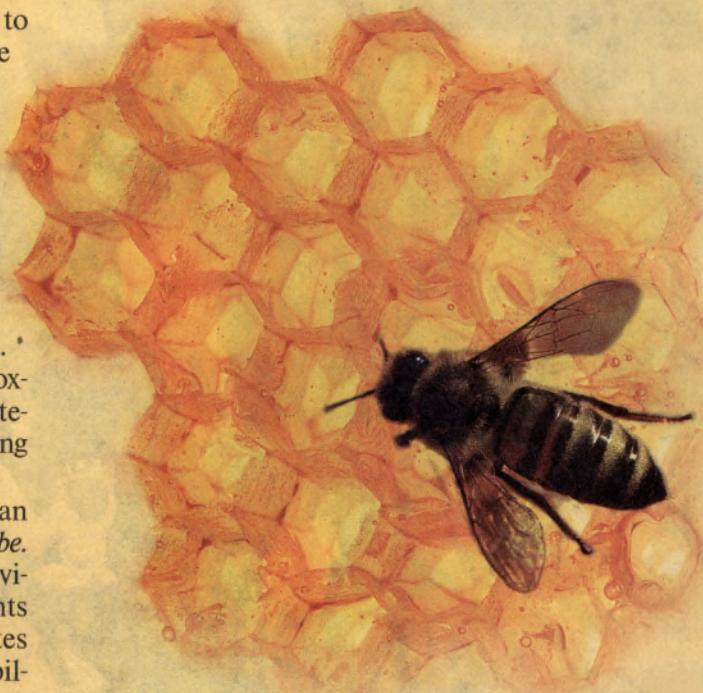
SOME medical researchers are excited about the potent antiseptic and anti-inflammatory properties of honey. *The Globe and Mail* newspaper of Canada reports: "Unlike the arsenal of sophisticated antibiotics that have hit a wall against antibiotic-resistant superbugs, honey is able to do battle with at least some of them when it comes to infected wounds."

What is in honey that gives it the ability to affect healing? The answer involves the worker bee that gathers nectar from flowers. The bee's saliva contains glucose-oxidase, a key enzyme that breaks down the glucose in the nectar. A by-product of this breakdown is hydrogen peroxide, which is traditionally used to clean and disinfect wounds. Normally, the effect of hydrogen peroxide when placed on a wound is short-lived; but with honey, the effect is different. "Once on a wound, the honey is somewhat diluted by the body's fluids, and this decreases the natural acidity of honey," says the *Globe* report. The enzyme goes into action in this less acidic environment. The breakdown of the sugar in honey is slow and constant. This process slowly releases hydrogen peroxide in amounts big enough to kill local bacteria while not adversely affecting surrounding healthy tissue.

Honey has several characteristics that can affect wound healing, according to the *Globe*. "A thin layer of honey provides a moist environment that protects the skin and prevents a hard scab from forming. Honey stimulates the growth and formation of new blood capil-

laries and triggers the cells that produce new skin to grow." In addition, anti-oxidants in the honey possess an anti-inflammatory action that helps "reduce swelling, improve circulation and keep the wound from 'weeping.'"

"Honey isn't for everybody, however," cautions the report. It is estimated that botulism spores are present in up to 5 percent of honey. Such agencies as Health Canada's Botulism Reference Service as well as pediatric societies advise against giving honey to children under one year of age because "infants have not yet developed sufficient intestinal microflora to protect them from the bacterium."





YOU ARE INVITED

Will You Be There?

INVITED TO WHAT? To the most important meeting held each year by Jehovah's Witnesses—the commemoration of the death of Christ, based on the Lord's Evening Meal that he instituted. Matthew's account tells us: "Jesus took a loaf and, after saying a blessing, he broke it and, giving it to the disciples, he said: 'Take, eat. This means my body.' Also, he took a cup and, having given thanks, he gave it to them, saying: 'Drink out of it, all of you; for

this means my "blood of the covenant," which is to be poured out in behalf of many for forgiveness of sins.'"—Matthew 26:26-28.

The significance of these words will be explained at this year's celebration of the Lord's Evening Meal, which falls on Thursday, March 28, after sundown. We hope that you will be there. Please check with Jehovah's Witnesses for the exact time and place of the meeting in your locality. You will be very welcome.