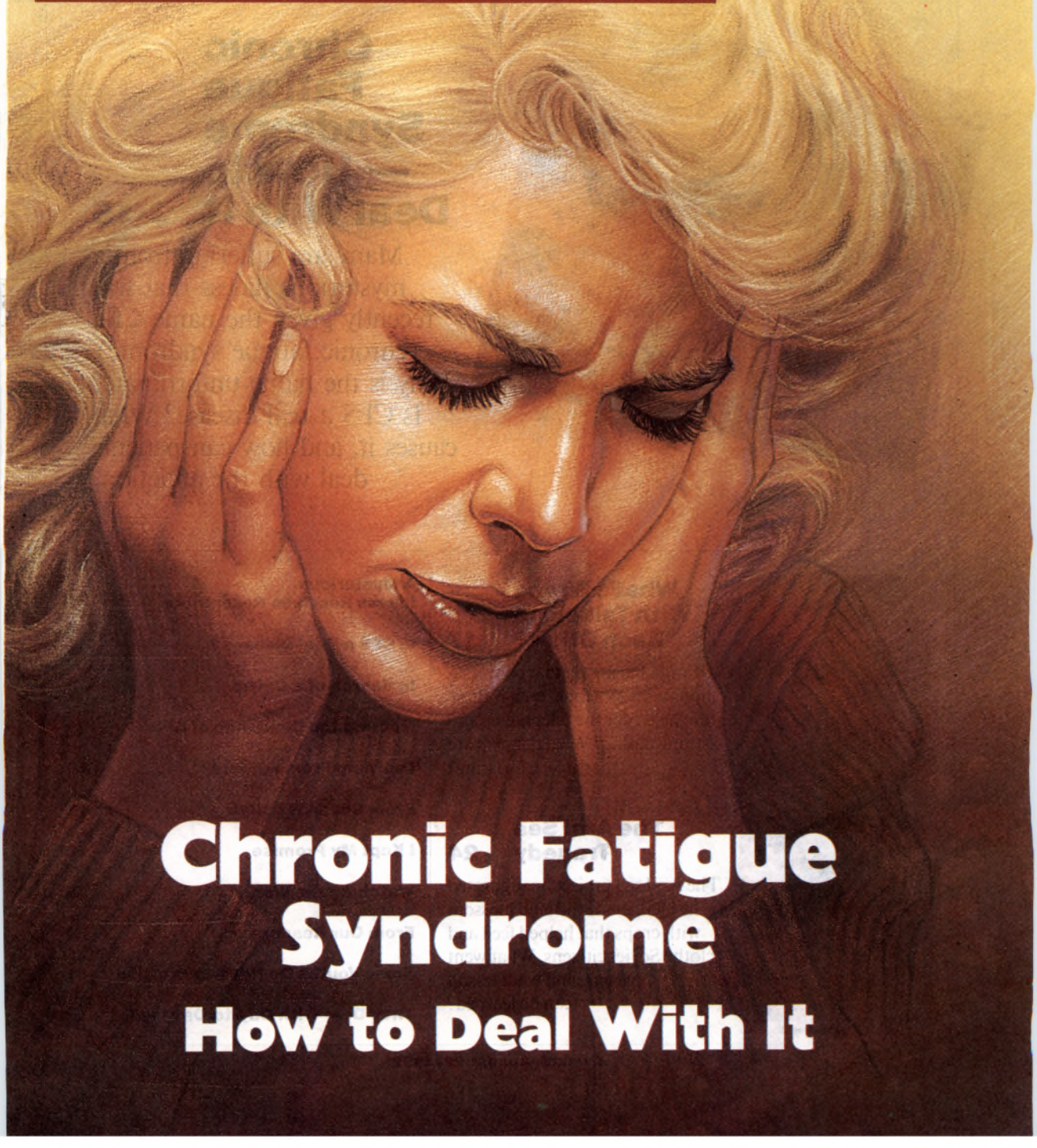
Awake!

August 22, 1992



Chronic Fatigue Syndrome

How to Deal With It

Awake!

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Chronic Fatigue Syndrome —How to Deal With It 3-15

Many are suffering from a mysterious illness that was recently given the name CFS (chronic fatigue syndrome). Why is the name unfortunate? Is CFS a real disease? What causes it, and how can patients deal with the affliction?

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Could having regular conversations with someone, even if these are held over the telephone, constitute dating? What dangers are there to early dating?

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A Mysterious Illness Receives Recognition

CFS (chronic fatigue syndrome) is "a major health and economic threat, second only to that of AIDS."

THAT is what Dr. Byron Hyde of Canada said during the world's first CFS symposium, in Cambridge, England, in April 1990. In fact, Dr. Jay Levy, a San Francisco AIDS researcher, called CFS "the disease of the '90's."

Emergency Medicine explained that CFS is "a multisystem disease that affects the central nervous and immune systems and often the musculoskeletal system." Concern over the disease has become great. When the U.S. magazine *Newsweek* ran a cover story on it in November 1990, the issue became the publication's biggest seller of the year.

The CDC (U.S. Centers for Disease Control) in Atlanta has taken the illness seriously. In 1988 this leading U.S. health agency officially recognized this mysterious ailment by providing physicians criteria, or a set of signs and symptoms, for diagnosing it. The agency named the disorder chronic fatigue syndrome because its common, major symptom is fatigue.

Problem With the Name

Many, however, feel that the name is unfortunate. They say that it minimizes the illness, since the fatigue that characterizes CFS is different from ordinary tiredness. "Our fatigue," one patient explained, "is to ordinary tiredness what lightning is to a spark."

Dr. Paul Cheney, who has treated hundreds of CFS patients, says that calling it chronic fatigue is "like calling pneumonia 'chronic cough syndrome.'" Dr. J. Van Aerde, who himself was stricken by CFS, concurs. A short time ago, this doctor held two full-time jobs—he was a physician at night and a scientist during the day, besides being a husband and a father. Last year he told of his experience with CFS, and Canada's *Medical Post* published his account:

"Imagine a disease that zaps all your energy, making lifting the covers to get out of bed a real effort. Walking around the block, even at a snail's speed, has become a major undertaking, picking up your toddler a breathtaking experience. You avoid your study in the basement because you cannot make it back up the stairs without having to sit and rest half way. Imagine, you can read the words and sentences of a newspaper article, but you can't put it all together . . .

"Imagine feeling like you were receiving hundreds of intramuscular injections simultaneously in all your muscles, making it painful to sit, impossible to move, making a hug no longer pleasurable. . . . Imagine frequent chills, cold sweats, often accompanied by low-grade fever. Combine all the symptoms and compare it with the worst flu you have ever fought, except it is much worse and lasts for a whole year, perhaps longer.

"Imagine the anguish and the bottomless

disappointment when you relapse again and again, just when you thought you had beaten this thing. Imagine being scared, panicking because you feel imprisoned in a foreign body, and you don't know when or even if it all will end."—September 3, 1991.

The name given the illness in the United Kingdom and Canada underscores the seriousness of the ailment. There it is called myalgic encephalomyelitis, or ME for short. "Myalgic" draws attention to the muscle pain, and "encephalomyelitis" to the effect the disorder has on the brain and the nerves.

Since the disorder affects the immune system, patient support groups in the United States, of which there are now hundreds, have named it CFIDS (chronic fatigue immune dysfunction syndrome).

Is this really a new clinical problem? How has it come to public attention?

Historical Review

CFS is probably not a new illness. Some have identified it with an array of symptoms that in the last century was called neurasthenia, a name drawn from the Greek denoting "lack of nerve strength." The symptoms of CFS are also similar to those of fibromyalgia, which is also known as fibrositis. Some even believe that CFS and fibromyalgia may be the same syndrome.

Many outbreaks of CFS-like illnesses have been reported in previous decades, most of them in the United States. But they have also occurred in England, Iceland, Denmark, Germany, Australia, and Greece. Names to describe the syndrome were Iceland disease, Akureyri disease, Royal Free disease, and others.

More recently, in 1984 about 200 people in the small town of Incline Village, near the California-Nevada border, suffered a flulike illness that persisted. "We knew them as productive, happy, vigorous adults," explains Dr. Cheney, who treated many of them. "All of a sudden they got sick and wouldn't get well. In some cases they were sweating so much at night their spouses had to get up and change the bed sheets."

Some disparagingly called this outbreak of illness at Incline Village Yuppie flu, since middle-class, upward mobile young people were predominately affected. It was thought that patients might be suffering from acute infectious mononucleosis, but tests for that disease came up negative for most of them. Blood tests, however, did reveal high levels of antibodies to the Epstein-Barr virus, a type of herpesvirus. Thus, for a time, the illness was commonly known as chronic Epstein-Barr.

The Illness Gains Recognition

When Dr. Cheney reported to the CDC what was happening in Incline Village, little credence was at first given to his report. But from around the country, reports of similar health problems were soon received.

In time, studies indicated that the Epstein-

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Barr virus was not a causative factor in most cases. Actually, this virus is present in about 95 percent of the adult population. It lies asleep inside people's bodies. "When it's awakened," a doctor doing CFS research explained, "it *may* contribute to the disease." But not necessarily.

A lot of research is being conducted to find the causes of CFS. As a result, more and more doctors are acknowledging that a real medical problem is affecting perhaps millions of people. Dr. Walter Wilson, the chief of infectious diseases at the Mayo Clinic in Rochester, Minnesota, U.S.A., said that he has changed his attitude. Seeing so many seeking help at great financial expense, he says, "you have to treat them with respect for what they are going through."

Clearly, many lives are being devastated by an illness with common symptoms. The CDC receives thousands of calls about the condition every month, and only AIDS prompts more inquiries to the U.S. National Institutes of Health. "Something is going on," explained Dr. Walter Gunn, who was in charge of CFS research at the CDC before his recent retirement. "But whether it's one disease or several, one cause or more, is not clear."

Some believe that CFS is primarily a psychiatric problem. The December 1991 *American Journal of Psychiatry* noted: "The authors argue that chronic fatigue syndrome will meet the same fate as neurasthenia—a decline in social value as it is demonstrated that the majority of its sufferers are experiencing primary psychiatric disorders." And a new book, *From Paralysis to Fatigue,* characterizes CFS as "a disease of fashion," implying that it will not prove to be a significant illness.

Is CFS primarily a psychiatric problem? Are the symptoms usually due to depression? Is CFS a real disease?

Is CFS a Real Disease?

"I WENT to doctor after doctor," explained Priscilla, a CFS (chronic fatigue syndrome) sufferer from Washington State, U.S.A. "I got blood tests and was questioned about my life-style. They said that nothing was actually wrong with me and suggested that I seek psychiatric counseling. None of the doctors were willing to take me or my symptoms seriously."

The experience is typical. A doctor writing in *JAMA* (*Journal of the American Medical Association*) last year said: "The average CFS patient had previously consulted 16 different physicians. Most were told that they were in

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perfect health, that they were depressed, or that they were under too much stress. Many were sent to psychiatrists. The situation is better today, but not by much."

CFS poses unique challenges, as *The American Journal of Medicine* observes: "The stress of dealing with an illness in which one looks physically well, has a normal physical examination, and normal laboratory test results is significant. The illness is frequently associated with strained relationships between spouses, other relatives, employers, teachers, health professionals, and insurance companies."

A challenge to doctors is that fatigue is such a common symptom. "If a physician had $1 for every patient who complained of tiredness, he or she could quit practicing," a medical editor wrote. *But, obviously, few who complain of fatigue have CFS.* Since there is no medical test for the illness, how can the physician diagnose it?

A Definition of CFS

In March 1988 the CDC (U.S. Centers for Disease Control) published in *Annals of Internal Medicine* a group of signs and symptoms that collectively characterize CFS. (See accompanying box.)

The major criteria for diagnosing CFS are (1) the new onset of fatigue that lasts longer than six months and reduces one's level of activity by 50 percent and (2) the exclusion of other medical or *psychiatric conditions* that could cause the symptoms. However, to be diagnosed with CFS, the patient *also* must suffer either 8 of the 11 symptoms on the list of minor criteria or 6 of 11 of these symptoms *as well as* 2 of 3 from the list of physical criteria.

Clearly, those who meet the diagnosis for CFS are extremely sick for a long time. The CDC made the definition of CFS very restrictive to identify these persons clearly. Those who have less severe forms of the syndrome are presently excluded by this definition.

Could CFS Be Depression?

What about doctors who say that CFS patients suffer from depression and other psychological disorders? Do these patients have the classic symptoms of depression?

CFS patients are commonly depressed, but as Dr. Kurt Kroenke, professor at a medical school in Bethesda, Maryland, U.S.A., asked: "Wouldn't anyone be depressed if he or she stayed tired for a year or more?" So it is fair to ask: Is depression the cause of CFS, or is it a consequence?

That question is often difficult to answer. A doctor may consider the second point of the major criteria, which says that '*psychiatric conditions* that could cause the symptoms need to be excluded,' and conclude that the patient suffers from depression and not from an organic or physical illness. Yet, in many cases this is not a satisfactory diagnosis.

The medical journal *The Cortlandt Consultant* noted: "The most compelling piece of evidence that CFS is an 'organic' illness is its sudden onset in 85 percent of patients. The majority of patients state that their illness began on a particular day with a flu-like syndrome characterized by fever, [sore throat, swollen lymph nodes, muscle aches], and related symptoms." Physicians who have handled CFS patients are convinced that depression is often not the *cause* of symptoms.

"When we compared our cases," reported Dr. Anthony Komaroff, chief of General Medicine at Brigham and Women's Hospital in Boston, U.S.A., "we were struck by the fact that most patients said they had been perfectly healthy, energetic and successful in life until one day they developed a cold, flu or bronchitis and it never went away. The symptoms that could be considered psychological —depression, malaise, sleep disturbances and

so forth—didn't exist before the onset of the illness."

One classic symptom of depression is loss of interest in everything. But Dr. Paul Cheney explained: "These patients are just the opposite. They're terribly concerned about what their symptoms mean. They can't function. They can't work. Many are petrified. But they do not lack interest in their surroundings."

Swollen glands, fever, unusual white-blood-cell counts, repeated respiratory infections, muscle and joint pains, and especially a peculiar malaise and muscle soreness that may occur after even moderate exercise—these symptoms just don't fit a depression-related syndrome.

The Weight of Recent Evidence

In its November 6, 1991, issue, *JAMA* reported: "Preliminary data from an ongoing study of patients who meet the CDC's definition of chronic fatigue syndrome (CFS) show that most patients with the illness are not victims of depression or other psychiatric problems."

Dr. Walter Gunn, who closely monitored CFS research at the CDC, explained in this issue of *JAMA:* "Despite the fact that many physicians would have thought all of these patients [in the study] were depressed, we found that only 30% of the CFS patients had evidence of depression at the onset of fatigue."

There may even be physical differences between many CFS patients and sufferers of depression. "Patients with major depression disorder (MDD) often have abnormalities in rapid-eye-movement (REM) sleep, whereas patients with CFS have abnormalities in non-REM [sleep]," noted the medical journal *The Female Patient.*

The magazine *Science* of December 20, 1991, reported another significant finding. It said that research indicates that "CFS patients have altered levels of certain brain hormones" and observed: "Although the differences from normal controls were modest, CFS patients consistently showed decreased levels of the steroid hormone cortisol, and increased levels of the pituitary hormone ACTH (adrenocorticotropin hormone), *exactly the opposite of the changes seen with depression."*—Italics ours.

Diagnostic Criteria for Chronic Fatigue Syndrome

Major Criteria

1. New onset of fatigue lasting longer than six months with 50 percent reduction in activity
2. No other medical or psychiatric conditions that could cause the symptoms

Minor Criteria

Symptoms must begin at or after onset of fatigue

1. Low-grade fever
2. Sore throat
3. Painful lymph nodes
4. Generalized muscle weakness
5. Muscle pain
6. Prolonged fatigue after exercise
7. Headaches
8. Joint pain
9. Sleep disturbance
10. Neuropsychologic complaints, such as forgetfulness, confusion, difficulty concentrating, depression
11. Acute onset (over a few hours to a few days)

Physical Criteria

1. Low-grade fever
2. Throat inflammation
3. Palpable or tender lymph nodes

What if CFS Is a Real Disease?

The medical profession is skeptical of disorders it does not understand, such as CFS. "Skepticism permeates our profession," wrote

Dr. Thomas L. English. "Healthy skepticism is the 'in' attitude for intelligent, discriminating physicians." Yet, Dr. English questions how healthy it is for the suffering patient "if CFS is a real disease." He asks skeptical fellow doctors: *"What if you are wrong?* What are the consequences for your patients?"

Dr. English himself suffers from CFS, and last year *JAMA* published his article directed to fellow physicians. He invited them to put themselves in the place of the suffering patient, describing the syndrome:

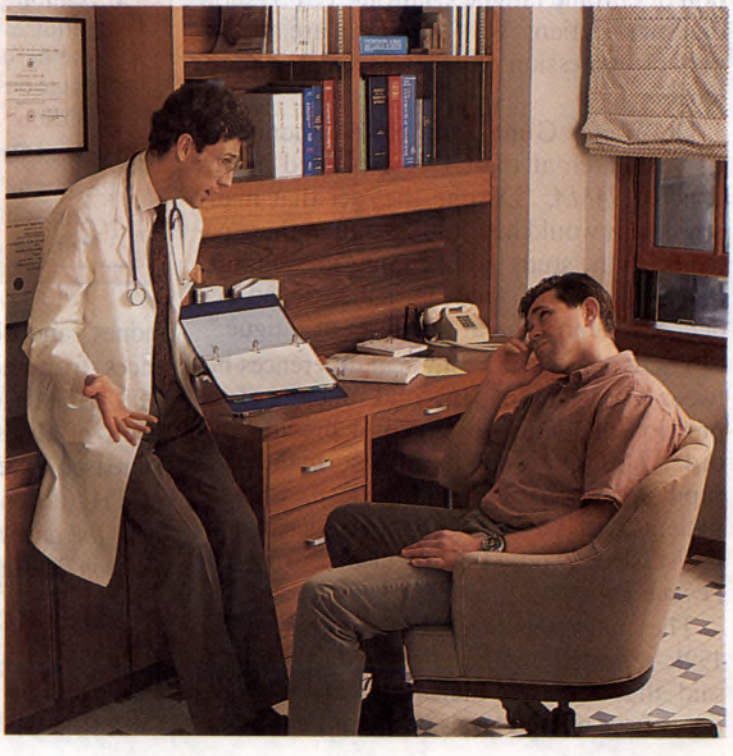
"You catch 'a cold' and thereafter the quality of your life is indelibly altered. You can't think clearly . . . Sometimes it's all you can do to read the newspaper or to follow the plot of a television program. Jet lag without end. You inch along the fog-shrouded precipice of patient care, where once you walked with confidence. Myalgias [muscle aches] wander about your body with no apparent pattern. Symptoms come and go, wax and wane. . . . You too might wonder about some of your symptoms had you not talked to other patients with similar experiences . . . or talked with physicians who have seen hundreds of similar cases. . . .

"I have talked with scores of fellow patients who went to our profession for help, but who came away humiliated, angry, and afraid. Their bodies told them they were physically ill, but the psychospeculation of their physicians was only frightening and infuriating—not reassuring. It told them their doctors had little understanding of the real problem. . . . Are we to believe that just because symptoms are strange and unfamiliar they cannot be real? Are we to assume that our laboratory tests are capable of screening for new diseases as well as old? Distrust of new ideas is as old as humankind; so are the harmful consequences of that distrust."—*JAMA,* February 27, 1991, page 964.

Value of Acknowledging Illness

"Doctors who spend a lot of time talking to patients with CFS hear a story that is absolutely repeatable; it's a classic," noted Dr. Allan Kind, an infectious diseases specialist. "I can tell you that Chronic Fatigue Syndrome is real."

More and more doctors now agree. *The Fe-*



Doctors must be perceptive to distinguish between depression and chronic fatigue syndrome

male Patient thus encouraged physicians: "Until a definite diagnosis and an appropriate treatment can be established, the physician has a special responsibility to tell these patients that they do indeed have a real illness, and that it is not 'all in their heads.'"

The benefit of validating a patient's illness can be tremendous. When a doctor told one woman she had CFS, she said: "The tears just welled up." To hear a doctor say her illness was real, and that it had a name, was such a relief to her.

Yet, what causes CFS? What has research revealed?

In Search of a Cause

IT TOOK years to discover what was disrupting the immune system of AIDS patients, but it is taking even longer to identify what is wreaking havoc on the bodies and the brains of those with CFS (chronic fatigue syndrome). Although the cause has not been determined, medical authorities are able to present convincing evidence of physical abnormalities in patients. In fact, such evidence has been used in court.

Canada's *Medical Post* reported that in a controversial case, medical experts presented testimony to support the defense's claim that the patient's ability to make judgments had been impaired by his illness. Justice William G. N. Egbert was thus moved to conclude: "The disease affects every area of judgment. . . . Small areas of the brain are injured."

Is there truth to this?

Brain Abnormalities

Medical research supports the contention that the brain of CFS patients is affected. *The New York Times* of January 16, 1992, carried the headline: "Study Detects Brain Abnormality in Patients With Chronic Fatigue." The article, based on a report published the day before in *Annals of Internal Medicine,* observed:

"The largest study yet of chronic fatigue syndrome has found evidence of inflammation in the brains of patients, the first documentation of a neurological abnormality connected with the mysterious ailment." The article added: "The study is the latest of a recent series showing immunologic and hormonal differences between those with the syndrome and healthy people."

Another study that drew wide attention was reported in the December 1991 issue of the *Journal of Clinical Endocrinology and Metabolism.* It found indications of hormonal deficiencies in the endocrine glands and brains of people with CFS. The study thus added to evidence that biochemical and immunological factors produce the symptoms of CFS.

Dr. Walter Gunn, while serving at the CDC (U.S. Centers for Disease Control), monitored many studies of CFS patients. He noted that "some good scientists are beginning to get involved in CFS research." Although the findings of these researchers often pointed to different possible causes, Dr. Gunn emphasized: "The one thing that is consistent is that nobody is reporting there are no abnormalities."

What possible agent or agents are responsible for CFS? Is a virus involved, or viruses? If so, in what way? How is the immune system adversely affected? How could its dysfunction cause the symptoms manifest in CFS patients?

Possible Causes

Research indicates that viruses are involved. But what viruses? Many have been implicated

by researchers. "Retroviruses, spuma or 'foamy' viruses, enteroviruses, Epstein-Barr virus, and human herpesvirus type 6 are all among the popular and highly controversial contenders," observed *The Journal of the American Medical Association* last November.

In what way may viruses cause CFS? That is unknown. However, Dr. Anthony L. Komaroff, a leading CFS researcher, noted: "The pattern that is emerging is a chronically activated immune system, an immune system engaged in some kind of chronic war against some kind of thing that it perceives as foreign."

A healthy immune system responds to an enemy virus, or viruses, by releasing chemicals, called cytokines, to fight the invaders. However, when the emergency is taken care of, the production of cytokines normally ceases. But in CFS patients the immune system apparently fails to shut off. Significantly, a consistent finding in people with CFS is an increased production of cytokines.

This is important, since it is not the virus that makes a person feel sick when it invades his body. He feels ill because his body cells are producing cytokines, which cause the fever, achiness, and fatigue. Dr. William Carter, a U.S. medical professor, noted: "The cytokines remain and begin to damage the host until ultimately we see the profoundly bedridden patient who can barely move."

However, what causes the immune system to keep producing cytokines when it should have ceased production? "A latent virus is activated by some sort of trigger," according to Dr. Jay A. Goldstein, "which makes the cells of the immune system produce [cytokines] in abnormal amounts."

Additionally, it appears that natural killer cells and macrophages, which are frontline defenses against invading organisms, are reduced in either number or function in CFS patients, further weakening the immune system. The significant thing is that the immune system of CFS patients seems to malfunction, although opinions vary as to *why* it does.

As noted in the previous article, doctors often observe that in many patients depression is not the cause of CFS. However, in other patients some doctors feel that psychological problems, such as depression, may be a causative factor. Interestingly, research has revealed that depression can damage the immune system. "Psychological distress itself can produce disturbances in neurohormonal and immunologic function," writes Dr. Kurt Kroenke, of the Walter Reed Army Medical Center in Washington, D.C.

Thus, in some instances depression may trigger changes in the immune system that may contribute to CFS. Yet, many other factors that can weaken the immune system are probably also involved.

Numerous Factors

Most investigators agree that it is very unlikely that one thing is causing CFS. "Instead, CFS probably is an illness that occurs in a vulnerable individual in whom depression, [allergies], viral infections, or other factors have resulted in some degree of immune compromise," explained the medical journal *Cortlandt Forum.*

A doctor, writing in Canada's *Medical Post,* noted: "There might be a hereditary susceptibility required and an overused body might be another predisposition. Then an acute event, most often an acute viral infection, hits the strained individual. The combination of all these factors probably induces damage to the immune system."

"Stress is one of the biggest triggers we see," said Dr. Charles Lapp. "Sometimes we have seen certain chemicals play a role. . . . And curiously a number of my patients (although we've never done a study) have mentioned that

insecticides, paints, and varnishes seemed to have been involved when their disease was triggered off."

Never in history have people been exposed to greater assaults on their bodies by environmental pollution. Food additives and drugs may also harm the body and adversely affect the immune system. Certain doctors even claim that long courses of antibiotics depress the immune system.

Other factors too may be involved in the suffering seen in thousands of CFS patients. But while there are tantalizing clues and intriguing possibilities, the cause of CFS is still unknown.

A Sign of the Last Days

In his great prophecy about the last days of the world system, Jesus Christ foretold: "There will be . . . in one place after another pestilences." (Luke 21:11) How true this is of our time! Many of today's diseases have no known cause, yet this does not make them any less real or debilitating.

CFS is apparently just another illness that makes up part of the sign Jesus said would mark the last days. But realizing this does not make life any easier for those who are suffering. How can CFS patients deal with their affliction?

Meeting the Challenge of CFS

DOCTORS at a symposium were discussing the treatment of CFS (chronic fatigue syndrome) during a telecast when one of them said: "These patients all look as healthy as everybody on this panel." Because such patients don't *look* sick, they are often treated in a way that increases their misery.

Patricia, a CFS sufferer in Texas, noted: "Sometimes I have felt like Job, whose companions weren't always helpful." A visitor, for example, once told her: "You look fine to me! I thought you were really sick. You and my mother-in-law have a lot in common. She is a hypochondriac too."

Such comments can be devastating, and they constitute a major challenge of CFS. "The emotional pain of being put down for not 'trying' is beyond description," explained Betty, a CFS patient in Utah, "and is the worst part of the suffering CFS brings."

Understanding and Love Needed

Betty expressed the sentiments of perhaps every CFS sufferer when she said: "We don't want pity. We don't need sympathy. But, my, how we could use some understanding! God knows our difficulties and sorrow, and that is most important. But it is also vital that we get emotional support from our Christian brothers and sisters."

For many people, however, CFS remains difficult to understand, as a young sufferer from Washington State noted recently. "The one thing I wish people had more of is empathy," she said, "not sympathy, but empathy. And that is impossible because not many people have ever dealt with an illness like this."

Yet, it shouldn't be *impossible* to understand CFS sufferers. Granted, their physical condition may be beyond our experience. But we can learn about their illness until we grasp just how sick they truly are. Unlike AIDS,

How Others Can Help

What Not to Say and Do

- *"You sure look good"* or, *"You don't look sick."* Saying such things makes the sufferer feel as if you don't believe in the severity of his symptoms.
- *"I feel tired too."* This comment minimizes the suffering. CFS involves much more than merely being tired. It is a painful, debilitating disease.
- *"I'm tired. I think I might have CFS too."* This may be said in jest, but there is nothing funny about CFS.
- *"I wish I could take a few days off to catch up on my rest."* CFS patients are not on vacation.
- *"You were working too hard. That's why you got sick."* This may imply to the sufferer that he is to blame for what has happened.
- *"How are you?"* Don't ask unless you really want to know. Frankly, the sufferer generally feels terrible but may not want to complain.
- *"So-and-so had CFS, and she was only sick for a year."* Each case of CFS is different in duration and severity, and pointing to another's early recovery can be discouraging to one suffering longer.
- Don't offer medical advice unless you are asked for it and are qualified to give it.
- Don't imply to CFS patients that if they have a setback, it must be because of something they did.

which kills, one patient explained, CFS "just makes you wish you were dead." Deborah, who became ill in 1986, confessed: "For a long time, I prayed every night to God to allow me to die."—Compare Job 14:13.

Of course, we want to be encouraging, to help sufferers meet the challenge of CFS, but unfortunately our comments may do the opposite. For example, a well-meaning visitor suggested to a CFS sufferer: "What you need is to drink some warm milk at night. It will help you sleep, and you'll be all right in a few days." That comment revealed a total misunderstanding of CFS. It hurt the sufferer more than it helped.

Sick ones may often feel unable to do such things as attend Christian meetings. When they do come, the effort involved may be far beyond what we comprehend. So rather than draw attention to their previous absences, we could simply say: "It's so nice to see you. I know it's not always easy for you to be here, but we're glad to see you tonight."—See accompanying box.

The nervous system of CFS sufferers is often affected, making even normal interaction with people difficult. "We need to be a buffer between them and others," explained Jennifer, whose husband has CFS. "We must help them by allowing them privacy, by never getting upset with them, and by helping them avoid any kind of confrontation."

Jennifer admitted that the illness of sufferers can be taxing on family members, who may become tired of doing everything for them. But as she noted, if patients are not allowed to rest, their recovery will likely be delayed, and so everyone will lose in the long run. Happily, the illness apparently is rarely if ever contagious, although there does seem to be a hereditary predisposition to the affliction.

Tottie, a CFS sufferer and wife of a traveling overseer of Jehovah's Witnesses, said that for years her husband has helped her meet the challenge of the illness. She lets him know of her appreciation but noted: "Friends often

What to Say and Do

- Show that you believe they are really sick.
- Make a phone call, or go to visit. Calling first is usually a good idea.
- Respect any restrictions as to visitors or phone calls.
- If a person cannot have visitors, send a card or a letter. Patients often look forward to opening the mail each day.
- Be compassionate. Sometimes this just means acknowledging what the ill person is experiencing.
- Offer to run errands, do their grocery shopping, take them to the doctor, and so forth.
- You can simply say: *"It's so nice to see you. Jehovah really appreciates your faithful endurance."*

inquire about me and my welfare, but Ken needs encouragement too."

Positive Prognosis—But Danger

CFS is rarely if ever fatal. That knowledge may help you meet the challenge. Most get better in time, and many recover. Dr. Anthony Komaroff noted: "Not one patient that we have seen out of the hundreds that we have studied has had a chronic, progressive downhill course where they have gotten worse and worse and worse over time. No one has had that. So unlike some other illnesses that progress inexorably, this illness is quite different."

In confirmation, Dr. Andrew Lloyd, a leading CFS researcher in Australia, said: "When recovery occurs, and we believe that happens commonly, that recovery is complete. . . . That, therefore, implies that whatever this process is that produces this fatigue state is completely reversible." Apparently patients have no detectable damage to body organs after recovering.

Deborah, who had regularly prayed to die because she felt so sick, finally improved. She feels like her old self and said recently that she plans to rejoin her husband in the full-time ministry. Others have enjoyed similar recoveries. Yet, there is need for caution. Why?

Keith, who suffered a relapse, warned: "It's very important not to underestimate this problem, not to be too quick to think it has passed." When feeling well again, Keith reentered the full-time ministry and resumed his athletic activity, regularly running and lifting weights. But, tragically, the illness returned, and he was bedridden again!

This is the insidious nature of the illness; relapses are common. Yet, they are difficult to avoid. As Elizabeth explained: "It is so hard *not* to try to make up for lost time when you begin feeling better. You so badly want to forget about sickness—you want to *do* things."

For that reason it requires great effort and patience to meet the challenge of CFS.

What Sufferers Can Do

It is important that sufferers adjust mentally to a chronic illness that has an unpredictable course. Beverly, a longtime sufferer, explained: "If I start believing I have really got well during my good weeks or months, I usually fall harder than ever physically. So I constantly work on accepting my limitations." Keith said: "Patience is probably the most important factor."

CFS sufferers need to conserve their energy and permit their bodies to heal. Thus, those who are successfully coping with CFS emphasize the value of what is called aggressive rest therapy. This means preparing aggressively for coming events by getting extra rest in advance. As a result, CFS sufferers may be able to attend Christian assemblies or other special events without suffering unduly afterward because of the exertion.

Vital, too, is maintaining a calm, mild spirit, since mental or emotional stress can precipitate a relapse just as easily as can excessive physical exertion. So good advice is: "Don't waste your energy defending yourself." Yes, avoid trying to explain your condition to skeptics who don't understand.

If you suffer from CFS, you need to remember that it is not what others may think of you that matters but it is what our Creator, Jehovah God, thinks. And he appreciates your situation and truly loves you for whatever you do to serve him. You can trust that Jehovah and the angels are watching, not your productivity, but, as with Job, your attitude, endurance, and faithfulness.

Susan, who has been bedridden with CFS for the better part of two years, noted that one of the most devastating features of CFS is that a person can feel as if there were no purpose to life. So she recommends: "Find things that bring you joy or fulfillment. I have three African violet plants, and I look at these every day for new buds." But of greatest importance, she says, is to "rely on Jehovah through prayer and to make your spirituality a priority."

Many sufferers say they find it helpful to listen to tape recordings of the Bible and of the *Watchtower* and *Awake!* magazines. Significantly, Priscilla, mentioned in the second article, commented that once a person reaches the point where he stops dwelling on what has been lost, "CFS isn't so overwhelming anymore." She said: "To keep myself from thinking that this condition is going to last forever, I have placed encouraging scriptures in conspicuous spots around my room."

What About Treatment?

At present little more can be done medically than treat the symptoms. There were high hopes for the experimental drug Ampligen. Many taking the drug seemed to *improve*, but adverse side effects experienced by some caused the U.S. Food and Drug Administration to put its further use on hold.

Sleep disturbances, including insomnia, are common with CFS. Interestingly, an antidepressant medication—sometimes one hundredth of the dose taken for depression—helps some, but not all, patients sleep better and thus improve. Beverly avoided such drugs for years but then tried one. "I was helped so tremendously," she said, "I only wish I had started sooner."

"Many other methods [including "alternative" treatments that some patients find appealing when standard measures fail] have been tried for treating CFS," noted *The Female Patient*. "These include a variety of medications, physical therapy, . . . acupuncture, homeopathy, naturopathy, anticandidal therapy, and ayurvedism, among others."

This medical journal stated: "Regardless of personal beliefs, the physician should have some knowledge of such [treatments] to better understand and counsel the patient. Many patients are grateful just to find a physician who listens to them and takes their list of complaints seriously. . . . Most patients with CFS can be helped to feel better—even if they are only reassured that they have a medical ally—and many can be greatly improved."

Since there is no cure, some question the value of going to a physician. The vital benefit of seeking such help is that tests can *exclude* other diseases that may have similar symptoms, such as cancer, multiple sclerosis, lupus, and Lyme disease. If these are identified at an early stage, valuable treatment can be given. *Emergency Medicine* recommends to physicians: "Once you've made the diagnosis, your best course of action is to refer the patient to a chronic fatigue syndrome study center."

Rest is recognized as the best treatment, but a careful balance must be struck. So the best advice is: Learn to pace yourself. Know your limitations, and work within them, day by day, week by week, month by month. Gentle exercises, such as walking or swimming in a warm pool, can be beneficial as long as they are not taken to the point of either physical or mental fatigue. A healthy diet that helps to strengthen the immune system is also important.

Hopelessness may accompany this disease, as was tragically illustrated by one sufferer named Tracy who despaired and committed suicide. But death is not the answer. As a bereaved friend said: "I know what Tracy really wanted. She didn't want to die. She wanted to live—but to live free from suffering. And that must be our goal." Yes, it is an excellent goal. So focus your hopes, not on dying, but on surviving to reach that goal, whenever it comes.

CFS is one of many strange illnesses to add to the list of scourges that afflict modern mankind. Whatever progress medical science may make, it will take more than medical skill to cure them all. The Great Physician, Jehovah God, has in mind nothing less—a worldwide cure of all sicknesses—through the loving administration of his Kingdom government. At that time "no resident will say: 'I am sick.'" That is the sure promise of God! —Isaiah 33:24.

Learning From Spiders

DO YOU recoil at the sight of a spider? Even those of us who do have probably marveled, in spite of ourselves, at the elegant symmetry of a spider's web. Most of us have heard, too, that the web is an engineering marvel. But what about the stuff of which the web is made—the silk?

Scientists and engineers have long been intrigued by the silks produced by some spiders, silkworms, and flies. Christopher Viney, an assistant professor of bioengineering and a metallurgist at the University of Washington, U.S.A., has made a special study of the orb-weaving spider. According to the Toronto, Canada, newspaper *The Globe and Mail,* he has found that one of the five types of silk that the spider produces is stronger than steel—in fact, ten times tougher than Kevlar, the artificial fiber used in bulletproof clothing, boat hulls, and armored vehicles!

U.S. Army scientists have managed to duplicate the chemistry of fibroin, the protein of which this silk is made. The scientists found, though, that it is not just the silk's chemical makeup that accounts for its remarkable properties; it is also the way the spider *spins* this chemical. In the spider's spinneret, the silk assumes a liquid crystal state. Its molecules line up in long chains called polymers, which have great tensile strength. Still, Viney feels confident that with special fiber-processing equipment, scientists will eventually learn to imitate this feat as well.

"Spiders still have the drop on us," Viney told *The Globe and Mail,* but he added, "Who knows? Maybe we can improve upon them." Maybe; maybe not. In any case, the credit for the original design will always go to only one Source—the One who created all things, Jehovah.—Revelation 4:11.

From Coconut to Coir

By *Awake!* correspondent in India

NEARLY everyone knows the coconut. But what is coir? It is a bonus that comes along with each coconut.

Surrounding the delicious white coconut meat is a hard shell. Protecting the shell is a thick fibrous husk, which some might consider mere waste. Here in southern India, where coconuts are plentiful, the husks are separated from the nuts and soaked in water for up to eight months. They are then beaten by hand to soften them and then machine-shredded into fluffy, golden fibers called coir.

Coir can be dyed different colors. It is then hand-twisted into strings and spun into coir yarn. Handlooms and power looms transform coir into attractive doormats, *mourzouks* (heavy coir rugs), carpets, floor mattings, and wall panelings.

Husks are soaked in water for up to eight months

Coir products are in demand worldwide and for good reason. Durable coir is unaffected by moisture; is resistant to moths, rot, and fungus; is static free; and is flame resistant. It also proves to be excellent insulation against temperature and sound. Imagine—all that from just a husk that is commonly thrown away as being worthless!

Doormats are made from dyed coir

Young People Ask . . .

What's Wrong With Talking to Each Other?

'WE'RE not dating, we're just talking.' That is how 17-year-old Denny describes his relationship with Tina.* They met at a convention of Jehovah's Witnesses, and since then they have regularly had long conversations on the telephone. Denny admits they are too young to pursue a serious courtship. But he sees nothing wrong in their simply talking to each other.

Many youths who are not allowed by their parents to go out on formal dates are allowed to nurture friendships with the opposite sex by frequent conversations and phone calls. Innocent fun? Perhaps. But some parents are alarmed. "There seems to be quite a problem here with very young teenagers 'going' with other young teenagers," writes one concerned parent. "They are not dating, but they do consider each other boyfriend and girlfriend."

Other youths cultivate boy-girl relationships by writing. These letters may be nothing more than innocent expressions of friendship. Oftentimes, though, they become increasingly romantic in tone. Romantic involvement may also result when youths get involved with writing individuals who are known to set poor examples as Christians. It may be claimed that the correspondence began as a sincere attempt to encourage such ones.

Talking or Dating?

The Bible does not condemn talking or writing to members of the opposite sex. Christians are supposed to "have love for the whole association of brothers," and that includes peers of both sexes. (1 Peter 2:17) The Bible further tells young men to treat "younger women as sisters with all chasteness." (1 Timothy 5:2) When this principle is applied, young men and women can enjoy clean, wholesome relationships—yes, *friendships!*

Christian youths normally enjoy such friendships in group settings, however. So when two youths single each other out for special attention, the relationship begins to take on the appearance of a romance, a courtship. Is this necessarily the same as dating? Most youths would probably say no. However, teenagers are not always sure exactly what adults mean by dating.

When one group of youths were asked to define dating, more than half said it meant 'to go out with a person of the opposite sex.' Some defined it as meaning 'to get to know someone better.' An informal survey among a group of Christian youths yielded similar

* Some of the names have been changed.

results. One 13-year-old boy said: "A date is when you take a girl out to the movies and stay out late and then walk her home."

A dictionary defines the English word "date" as "a social engagement between two persons of opposite sex." Could this not include having regular conversations with someone? And what about such conversations, or social engagements, over the telephone? A young man named Ivan says: "It *is* a form of dating, especially if you have a prearranged day and time to call this person and the conversation revolves around personal matters."

The book *The Family Handbook of Adolescence* notes: "Boy-girl contact . . . is often conducted via notes, letters, and the telephone. Each of these types of communication is valued [among youths] because it allows intimacy at a distance." Even so, as with any form of dating, serious involvement may develop. Consider a young man named Jack. When he became interested in a young woman as a potential marriage mate, he spent a lot of time talking with her on the telephone. "Getting to know a person over the phone can be done," says Jack. "You can communicate thoughts and even *feelings* over the phone." Jack and his girlfriend got married. Because of distance, many couples have carried on the bulk of their dating by phone calls and letters!

Could a telephone conversation be considered a date?

The issue, then, isn't whether you say a couple is simply talking, seeing each other, or dating, but what kind of *relationship* they are cultivating. And when a boy and a girl have singled each other out, this can at least give the appearance of a budding romance. And often it is more than mere appearance. As teenage writer Jane Rinzler explains in her book *Teens Speak Out:* "If people like each other . . . they will start *seeing each other.* Chances are it will start by their talking on the phone maybe once, maybe a few times."

The Dangers of Early Dating

Now it may be all right for two people to start a romantic relationship as long as they are in a position to pursue marriage. But few teenage couples think in the terms of getting married. According to the book *Adolescent Development,* by Barbara and Philip Newman, teen dating often serves as a mere "form of recreation," a way to 'achieve status' among other youths, and a way to "learn about the opposite sex."

But as far as Christians are concerned, marriage is sacred, honorable. (Hebrews 13:4) Courtship in any form is therefore serious business—not a form of play. And when one is too young to marry, a close relationship with a member of the opposite sex can all too easily end in bitterness and grief. The Bible puts it this way: "Can a man rake together fire into his bosom and yet his very garments not be burned?"—Proverbs 6:27.

When Maria was 13 years old, she began experimenting with telephone dates. It was fun for a while. But since she was not old enough to get married, such dating just left her disappointed and frustrated. "Expectation postponed is making the heart sick," says Proverbs 13:12. She also had to deal with the stress of keeping her dating secret from her parents. "Every time the phone rang, I worried that someone else would pick it up—especially my mother. It was embarrassing when she'd ask, 'Who is this?' and would hang up because there was no response."

Even letter writing has its risks. Charlene, for example, developed strong feelings toward an unbeliever. She confesses: "I began writing him, and we have become more than just friends. He's an alcoholic, but I'm trying my best to help him. Do you think there is any hope of getting him to slow down his drinking?" Charlene's attempts to play counselor to an alcoholic are ill-advised and unlikely to succeed, however. She could easily end up in a disastrous marriage.*—2 Corinthians 6:14.

Guard Yourself With Thinking Ability

Good advice is given at Proverbs 2:10, 11: "When wisdom enters into your heart and knowledge itself becomes pleasant to your very soul, thinking ability itself will keep guard over you, discernment itself will safeguard you." Young people often allow their emotions to guide their decisions. But by using thinking ability and discernment, you can do much to "remove vexation from your heart, and ward off calamity from your flesh." —Ecclesiastes 11:10.

Discernment helps you appreciate that you are in "the bloom of youth," a time when sexual feelings and romantic emotions are strong. (1 Corinthians 7:36) Close association with a member of the opposite sex—be it in person, by telephone, or even by letter—tends to fan the flames of passion. Why then single someone out for special attention? True, you may want to learn how to deal with the opposite sex. But you can usually do so by enjoying the association of the opposite sex in group settings. Even then, avoid limiting yourself to a small circle of friends. "Widen out" in your association. (2 Corinthians 6:13) Doing so will minimize the likelihood of developing a romantic involvement.

Does this mean that you can never talk on the phone with or write to a member of the opposite sex? No. The danger lies in developing an emotional attachment to one person. But take care that you do not hurt someone or get hurt yourself. And if in spite of the best intentions, romantic feelings begin to develop, you may need to back off from the friendship.

It may also help to talk matters over with a trusted adult, such as one of your parents. (Proverbs 23:26) At first you may feel hesitant or embarrassed about disclosing your feelings. But your parents may understand your feelings better than you think.

It may be years before you are ready to cultivate a romantic interest in a member of the opposite sex. In the meantime, by showing caution and an unselfish interest in others, you can enjoy balanced relationships with the opposite sex.

* See chapter 30 of *Questions Young People Ask—Answers That Work*, published by the Watchtower Bible and Tract Society of New York, Inc.

I Kept My Promise

I WAS born in Rio de Janeiro, Brazil, during a party on Carnival Sunday, 1930. Present were members of Rio's high society—doctors, army colonels, and wealthy businessmen. Superstitiously, all of them tossed gold rings and diamonds into my first bath, believing that this would help this baby boy become rich and famous. About a year and a half later, I received a prize as the most beautiful baby in Rio in a contest sponsored by a magazine.

Shortly afterward my mother became seriously ill. When the doctors gave up all hope for her, my father abandoned her and the children. He was able to exchange me in settlement of a debt, and so I came to live with a rich family in Guarujá, on the island of Santo Amaro, in the state of São Paulo. There I grew up without remembrance of my former family. However, during a school vacation I spent in Rio de Janeiro—about 280 miles from where I lived in Guarujá—something happened that changed my life.

A Chance Meeting

I would play with boys my age in a section of Rio called Jardim da Glória. Since my foster parents gave me plenty of money, I would buy ice cream for the whole group, so I was quite popular. One of the boys, Alberto, asked me where I was from. When I told him, he said: "I have a brother who also lives in the state of São Paulo, but I never knew him. His name is Cézar. My father gave him to a family there, and now mother cries every day because she has no hope of seeing him again."

He added: "If you ever meet a boy about ten years old in São Paulo called Cézar, tell him that you met his brother and that his mother would like to see him."

"I won't forget it," I promised. "After all, his name is the same as mine."

A Change in Circumstances

Alberto told his mother about our conversation, and she wanted to meet me. When Alberto and I met again in Jardim da Glória the following Sunday, he said: "Mother wants to see you. I think she wants to send a message with you to my brother in São Paulo."

Immediately Alberto took me to his mother, who was seated on a park bench. She looked me up and down carefully. Then she hugged me and started to cry. "Who are your parents?" she asked.

"Garibaldi Benzi and Nair," I responded. "And my name is Cézar Benzi."

She asked to meet my mother, who nearly fainted when I told her what had happened. Later the two mothers met and talked about me for a long time. Afterward Alberto said to me: "My mother is your *real* mother, and you're my brother!"

Mother had recovered from her illness and, by herself, was rearing my older brother and

sister. When I knew for certain that I had found my natural family, I asked to live with them, much to the disappointment of my stepmother. However, I had a strong desire to be with my own brother and sister. I also felt sorry for my mother, who had suffered, not knowing whether I was dead or alive. So I stood firm in my decision although it meant going from a luxurious home in Guarujá to a house in a poor section of Rio de Janeiro. What a change! Now I had to get out and work hard after school, since my family depended on my earnings for a living.

I Make a Promise

When I grew older, I learned to make and, later, to design jewelry. The group I worked with also dealt with imported items—much of it contraband—which proved very lucrative. Because of the easy money, I became involved in parties, women, and orgies. Then, when I was only 22, I married Dalva, a girlfriend from school days. I really didn't deserve her. She was an ideal wife and mother—educated, polite, and well-mannered.

One night, after we had been married seven years, I was on my way home from another wild party when I began to think seriously. I reasoned that with the life I was living, I would never be able to teach proper morals to our three growing children. So I made up my mind to change. Arriving home, I woke Dalva to tell her of my decision.

"Do you mean to say you woke me up at two o'clock in the morning just to tell me that nonsense?" She had plenty of reason to distrust me. But I promised: "This time I really mean it. And to begin with, I'm going to move my shop next to our home so that we'll have more time together as a family." With Dalva still skeptical, we went to sleep.

The next day I located a two-story building and made plans to have our home on the top floor and my shop below. Then I went to my former companions and bid them good-bye. I was determined to keep my promise. For the first time, Dalva and I began to enjoy life together with the children.

Helped to Keep My Promise

About three months later, Fabiano Lisowski visited me. He had known me for a long time. So when I said I wanted him to meet my wife, he asked: "Your legal one?"

When Dalva came in, I introduced him to her as "a priest of some religion of the Bible." He laughed and explained that he was one of Jehovah's Witnesses. I had no interest in religion, but Dalva liked the Bible. He and Dalva began to talk, but I kept quiet, since I didn't understand anything they were talking about.

Fabiano invited us to a meeting the following Sunday. To his surprise I promised to go. Dalva was beside herself with joy. She knew that I was a man of my word and that if I said I would go to the meeting, she could count on it. Two things I had learned from dealing in contraband: You kept your word, and you were never late for an appointment.

I had always carried a revolver in my belt, but when I went to the meeting, I left the gun at home. The people were hospitable and well-mannered, so I promised to return the following Sunday. From then on we regularly attended meetings at the Kingdom Hall, and I never carried my gun again.

Fabiano arranged to visit us each Wednesday evening, along with his wife and mother-in-law. Knowing that I was an atheist, he talked mostly to Dalva. Feeling left out, I started to talk to him about other things, and he politely began to pay more attention to me. I saw that he had a book, *"Let God Be True,"* but he was reluctant to offer it to me. Finally, I asked: "What's the book for?"

Taken aback, he answered: "To study in."

"If it's to study in," I answered, "let's see what it says."

Everyone was surprised and did not know just what to expect. However, the study was started, and I listened attentively. Dalva was radiant, and even the three children liked Fabiano's explanations.

During the study, Fabiano's wife noticed that I smoked steadily, and she commented: "You seem to smoke a lot."

"I've smoked since my school days," I explained. "And while I study the designs for jewelry, I smoke constantly."

Tactfully, she said: "Many people try to quit smoking but can't."

"I can quit any time I want to," I retorted.

"That's what you think," she answered.

"Just to show you, I'm quitting today," I told her. I did, and I've never smoked since.

During the first few months of our study, things were not easy. Former friends sought me out and presented shady business propositions, and women I used to party with came to our home looking for me. But I was determined to change my life, and by Jehovah's undeserved kindness, I was able to do so. My business dropped off at first, and we had to lower our standard of living. But happily, Dalva was a constant source of encouragement.

After five months of Bible study, all my doubts were removed. I was convinced that Jehovah is the true God and that the Bible is his written Word. So on January 12, 1962, Dalva and I were among the 1,269 persons baptized at the first large convention in São Paulo, held in Ibirapuera Park. What a sight to see some 48,000 persons in attendance!

Teaching Our Children

That convention helped to impress on me the responsibility of teaching and training our children. So we immediately arranged for a family Bible study on Wednesday nights. Even today, Wednesday continues to be our night for family study. Now, however, Dalva and I study alone, since all the children are married.

Our study with the children included discussion of the problems common to youngsters in our day, such as styles of dress and grooming and proper conduct between the sexes. Also, if one of the children had a part on the Theocratic Ministry School, it would be rehearsed Wednesday night.

In addition, we showed the children the beauty of Jehovah's creation by taking them to zoos and other places. We would help them to appreciate that the animals and birds were created by Jehovah for man's enjoyment and that soon we would have the pleasure of seeing them, not in cages or behind bars, but out in the open, where they could be petted and caressed.

While the children were still very young, we posted a schedule in our pantry for reading the *Watchtower* and *Awake!* magazines and other publications of the Watch Tower Society. All of them did their best to keep up with the schedule so that they could tell us what they had learned. We can truly say that training our children in this way brought us rich rewards. Each of the three children was baptized before they reached their teens.

Cézar, our youngest, was the first to show a desire for the full-time ministry. When he was

In Our Next Issue

Space Exploration—What Are the Benefits? What of the Future?

"The Rod of Discipline"—Is It Out-of-Date?

Designer Clothing—Is It for Me?

Cézar Guimarães and his family today

nine, he was called without prior notification to the platform by a traveling overseer, who asked him what he wanted to be when he grew up. "Bethelite, circuit overseer, or missionary," Cézar responded.

At 17, Cézar became a full-time pioneer minister. In the meantime he took a course in printing, thus preparing himself to work at the Watch Tower Society's branch office in Brazil. Soon afterward he was invited to Bethel, and he served there for four years. He then married, and he and his wife became special pioneers; they continued as such until their son was born. Now Cézar serves as a Christian elder, and his wife is a regular pioneer. Their son was baptized in 1990, when he was 11 years old.

Sandra, one of our girls, entered the pioneer service in 1981. The following year she married Sílvio Chagas, a member of the Bethel family. They served together for eight years as special pioneers and are now in the circuit work, visiting congregations of Jehovah's Witnesses. Sandra's twin sister, Solange, and her husband served for three years as special pioneers. Their son, Hornan, was recently baptized. Solange's husband is a Christian elder.

Dalva and I feel that the spiritual development of our children was due in large part to our regular Wednesday night family study, begun some 30 years ago. Another help in raising them was our regularly entertaining in our home traveling overseers and other full-time ministers. These Christian brothers and sisters assisted the children to develop the goal of the full-time ministry.

Personal Blessings

Dalva and I have passed many milestones since that main one back in 1962, when we were baptized. For a time I served as a substitute circuit overseer, and we enjoyed the privilege of visiting congregations of Jehovah's Witnesses. I also had a share in the construction of our Assembly Hall in Duque de Caxias, a project that lasted five years. And I have often appeared before civil, medical, and military authorities, including the vice-governor of the state. The purpose of these appearances was to rent stadiums for our conventions and to explain our position of neutrality, as well as why Jehovah's Witnesses do not accept blood transfusions.

When I look back and think of all the marvelous blessings that I have received since that crucial night when I woke Dalva up to tell her of my promise, I can truthfully say that the greatest blessing of all has been to be a publisher of the good news of God's Kingdom. Dalva and I are convinced that the manner in which Jehovah God leads us by means of his organization is truly "The Way" that leads to a happy life now and eventually to eternal life in God's new world. (Acts 9:2; 19:9)—*As told by Cézar A. Guimarães.*

The Aral Sea Tragedy

"THE history of mankind knows no other example where, before the eyes of a single generation of people, an entire sea disappears from the face of the earth."

After making that observation, R. V. Khabibullaen, a prominent member of the scientific community of the former Soviet Union, explained: "Alas, that is the sad fate that threatens the Aral Sea."

This huge sea is located in the desert areas of Uzbekistan and Kazakhstan, formerly Asian republics of the Soviet Union. In 1960 it covered some 26,000 square miles, making it the fourth-largest inland body of water in the world. Only the nearby Caspian Sea, North America's Lake Superior, and Africa's Lake Victoria were larger in area.

However, in the past 30 years, the Aral sea has shrunk more than a third in area and about two thirds in volume! Over 11,000 square miles of the Aral, twice the area of the state of Connecticut, U.S.A., has vanished. The level of the sea has dropped more than 40 feet, and the water in places has receded from 50 to 60 miles from its former shoreline. This has exposed an arid seabed of inhospitable sand where formerly beautiful blue waters teemed with fish. Once thriving fishing villages now lie abandoned many miles from shore.

During the late 1950's, the Aral yielded an annual catch of some 100 million pounds of marketable fish. Twenty-four species of freshwater fish abounded in the sea's low salinity waters. Some 10,000 fishermen worked out of the port of Muynak alone, where 3 percent of the Soviet Union's annual catch was processed. But now the sea's thriving fishing industry, which once furnished employment for

The shoreline of the Aral sea has receded up to 60 miles, leaving boats stranded in the sand

David Turnley/Black Star

60,000 people, is dead; the growing salinity of the Aral's waters has killed the fish.

An Unparalleled Sight

Amazingly, Muynak, whose population has decreased from more than 30,000 to about 20,000, now lies more than 20 miles from the receding Aral! A visitor from the United States, approaching the town by air, reported seeing "what look like toy ships listing in the desert." Getting a closer look at the area when he was on the ground, he noted: "Dozens of huge iron fishing trawlers and other boats are tipped and partially buried, as though tossed miles inland by a massive tidal wave."

When the waters of the sea began to recede, a canal was dug so that the boats in Muynak harbor could have access to the open sea. But the mayor of the town observed: "In the winter of 1974 the sea withdrew quickly, and by the spring, when the boats were usually launched, they were high and dry, and it was impossible to move them."

What caused this tragedy?

Why the Sea Is Vanishing

From time immemorial the Aral was fed by two great rivers, the Amu Darya and the Syr Darya. These rivers receive their water from the glacial melt of the mountains of northeastern Afghanistan and Kyrgyzstan. However, to transform the arid Aral basin into a major agricultural area, the water was diverted into irrigation canals so that hardly any was left to flow into the sea.

The so-called Aral sea project was inaugurated in 1960, and shortly the land under irrigation had ballooned to about 17 million acres, twice that of California, U.S.A. The desert blossomed with crops, but soon the sea began to disappear.

Have the benefits outweighed the damage to the sea?

Benefits With Sad Consequences

The major crop is cotton, with about half the land being devoted to it. Before the Soviet Union was dissolved, 95 percent of the cotton it used came from this irrigated land of the Aral basin. Moreover, there was a surplus for export to provide needed cash. The area also produced about 40 percent of the Soviet Union's rice.

In addition, the Aral basin became the country's leading supplier of fresh fruits and vegetables, much as California is for the United States. And employment opportunities were provided for the area's rapidly growing population of nearly 40 million people. Yet, little foresight was exercised relative to how the environment would be affected.

For example, irrigation canals were not cement lined. As a result, most of the water seeped into the sandy soil even before it reached the crops. In addition, huge amounts

Irrigation turned the Aral basin into productive land but at great cost

David Turnley/Black Star

of dangerous pesticides were used, and to facilitate harvesting the cotton, potent herbicides were employed to defoliate the plants.

Thus, the damage to the environment has been great, going far beyond the ruin of the Aral sea's fishing industry. For instance, each year tens of millions of tons of windblown sand and salt from the 11,000 square miles of exposed seabed are whipped into great storms large enough to be spotted from space.

Fallout from these storms, in the form of either dust or rain, contains toxic levels of salts, pesticides, and other compounds. Parts of the Aral basin annually receive as much as a half ton per acre of this salt and sand mixture. And Aral dust has been spotted as far away as the Arctic shore of Russia.

Another frightening prospect is the effect that the shrinking Aral sea has had on the weather. The sea's moderating influence on the weather has diminished so that summer temperatures are higher and those in winter are lower. In the spring, frosts occur later, and in the fall they come earlier, shortening the growing season.

Further, the deterioration of the Aral has caused a wholesale destruction of animal life. Over 170 animal species lived in the vicinity of the Aral a few years ago; now fewer than 40 do. In the early 1960's, more than 600,000 muskrat skins a year were taken, now practically none are. The sea's increased mineral content has killed the desert animals that drink from it.

Dying Land and Sick People

Tragically, the land is being poisoned by the concentration of salts in the soil. When desert soil is irrigated, the hot sun evaporates much of the water, concentrating the salts in the soil. In addition, when huge amounts of irrigation water soak into the ground, this gradually raises the water table. And when the contaminated water reaches the roots of plants, they are damaged by the water's toxicity. That is what is happening in the Aral basin. "The same scourge that contributed to the decline of the early Mesopotamian civilizations," one writer explained, "is claiming yet another victim."

The people too are being poisoned. Pesticides and herbicides percolate down to contaminate well water. Thus, many people are drinking water laced with dangerous chemicals, and the consequences are tragic. "The local medical literature," notes the magazine *World Watch,* "is filled with stories of birth deformities, increased liver and kidney disease, chronic gastritis, rising infant mortality, and soaring cancer rates."

Dr. Leonid Elpiner, who specializes in health problems of the Aral sea, characterized the afflictions being experienced in the region as "pesticide AIDS." He said: "The main objective, we think, is no longer to save the Aral Sea. It is to save the population."

An editor for *National Geographic,* William S. Ellis, one of the first American visitors to the region, wrote: "The sea is an ongoing environmental tragedy—at least on a par, say many, with the Chernobyl nuclear catastrophe of 1986." At a meeting in Muynak one man even called it "ten times worse."

Truly, what has happened to the Aral sea is a tragedy. Yet, it was not intentional. Administrators meant well. They were trying to make the desert blossom to feed the people. But the execution of their plans caused terrible suffering, far outweighing the benefits.

Reflecting on the Aral sea tragedy, a writer noted the human responsibility to leave the earth for future generations "as a well-tended and ennobled place." Unfortunately, the opposite has taken place here, as evidenced by the dramatic changes that began in the Aral basin over 30 years ago.

Watching the World

Exercise and Health

Scientists continue to find benefits in moderate exercise. *American Health* magazine reported recently on a 30-year study of 17,000 men. Those who burned over 1,000 calories a week through exercise seemed half as susceptible to colon cancer as those who did not. A 19-year study of over a million Swedish men found that those who sat for over half their working hours had a 30-percent-higher chance of getting colon cancer than those who were sedentary less than 20 percent of their workday. A Harvard University study of 5,400 women found that those who exercised moderately while at college had half the breast-cancer rate of their less active classmates, who, in turn, had 2.5 times more cancers of the reproductive system. There is even some evidence that moderate exercise boosts the immune system, helping fight off viruses faster. Extreme exercise, though —such as running a marathon— seems to have the opposite effect, temporarily suppressing immunity.

A Growing Plague

One of the uglier by-products of the AIDS epidemic is an increase in child prostitution. That, according to an Associated Press report from Geneva, Switzerland, is the conclusion of a new UN report on human rights. The report's author, law professor Vitit Muntarbhorn of Thailand, says that the number of children nine or ten years of age being forced into prostitution is "increasing daily." It seems that more and more customers are seeking child prostitutes, preferably virgins, because they think this will protect them from AIDS. Ironically, though, the professor notes that in several Asian countries, many child prostitutes do carry the AIDS virus. Parents force both boys and girls into this degrading trade but girls more frequently.

"Pedophile Priests"

"A flurry of child sex-abuse scandals has drawn the Roman Catholic Church into a far-ranging investigation of pedophile priests —a phenomenon critics say the church hierarchy has long kept muffled," reports *The Herald-News* of Joliet, Illinois, U.S.A. "In the past nine months, seven priests in the Chicago area have been removed from parishes and one has

been indicted because of sexual mistreatment complaints involving children." A three-member commission has been appointed by cardinal Joseph Bernardin to decide how to deal with the problem that, according to a church spokesman, "is a lot deeper than anybody thought" and that is estimated to involve hundreds of priests nationwide. Efforts are now being made to root out the errant priests, who were formerly reassigned to different parishes. Some people, though, still have misgivings. "They don't understand the psychological depth of the injury when people are injured by someone who represents the church, which we believe has formulated our values, morals and principles," said the mother of one abused child.

China Attacks the Drug Trade

China Today reports that the Chinese government has cracked down hard on the drug trade in recent years. Although the country virtually wiped out its opium problem back in the 1950's, its proximity to some of the world's biggest drug-producing areas has led to a resurgence of the drug trade. Over the last three years, there have been more than half a million arrests in China on drug charges. In 1990 alone, Chinese law-enforcement agencies smashed some 40 major cases of drug trafficking, each involving over 20 pounds of heroin. That was double the number of the previous year. On October 26, 1991, before a large audience, 35 drug traffickers were sentenced to death, and 11,000 pounds of confiscated drugs was burned.

A Trip to a Different Planet

No human being has yet made a trip to another planet; but Sergei Krikalev must have felt as if he had done just that. When he blasted off into orbit, he was a cosmonaut of the Soviet Union, from Leningrad. By the time he returned, there was no Soviet Union and Leningrad had become St. Petersburg. Krikalev had been assigned to stay in the *Mir* space station for just six months, but because of financial and political pressures in the midst of all the upheavals down in his homeland, he ended up staying aloft for 313 days.

Killer Cards

Children in the United States have long made a hobby of collecting baseball cards, with pictures and statistics of their favorite play-

ers. But a new type of card has recently appeared on the scene. These cards feature, not athletes, but renowned criminals—psychopaths, rapists, serial killers, cannibals, and necrophiliacs. On the reverse side of the killer's picture, each card features the grisly details of the crimes committed. According to an editorial in the *Daily News* of New York, the killer trading cards are very popular in candy shops and comic-book stores. Apparently, the consumers are mainly children.

Bogus Miracles

A doctor in England has spent some 20 years investigating claims of miracles performed by charismatic and evangelical churches in that country. His conclusion, according to the *Daily Telegraph* of London: "Charismatic reports of miraculous healing are not supported by a single piece of medical evidence." Before a synod of the Anglican Church, Dr. Peter May described his repeated attempts over the years to get verification from "healers" for the various miracles they claim to have performed. "Usually," he says, "they offer nothing at all, and cases that are put forward are never what they first appear." He denounced magazines and videos that profit from describing miracles that apparently never happened. According to the *Telegraph,* Dr. May compared his findings with those of many colleagues. "None of them," he says, "had been able to document a single case comparable to the miracles of Christ."

Famine in Africa

Famine and civil war are forcing tens of thousands of Somalians and Ethiopians to flee their homelands and seek food and shelter in refugee camps in Kenya. According to one UN official, quoted in *The Star* of South Africa, "most collapse on arrival, having walked some 600 km [373 mi] with little food or water. They are in appalling condition, some little more than skin and bones and many with gunshot wounds." In one overcrowded camp, an average of 15 people are dying every day. Most of them are women and children. Meanwhile, down south in Zimbabwe, drought has led to increases in food theft, reports the *Sunday Times* of Harare, Zimbabwe. Some thieves are so desperate that they simply hack pieces of flesh off of live cattle, leaving the animals to suffer until they are mercifully destroyed by their owners.

Stressed Criminals

For 30 years, Professor Francesco Aragona of the Institute of Legal Medicine of Messina University, in Sicily, has performed autopsies on mafiosi. "According to the professor, behind the arrogant and self-confident appearance, the mafioso has serious health problems: His turbulent

daily life affects the heart, the brain, the adrenal glands, and even the testicles or the ovaries, depending on the sex, in an impressive way," says the Brazilian magazine *Superinteressante.* "I found serious cardiac troubles in young men between 18 and 20 years of age, . . . as if they had lived for decades with high blood pressure, due to stress," the magazine quoted Dr. Aragona as saying. He added: "If they had not been killed, they would have died of heart failure in a short time," and "we could say, even in terms of health, that crime does not pay."

Demonism in Rome

Gabriele Amorth claims that he has dealt with 12,000 cases of demon possession in the city of Rome alone since his appointment as a Catholic exorcist in 1986. "Why so many?" asked a journalist of the Italian newspaper *Il Tempo.* "All traditionally Catholic countries," the priest asserted, "are immersed in a sea of infestation. Demon attacks can no longer be stemmed." Amorth had harsh words for Rome: "The city of the pope is the most demon-possessed in the world. Over a hundred satanic cults operate there . . . Everybody should know that many children disappear in Rome and are used in satanic rites."

Encouraging Expensive Weddings

In these difficult economic times, the price of weddings in the United States has become increasingly burdensome. By one estimate the average formal wedding there now costs $16,000. Wedding gowns average about $800, although many, according to *The Wall Street Journal,* cost over $2,000. Several magazines in the country are directed exclusively at brides-to-be and their wedding plans, and the periodicals have recently come under attack for pandering to the bridal industry and encouraging the escalating costs. For example, the magazines generally ban any advertisements for rental wedding gowns for fear of offending their biggest advertisers, the retail bridal industry—which, it seems, sees red, not white, at the notion of brides renting gowns instead of buying them.

From Our Readers

Columbus I just finished reading the series of articles "'The New World'—500 Years Old." (March 8, 1992) I have to admit that I have always had trouble digesting history, and I found the introductory material difficult. But I really liked the application made in the article "The Real New World Awaiting Discovery." It helped me appreciate the blessings God will soon bring.

N. Z., Italy

I am 13 years old. In school we were studying about sailors, and we were asked to write an essay on the subject. As we got little information from our history teacher, I used details from the articles in *Awake!* about Christopher Columbus. I got top marks and was also able to place many copies of the magazine in class.

M. D., Germany

The Womb I've never written to a magazine in my life. But I was so touched by the beauty of the article "The Womb—Our Marvelous First Home" (April 8, 1992) that I just had to write. I found myself in awe of God's powers. Every word was written so lovingly.

B. J., United States

Recently I had a problem with my uterus. But when the doctor tried to explain what my problem was, I did not understand. Having read and reread your article, I now understand what is happening to me. It will be easier for me to talk with my doctor.

S. G., Brazil

I want to compliment you on the attractive way in which the article was written, along with the interesting illustrations that accompanied it—a combination that makes *Awake!* lively reading. Had I read the same information in a scientific publication, I would not have understood anything and would have found it very boring.

S. P., Italy

Your well-polished opening sentences immediately caught my attention, and I became absorbed in the article. As I read it, I realized that youngsters who engage in sexual misconduct are making a grave mistake. It is truly foolish to abuse the body that Jehovah, in his great wisdom, has made for us.

M. S., Japan

Dingo Dogs I am planning to move to Australia, so any information pertaining to that land is of interest to me. I was therefore impressed by your article "Meet the Controversial Australian Dingo." (October 8, 1991) Before reading this article, I had some prejudice against the dingo, believing it to be little more than a domesticated "dog" that became wild. Your article has given me a deeper respect for the dingo, and I look forward to encountering this magnificent animal some day.

A. S., United States

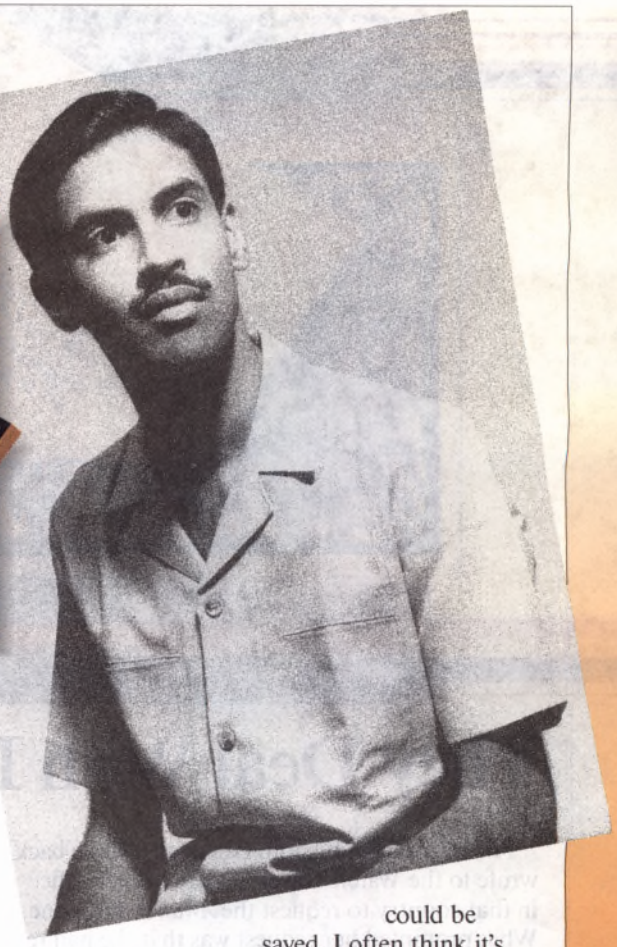
Pep Rallies I truly appreciated the article "Young People Ask . . . Should We Go to the Pep Rally?" (February 8, 1992) I am not in school anymore, but I can look back and remember getting caught up in our school rally. We beat a replica of the opposing school's mascot to pieces! The Bible's words applied in my case: "Bad associations spoil useful habits."—1 Corinthians 15:33.

L. S., United States

I have attended pep rallies but never actively participated in them. However, I did have doubts about attending, though I never acted upon my doubts. Since attendance is optional, I'm determined not to attend them anymore.

B. K., United States

Some Youths Do Not Want to Live



SUICIDE by young people is an alarming trend in India. Researchers in that country estimate that every two minutes someone attempts to take his own life, and every ten minutes someone succeeds.

During 1990 some 60,000 people committed suicide in India, and "nearly half of them were aged between 18 and 35," noted the magazine *India Today*. Some suicide victims are as young as ten years old. The real number of people who kill themselves in India is unknown because many families prefer to report suicides as accidents in order to avoid shame.

India Today notes that "over 2,500 adolescents killed themselves over unhappy love affairs" during 1990. According to psychiatrists, another reason for the growing number of suicides among young people is the pressures of competition and performance in school, which start at an early age.

The magazine adds that "psychiatrists believe the breakdown of the joint family has a lot to do with the distress and loneliness which can spark off suicidal feelings" in children. One psychiatrist, Dr. S. G. Dastoor, stated: "If only parents bothered to spend more time with their children and found out what was troubling them, their lives could be saved. I often think it's the parents who need counselling."

The Bible encourages Christian parents to spend time with their children and inculcate godly principles in them. (Deuteronomy 6:4-9) The Scriptures also admonish parents not to irritate their children but to bring them up "in the discipline and mental-regulating of Jehovah."—Ephesians 6:4.

Further, Christian youths can cope with today's pressures by applying the wise counsel found in the Bible at Philippians 4:6, 7, which states: "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 that excels all thought will guard your hearts and your mental powers by means of Christ Jesus."

They Deal With Day-to-Day Issues

A woman from Lisbon, Portugal, a while back wrote to the Watch Tower Society branch office in that country to request the *Awake!* magazine. What prompted her request was that she had recently received a copy of the *Watchtower* magazine. She had read it and appreciated it so much that she said:

"I want to thank you for the issue of *The Watchtower* that arrived in today's mail. I found all the articles in this issue very beneficial. Since *Awake!* is a source of practical counsel based on the Bible in dealing with day-to-day issues, it will be a good addition to my leisure reading.

"I started to study the Bible just one month ago, but that is sufficient to grasp the usefulness of your publications.

"Once again, my sincere thanks to all of those who dedicate their lives to helping people like me learn about the Kingdom and Jehovah's Word."

Jehovah's Witnesses are an international organization of some four million Bible students who use their lives in helping others learn more about God's purposes.