

Awake!

September 8, 1995



1945-1995

What Have We Learned?

1945-1995

What Have We Learned?

3-14

Fifty years have passed since the end of World War II. In what ways has humankind progressed? What are some of the barriers to progress? What hope do we have for perfect government?

Cover: USAF photo



Hubble Trouble —How Did It Turn Out? **15**

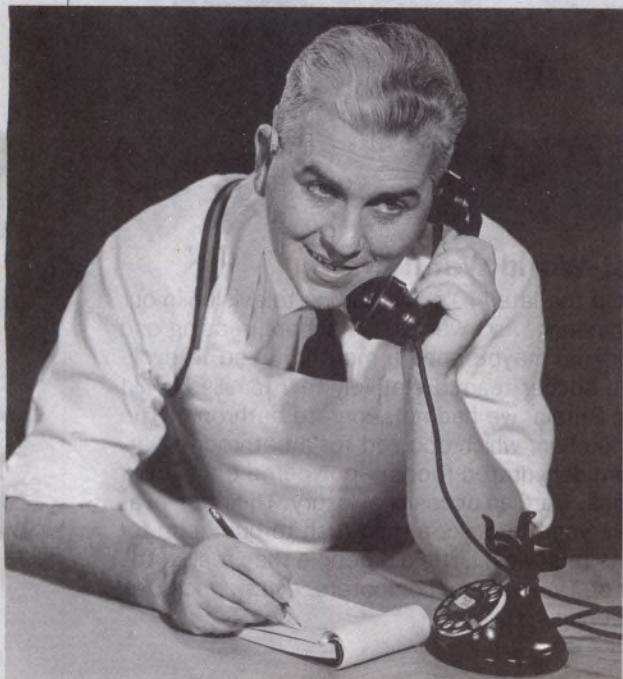
The Hubble telescope was a great disappointment. Now it is a great success—what has made the difference?

Maps to Meet Your Needs **22**

How could we travel without maps? But do you know how to make the best use of them?

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Pages 2 and 3: Churchill, Roosevelt and Stalin at Yalta; UPI/Bettmann; Car: Index Stock Photography; Woman: Index Stock Photography; Space telescope: NASA photo; Man on phone: Index Stock Photography; Background: U.S. Army photo



How Was the World 50 Years Ago?

ARE you old enough to remember how the world was in 1945? It was just starting to recover from World War II that began in 1939 when Britain and France declared war on Germany because of the Nazi invasion of Poland. If you are too young to remember that, do you remember the war in Korea that broke out in 1950? Or the war in Vietnam that lasted from the 1950's till 1975? Or the war in Kuwait provoked by Iraq in 1990?

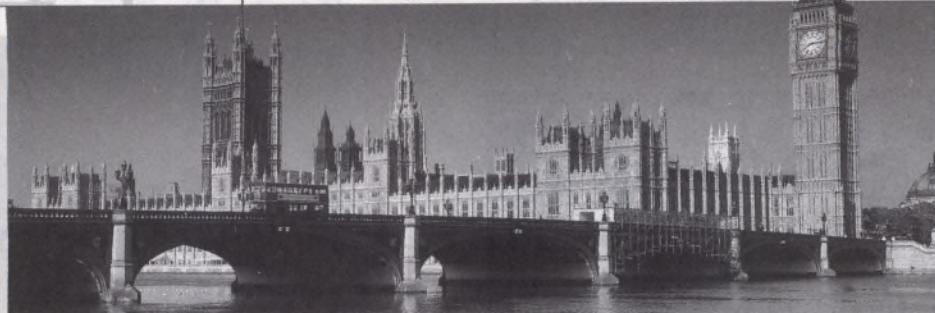
Doesn't it strike you as remarkable that when we review history since World War II, we have to recall so many more wars that have sown misery and suffering for millions of people and that have destroyed the lives of other millions? What legacy did World War II leave for people back then?

Effects of World War II

Some 50 million people were killed in World War II, and by 1945, millions of refugees were wandering across Europe trying to return to their homes in bombed-out cities and towns and to rebuild their shattered lives. Hundreds of thousands of women and girls, especially in Russia and Germany, were trying to recover from the trauma of rape at the hands of invading armies. Rationing prevailed over most of Europe—food and clothing were in short supply. Hundreds of thousands of demobilized soldiers were looking for jobs. Millions of widows and orphans were grieving for their lost husbands and parents.

Jews were still trying to absorb the reality of the Holocaust that wiped out millions

1945



Memories of the Post-World War II Era

One Englishman now in his 60's recalls: "Back in the late '40's, we had no television in our home. Radio was the chief stimulus to our imagination. As I was still in school, reading and homework kept my mind busy. I went to the cinema maybe once a month. I used to cycle several miles on Saturdays to watch my favorite soccer team. Relatively few families could afford a car or a telephone. Like millions more in Britain, we had no separate bathroom. The toilet was outside, and the bathtub was in the kitchen, which doubled for a bathroom. During the war, we had survived on meals made from dehydrated foods—powdered eggs, milk, and potatoes. Fruits, such as oranges and bananas, were an occasional luxury. Their arrival at the local greengrocery shop was a signal for everyone to make a mad rush to queue up for their ration. Many women had to work in munitions factories. Little did people then realize the incredible changes that were in store—a world of TVs, videos, computers, cyberspace, fax communications, spaceflight, and genetic engineering."

of their fellow Jews and the possibility of their producing other generations. Millions of people—from America, Britain, France, Germany, Russia, and many other nations—died in that war. A huge genetic pool potential was lost in order to further the political and commercial interests of the world powers and their rulers.

Many countries were so battered by World War II that their first priority had to be economic recovery. Food shortages

remained prevalent in Europe for several years after the war. Spain, although officially neutral during World War II, had been deeply affected by its own civil war (1936-39) and by trade embargoes—food ration books were still in use until June 1952.

In the Far East, the memory of Japanese atrocities was still fresh in the minds of victims in Burma, China, the Philippines, and other Oriental countries. The United States, although a victor nation, suffered the loss

Awake!

Why Awake! Is Published *Awake!* is for the enlightenment of the entire family. It shows how to cope with today's problems. It reports the news, tells about people in many lands, examines religion and science. But it does more. It probes beneath the surface and points to the real meaning behind current events, yet it always stays politically neutral and does not exalt one race above another. Most important, this magazine builds confidence in the Creator's promise of a peaceful and secure new world before the generation that saw the events of 1914 passes away.

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

Unless otherwise indicated, *New World Translation of the Holy Scriptures—With References* is used.

Awake! (ISSN 0005-237X) is published semimonthly by Watchtower Bible and Tract Society of New York, Inc., 25 Columbia Heights, Brooklyn, NY 11201-2483. Second-class postage paid at Brooklyn, N.Y., and at additional mailing offices. **Postmaster:** Send address changes to *Awake!*, c/o Watchtower, Wallkill, NY 12589. Printed in U.S.A.

of some 300,000 military personnel, about half of these losses being in the Pacific war zones. In Japan, poverty, tuberculosis, and long food ration lines were the lot of the civilian population.

Churchill's Call to Action

In his victory speech presented to the British people on May 13, 1945, at the conclusion of World War II in Europe, Prime Minister Winston Churchill stated: "I wish I could tell you to-night that all our toils and troubles were over. . . . I must warn you . . . that there is still a lot to do, and that you must be prepared for further efforts of mind and body and further sacrifices to great causes." With farsightedness, anticipating the spread of Communism, he said: "On the continent of Europe we have yet to make sure that . . . the words 'freedom', 'democracy', and 'liberation' are not distorted from their true meaning as we have understood them." Then he uttered a challenging call: "Forward, unflinching, unwavering, indomitable, till the whole task is done *and the whole world is safe and clean.*"—Italics ours.

A Half Century of Conflicts and Death

In a speech in 1992, UN Secretary-General Boutros Boutros-Ghali admitted that "since the creation of the United Nations in 1945, over 100 major conflicts around the world have left some 20 million dead." Pushing the death toll even higher, *World Watch* magazine stated: "This has

been the least peaceful century in history." The same source quotes one researcher as saying that "more people have been killed by wars in this century than in all previous human history combined. Some 23 million of those deaths have been inflicted since World War II."

The Washington Post, however, reported yet another estimate: "Since the end of World War II, about 160 wars have been waged around the globe, resulting in more than 7 million battlefield deaths and as many as 30 million civilian deaths. In addition, there have been the wounded, the raped and those made refugees." None of this takes into account the millions of victims of violent crime earth wide during the last 50 years!

Now, in 1995, we still have lethal conflicts fired by burning hatred that are killing off not just soldiers who have contracted for possible death but also thousands of civilians in Africa, the Balkans, the Middle East, and Russia.

Can we therefore say that 50 years after 1945, "the whole world is safe and clean"? What progress has mankind made toward making our earth a fit and safe place to live? What have we learned in 50 years? Has mankind progressed in the things that really matter—values, morals, ethics? The next two articles will answer these questions. A fourth article will discuss the future prospects for all of us in our global village.

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...need life less seriously than you do.
The same people who are least serious about life

1945-1995 50 Years of Progress?

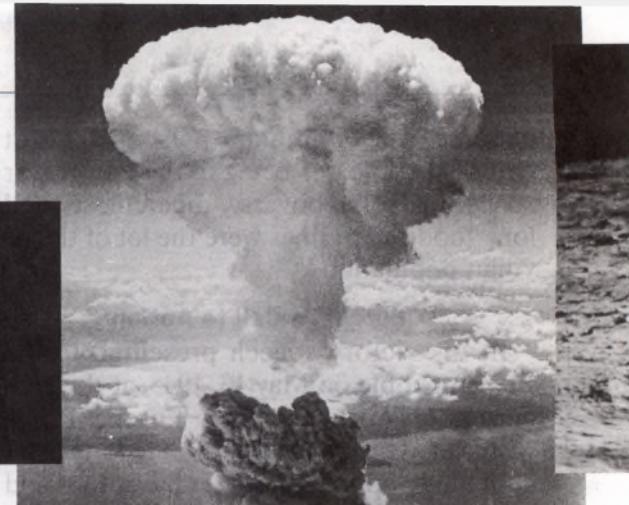
HAVE you seen some improvements in the quality of your life over the last 50 years?* Consider medicine. In some countries, such as Britain, Canada, Cuba, and Sweden, the introduction of the welfare state, with its system of social medicine, guaranteed that regardless of patients' economic standing, doctors and hospitals would be available to all.

Even some of the developing nations have been able to improve health standards for their citizens. *JAMA (The Journal of the American Medical Association)* recognized that "some third world health ministries have succeeded in providing universal-access primary health care at a cost their countries can sustain. . . . Remarkable progress has been made in reducing infant and childhood mortality in China, Costa Rica, Sri Lanka, and the Indian state of Kerala."

Material Improvements

Compared with the economic situation in 1945, many people are far better off materially in 1995. Many who 50 years ago would not have been able to afford luxuries now own cars, TVs, VCRs, CD players, refrigerators, cellular phones, and other products of modern life. Perhaps you are one of those millions.

* Because of space limitations, our coverage does not include all aspects of progress or change over the last half century.



USAF photo

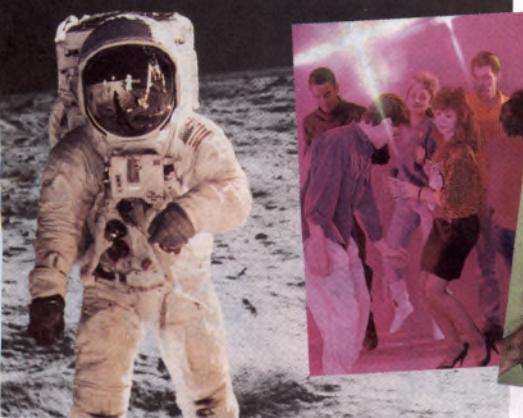
As the authors of the book series *A History of Private Life* explain, "for thirty years after World War II France [along with other western European countries] experienced steady economic growth, which, while not eliminating class distinctions, brought new prosperity to all classes of society. With a 'decent' house, a 'modest' automobile, and a television set, along with the added blessings of the welfare state and modern medicine, everyone could enjoy, if not paradise on earth, at least a tolerable existence."

The question is, however, Do more material things mean that people are better off in every sense? Does the accumulation of material benefits automatically mean that life is better or safer? More possessions for some still leaves many poor people without. That increases the temptations for thievery, mugging, fraud, and other more violent crimes. Some of the have-nots are determined to become the haves—by hook or by crook. For example, in New York City, more than 100,000 cars are stolen each year. Material benefits do not guarantee a more secure life.

There have been improvements in other fields, although not as much as some would have liked.

Women—Then and Now

World War II gave impetus to a new role for some women. Many were used to being mothers and housewives, while the husband



NASA photo



was the breadwinner. The second world war changed all of that. Men were taken off to war, and their wives suddenly found themselves working in munitions factories or in other jobs vacated by the men. In more recent times, some have gone into the armed services and learned to kill. Millions of women became wage earners and got a glimpse of a different life-style with its financial independence. That was the thin edge of the wedge that gradually opened the door to the "liberated woman" of today. In their battle for equality, some women say there is still a long way to go in many countries. They say there is a "glass ceiling" that impedes their upward mobility in many jobs.

Mass Migrations Create Problems

Another huge change over the last 50 years is the abandoning of village life and agriculture in an effort to find a better life in the city. For some this dream has come true. But what have been the results for many others?

Each year millions migrate to the already overpopulated cities, where housing is insufficient and expensive. One result? Shantytowns that become a breeding ground for disease, crime, and political destabilization. These homemade dwellings, put together from discarded scraps of cardboard, wood, or corrugated iron, are the hovels, *barracas*

or *chabolas* (Spanish), that house the struggling and impoverished underclasses of the world. These shantytowns—*favela* in Portuguese and *gecekondu* in Turkish (meaning "built in a night")—are a fact of life that cannot be ignored, whether in Africa, India, South America, or anywhere else.

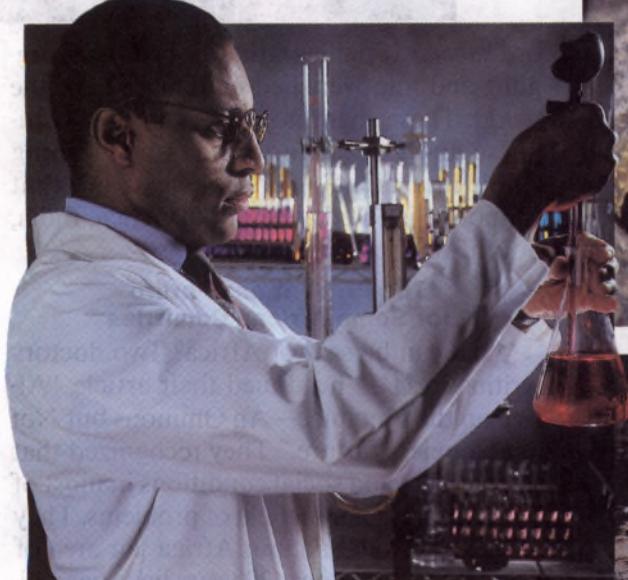
The Present and Future for Some African Countries

What can be said of Africa? Two doctors writing in *JAMA* headlined their article: "Africa on the Precipice—An Ominous but Not Yet Hopeless Future." They recognized that the political and social conditions in most of Africa present a minefield of problems. They wrote: "For sub-Saharan Africa [an area of 45 countries], the past 20 years have been disastrous. The region has been beset by famines, droughts, civil wars, political corruption, AIDS, a rapidly increasing population, decreased food production, environmental degradation . . . Experts are unanimous in their prediction that further economic decline, poverty, and suffering are inevitable, at least in the short term." The same article reports that 32 of the world's 40 poorest countries lie in sub-Saharan Africa.

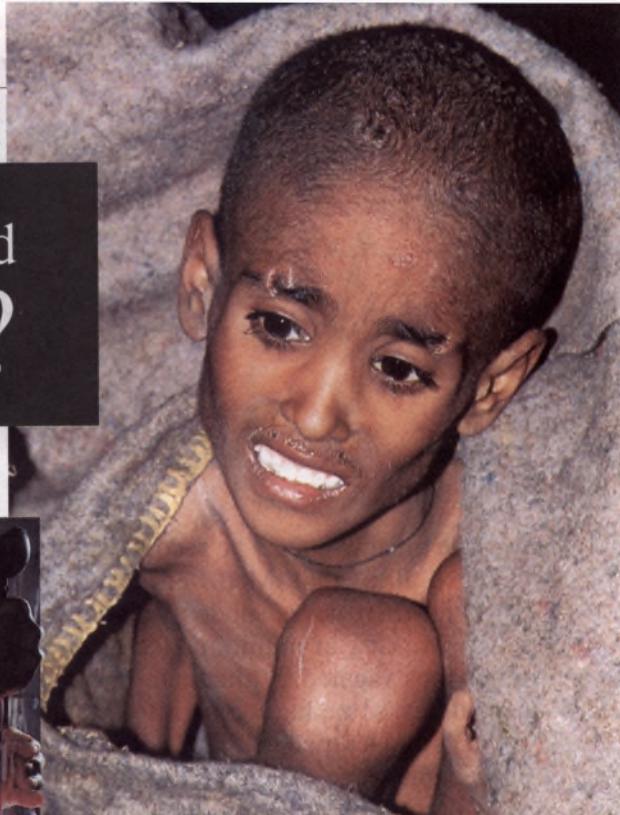
Now what about the current moral climate in the world? The next article will briefly discuss the world's "progress" in this regard.

1945

How Is Our World TODAY?



Luc Delahaye/
Sipa Press



Patrick Frilet/Sipa Press



HAVE you who are old enough to remember 1945 seen any change in standards and morals? Millions have embraced the "new morality," which supposedly offers greater freedom. But at what price?

A 70-year-old man who served in the U.S. Navy during the second world war stated: "In the 1940's, there was much greater trust, and neighbors helped one another. Where we lived in California, we didn't even have

to lock our doors. There was no street crime, and there was certainly no armed violence at schools. Since that time trust has practically vanished." What is the situation today in your part of the world? It is reported that in New York City, half the teenagers over 14 years of age carry weapons. Metal detectors are used in some schools in an effort to keep out knives, box-cutters, and guns. Each year about one million teenagers in the United States get pregnant, and 1 in 3 of these

have abortions. Young teenagers are already mothers—children having babies.

The powerful homosexual and lesbian lobby has promoted its life-style so effectively that more and more people have condoned and embraced it. But, along with others, they have also paid a high price in sickness and death due to sexually transmitted diseases such as AIDS. The AIDS epidemic has spread to the heterosexual population and to drug abusers. It has cut a mortal swath through Africa, Europe, and North America. And there is no end in sight.

A History of Private Life states: "Violence, alcoholism, drugs: these are the principal forms of deviant behavior in Swedish society." That statement stands true for most of the countries in the Western world. With the collapse of religious values, there has been a flood of moral degradation, even among many of the clergy.

Drug Abuse—Then and Now

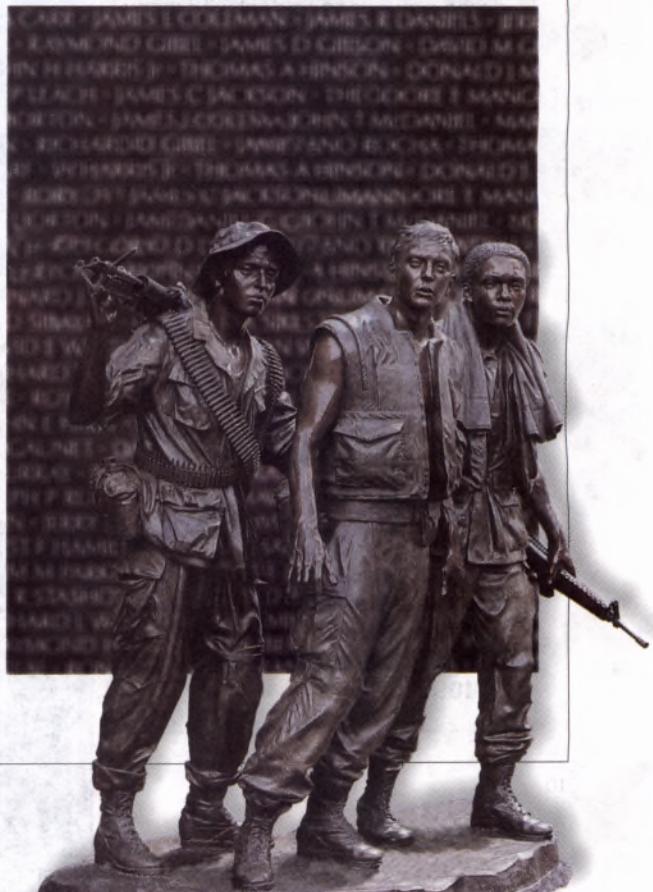
Back in the 1940's, drug abuse was almost unknown among the general population of the Western world. Yes, people had heard of morphine, opium, and cocaine, but only a relatively small group abused these drugs. There were no drug lords or peddlers as we know them today. There were no junkies on street corners. Now what is the situation in 1995? Many of our readers know the answer from their experiences in their own neighborhoods. Drug-related murders are becoming the daily fare of many of the principal cities of the world. Politicians and judges are held captive to powerful drug lords who can order and obtain the liquidation of any uncooperative influential person. The recent history of Colombia and its drug connections is proof of this.

The drug plague reaps about 40,000 lives each year in the United States alone. That problem certainly did not exist in 1945. It is no surprise that after decades of govern-

ments trying to eradicate drug abuse, Patrick Murphy, a former police commissioner of New York City, wrote an article for the *Washington Post* with the heading "The War on Drugs Is Over—Drugs Won!" He says that "the drug trade . . . is now among the most successful enterprises in the [United States], with profits that could reach as high as \$150 billion this year." The problem is massive and seems insoluble. Drug abuse has a growing clientele, and as with many other vices, its clients are hooked. It is an industry that underpins the economy of several nations.

John K. Galbraith, professor of economics, wrote in his book *The Culture of Contentment*: "Drug dealing, indiscriminate gunfire, other crime and family disorientation and disintegration are now all aspects of

Wars, such as the one in Vietnam, have cost more than 20 million lives since 1945



everyday existence." He states that minority communities in many major American cities "are now centers of terror and despair." He writes that "greater resentment and social unrest should be expected." Why is that? Because, he says, the rich are getting richer and the poor, "the underclass," who are growing in numbers, are getting poorer.

The Tentacles of International Crime

Evidence is now mounting that criminal groups are spreading their influence worldwide. For years organized crime, with its "crime families," has had its links between

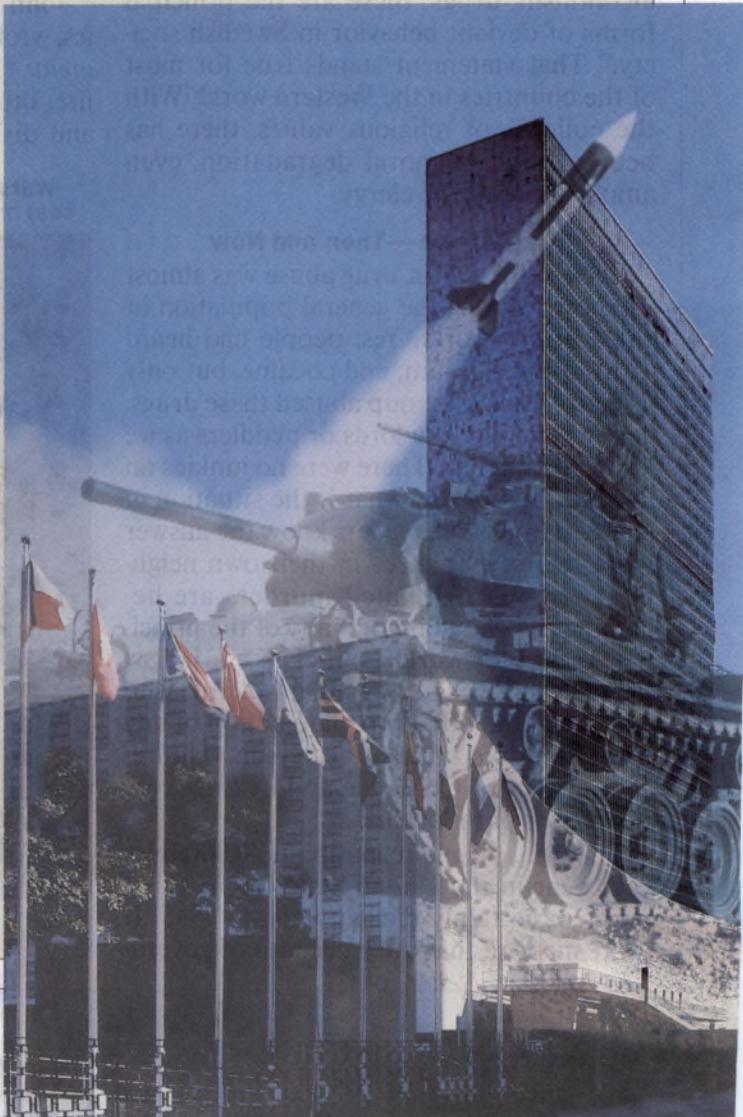
Italy and the United States. But now UN Secretary-General Boutros Boutros-Ghali has warned that "organized crime on a transnational scale . . . scoffs at frontiers and becomes a universal force." He said: "In Europe, in Asia, in Africa and in America, the forces of darkness are at work and no society is spared." He also said that "transnational crime . . . undermines the very foundations of the international democratic order. [It] poisons the business climate, corrupts political leaders and undermines human rights."

The UN Since 1945

Why has the UN, formed in 1945, been incapable of preventing so many wars? Secretary-General Boutros Boutros-Ghali stated in his speech "An Agenda for Peace": "The United Nations was rendered powerless to deal with many of these crises because of the vetoes—279 of them—cast in the Security Council, which were a vivid expression of the divisions of that period [of the Cold War between the capitalist and the Communist governments]."

Is it that the UN has not attempted to keep the peace between nations? It has tried, but at a high cost. "Thirteen peace-keeping operations were established between the years 1945 and 1987; 13 others since then. An estimated 528,000 military, police and civilian personnel had served under the flag of the United Nations until January 1992. Over 800 of them from 43 countries have died in the service of the Organization. The costs of these operations have aggregated some \$8.3 billion till 1992."

Tank and missile: U.S. Army photo



The Map Has Changed

Vaclav Havel, president of the Czech Republic, said in a speech given in Philadelphia, U.S.A., that the two most important political events in the second half of the 20th century were the collapse of colonialism and the fall of Communism in Eastern Europe. A comparison of a 1945 map with one of 1995 soon shows the upheavals that have occurred on the world stage, especially in Africa, Asia, and Europe.

Compare the political situation for the two dates. During the intervening 50 years, Communism reached its zenith only to end up being defrocked in most former Communist countries. In those nations totalitarian rule has given way to some form of "democracy." However, many people are suffering the effects of the transformation of their society to a market-based economy. Unemployment is rampant, and often money is worthless. In 1989 the Russian ruble was worth \$1.61 (U.S.). As of this writing, you need over 4,300 rubles to equal one dollar!

The magazine *Modern Maturity* reported that today about 40 million Russians live below the poverty line. One Russian said: "We can't even afford to die. We can't afford the funeral." Even a cheap funeral costs about 400,000 rubles. Unburied bodies are piling up at morgues. At the same time, it should be noted that over 36 million Americans live below the poverty line in the United States!

The *Guardian Weekly* finance correspondent, Will Hutton, wrote about Eastern Europe's problems. Under the title "Enter the Age of Anxiety," he stated: "The collapse of communism and the retreat of Russia to its smallest size since the 18th century are events whose implications are still barely understood." Some 25 new states have replaced the former Soviet empire. He says that "the jubilation with which the collapse



Television Educator or Perverter?

Relatively few homes had television in 1945. It was still in its naive infancy of black and white images. Today, TV is a condemned thief and interloper in almost every home of the developed world and in every village in the developing world. Although a minority of programs are educational and upbuilding, the majority are degrading to moral values and pander to the public's lowest common denominator. With the popularity of films on video, the exploitation of pornography and X-rated movies is another nail in the coffin of good taste and healthy morals.

of communism was greeted has now passed into growing anxiety about the future. . . . Descent into economic and political anarchy is ever more likely—and western Europe cannot expect to remain immune."

With such a pessimistic outlook, little wonder that Hutton concludes his article saying: "The world needs a compass better than simple appeals to democracy and markets—but there is none to hand." So where can the nations turn for a solution? The following article will offer an answer.

1945

1995

What of Our Future?

FROM the human standpoint, that statement might seem true. The world appears to be lacking a reliable compass to point out the direction to peace, security, justice, equity, and good government. Man has tried just about every system of government, from monarchies to republics, from dictatorships to democracies, and still he finds his world almost ungovernable. Which way should he now turn?

There appears to be a choice—the pathway down to a world of more violence, crime, corruption, injustice, religious and political hypocrisy, nationalistic hatred, and exploitation of the poor. That is the path that some say leads to anarchy.

Or there is the stiff, self-sacrificing climb to a better world that is based on God's solution for government, found in the Bible. It is stiff because it requires moral courage, personal sacrifice, a spiritual outlook on life, and belief in a purposeful God. But for that climb to be successful man must also be humble—humble before his Creator. He must turn to God for righteous rulership. The Christian apostle Peter counseled: "Humble yourselves, therefore, under the mighty hand of God, that he may exalt you in due time; while you throw all

"The world needs a compass better than simple appeals to democracy and markets—but there is none to hand."

—Will Hutton,
Guardian Weekly.

your anxiety upon him, because he cares for you."—1 Peter 5:6, 7; Revelation 4:11.

Who Throws the Switch of Hatred?

Man alone cannot permanently change this world for the good—the selfish, evil elements are too numerous and too powerful. The prophet Jeremiah was right when he wrote: "I well know, O Jehovah, that to earthling man his way does not belong. It does not belong to man who is walking even to direct his step." (Jeremiah 10:23) Without God, man cannot direct his steps successfully for the benefit of the whole human family. Why is that? Because in addition to our inherent imperfection there is always that invisible enemy Satan, who is ready to throw the switch, as he did in Rwanda, turning people loose in a bloodletting conflict.—Genesis 8:21; Matthew 4:1-11.

In order to throw that switch of prejudice, hatred, and murder in people's hearts and minds, Satan has inculcated the nations with notions of national, tribal, and religious superiority. This deep-seated education in hatred is implanted from infancy by parents whose minds are locked into it, often by centuries of tradition. This tradition is then fortified by school systems and religious teachings. Thus millions of people

are raised with hatred and prejudice in their hearts. They are conditioned, brainwashed from infancy, to turn against their fellowman at the behest of unscrupulous political and religious demagogues. The spewing of irrational slogans and sound bites can throw a switch, can light a wildfire, that terminates in an "ethnic cleansing" or a pogrom.

Indicating what the near future might hold, Martin van Creveld, a military historian in Israel, wrote in *The Transformation of War*: "From the vantage point of the present, there appears every prospect that religious . . . fanaticisms will play a larger role in the motivation of armed conflict" in the West than at any time "for the last 300 years." Thus religion, instead of being a force for peace and for elevating mankind's spirituality, is stagnating in its historical role of provoking hatred, conflict, and killing.

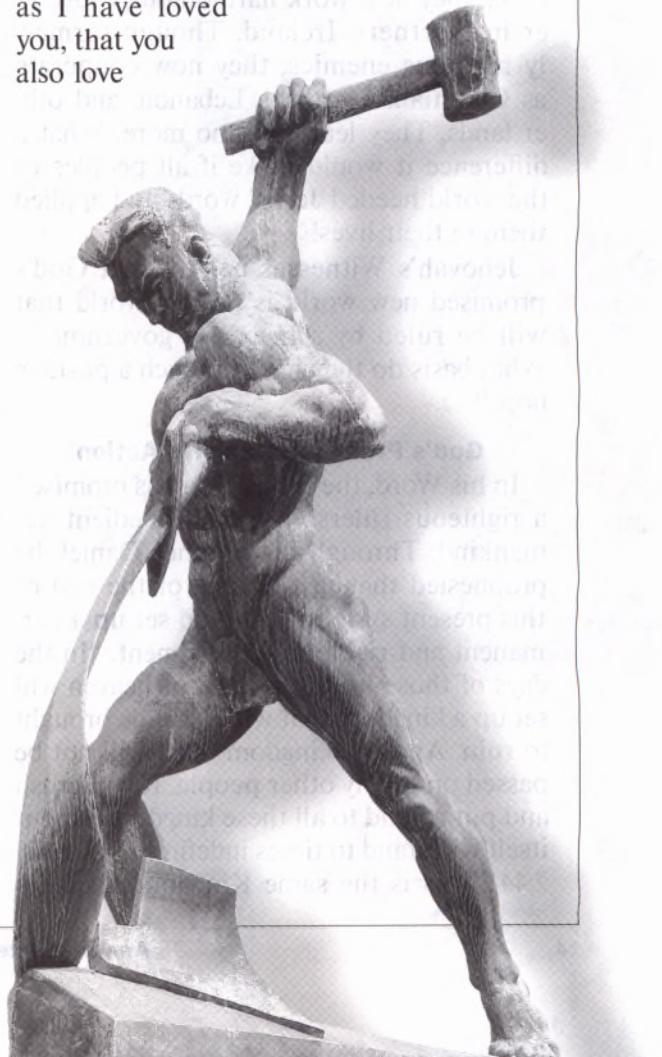
A Different Future Promised

If humankind is to qualify for life in a just new world, then they must share in fulfilling Isaiah's prophecy: "He [Jehovah] will instruct us about his ways, and we will walk in his paths. . . . And he will certainly render judgment among the nations and set matters straight respecting many peoples. And they will have to beat their swords into plowshares and their spears into pruning shears. Nation will not lift up sword against nation, neither will they learn war anymore."—Isaiah 2:3, 4.

Who today are heeding this magnificent prophecy worldwide? Who were the ones who died in Rwanda rather

than kill their fellow believers of a different tribe? Who were the ones who died in Nazi concentration camps rather than serve in Hitler's armies? Who have spent time in the prisons of many countries rather than learn war? They are those who have enjoyed the fulfillment of Isaiah 54:13: "All your sons will be persons taught by Jehovah, and the peace of your sons will be abundant."

Jehovah's Witnesses worldwide have that peace now because they have accepted Jehovah's teaching from his Word, the Bible. They follow the teachings and example of Christ Jesus. And what did he say? "I am giving you a new commandment, that you love one another; just as I have loved you, that you also love



Nations can truly beat their swords into plowshares only under the rulership of God's Kingdom

"There are new heavens and a new earth that we are awaiting according to his promise."

—2 Peter 3:13

one another. By this all will know that you are my disciples, if you have love among yourselves." (John 13:34, 35) Jehovah's Witnesses practice this love to such a degree that, though formerly Catholics and Protestants, they now work harmoniously together in Northern Ireland. Though formerly religious enemies, they now cooperate as Christians in Israel, Lebanon, and other lands. They learn war no more. What a difference it would make if all peoples of the world heeded Jesus' words and applied them in their lives!

Jehovah's Witnesses believe that God's promised new world is near, a world that will be ruled by a heavenly government. What basis do they have for such a positive hope?

God's Promised Decisive Action

In his Word, the Bible, God has promised a righteous rulership for all obedient humankind. Through his prophet Daniel, he prophesied that in the time of the end of this present system, he would set up a permanent and righteous government. "In the days of those kings the God of heaven will set up a kingdom that will never be brought to ruin. And the kingdom itself will not be passed on to any other people. It will crush and put an end to all these kingdoms, and it itself will stand to times indefinite." (Daniel 2:44) This is the same Kingdom rulership

that Christ taught believers to ask for in his famous prayer: "Our Father in the heavens, let your name be sanctified. Let your kingdom come. Let your will take place, as in heaven, also upon earth."—Matthew 6:9, 10.

In that prayer we are asking for God to fulfill his promises regarding his righteous rulership. And we know that God cannot lie. Paul spoke of "the everlasting life which God, who cannot lie, promised before times long lasting." (Titus 1:2; Hebrews 6:17, 18) And what has God promised? The apostle Peter answers: "There are new heavens and a new earth that we are awaiting according to his promise, and in these righteousness is to dwell."—2 Peter 3:13; Isaiah 65:17; Revelation 21:1-4.

Before that righteous rulership can be fully appreciated here on earth, a great cleanup must take place. Bible prophecies combine to indicate that this action to cleanse the world of Satan and his wicked forces will soon take place. (See Matthew, chapter 24; Luke, chapter 21; and Mark, chapter 13.) This final act of cleansing is called the battle of Armageddon, "the war of the great day of God the Almighty."—Revelation 16:14, 16.

In spite of what many may think, the year 2000 is not significant. After all, that date is only valid for Christendom. Other cultures have their own dating systems. What is significant is that now is the time to turn to God and to his Word to prove for yourself what is "the good and acceptable and perfect will of God." (Romans 12:1, 2) What matters is that now is the time for you to choose—either to walk into a future blessed by God or to continue down the path of frustration that Satan's world offers. We urge you to choose God's way. Choose life!—Deuteronomy 30:15, 16.

Hubble Trouble



NASA photo

How Did It Turn Out?

'What Hubble trouble?' you might ask. The HST (Hubble Space Telescope) trouble is what we are talking about —the costly (over \$1.6 billion) sophisticated eye on the universe that suddenly revealed that it had flawed vision back in 1990.

THE Hubble Space Telescope is "probably the most sophisticated scientific satellite ever built," says Dr. R.W. Smith of The Johns Hopkins University, Baltimore, in *The International Encyclopedia of Astronomy*.* "The largest, most complex, and most powerful observatory ever deployed in space" is how Eric Chaisson describes it in his book *The Hubble Wars*. He also states in *Astronomy* magazine: "The four million lines of computer code needed to command and control it daily—one of the largest codes in the civilian world—is testimony to Hubble's high degree of complexity." This observatory is orbiting at a height of some 380 miles above the earth and thus well clear of the earth's light-distorting atmosphere.

Prior to the launch, Dr. Smith stated that "the excellence of its images will... be fixed only by the laws of optics, the quality of its mirrors, and how accurately and steadily the HST can be directed toward its targets." Little did he realize then how significant his words would turn out to be!

Launch—Elation and Disappointment

The big launch day came in April 1990. The HST was sent into orbit on the shuttle Discovery. The flight-control engineers were delighted with the results. John Noble Wilford reported in *The New York Times* that the engineering data "showed that the telescope had survived the launching undamaged and seemed ready to begin a mission of cosmic exploration that could last more than 15 years." He added that it was "expected to observe distant stars and galaxies with a clarity 10 times that ever before

* Why is it called the Hubble telescope? It is named after the famous American astronomer Edwin Powell Hubble (1889-1953), who gave scientists a greater insight into what are now known as galaxies. What does it look like? The flying telescope is about the size of a railroad tank car or a four-story tower, being about 44 feet long and 14 feet in diameter, and it weighed just over 12 tons at launch.



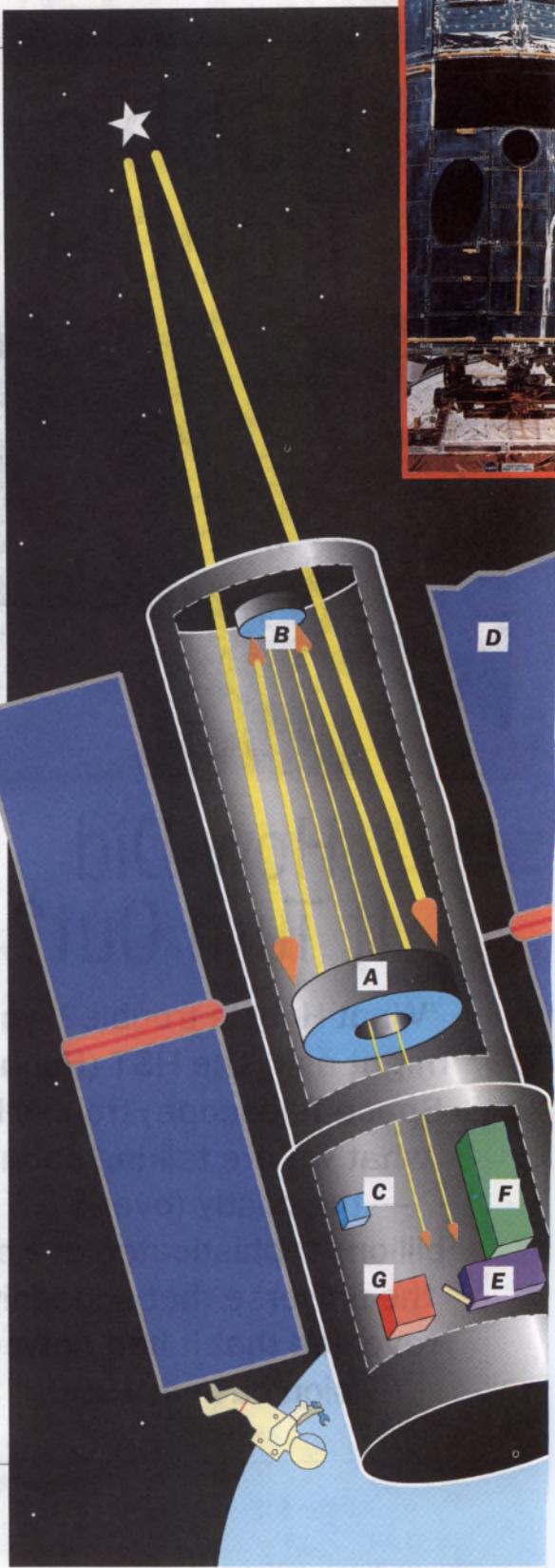
NASA photo

achieved." A headline in *Time* magazine optimistically announced "New Window on the Universe" and added: "With an unclouded view of the most distant stars, the sharp-eyed Hubble telescope will be able to look far back into time." The excitement mounted as the astronomers and designers waited for the first images to return to earth. What actually happened?

It turned out that, as the saying goes, the chickens were being counted before they had even hatched! The first images began to arrive in May 1990. Instead of the supersharp images that had been expected, blurred light was what the anxious astronomers saw. Eric Chaisson wrote: "These observations bolstered the truly dreadful notion that the orbiting observatory was suffering from a major optical flaw." The telescope had an unexpected flaw — a minuscule error in one of the two reflecting mirrors! The error was far less than the width of a human hair, but that was enough to blur the vision. It was a huge disappointment.

Who Slipped Up?

What led to Hubble's costly problems? Eric Chaisson, who worked on the Hubble project, lists many causes in his book *The Hubble Wars*. He says: "The glaring hardware faults





NASA photo

Top left: HST view of galaxy M100 before repair work

Top center: Installing the new planetary camera

Top right: HST view of galaxy M100 after repair work



NASA photo

on *Hubble* derive from a case of engineering myopia, a clear and steady failure to heed the bigger picture. For example: telescope optics machined improperly and tested inadequately by overconfident engineers, with no meaningful technical or scientific input from outside the secretive contractor . . . [and] the incorporation into *Hubble* of used goods, such as decades-old gyroscopes [gyros that had been tested for some 70,000 hours before use in the telescope—"tested to death," as one engineer stated] and memory boards meant for antique space vehicles."

A: Primary mirror

B: Secondary mirror

C: Four gyroscopes, used to aim the telescope, are replaced

D: Damaged solar panel is replaced

E: New wide-field/planetary camera installed

F: The Corrective Optics Space Telescope Axial Replacement compensates for flawed mirror

G: Electronics for positioning solar panels replaced

When the Hubble's 94.5-inch main mirror was finished, it was supposed to be given a final test. According to *The New York Times*, though, these plans were abandoned because of time limits and financial considerations. The late Dr. Roderic Scott, then chief scientist for the optical research company that made the mirror, called for more tests. His warnings were ignored. Thus, the HST in outer space was only able to transmit deficient images.

Chaisson's opinion was: "Perhaps the spacecraft and its myriad onboard parts [including over 400,000 parts and 26,000 miles of wiring] and vast ground-support functions are too complicated for our relatively neophyte technological civilization. When the descendants of Noah tried to build in the ancient city of Babel a tower so high that it would reach the heavens, the Book of Genesis tells us that God punished them for their audacity. Perhaps a much less complex space telescope—a more efficient, evolutionary vehicle—would have been met with a less omnipotent rebuke." Chaisson went on to say: "The widespread notion that the scientific method is unbiased and objective, that scientists are and always

have been lacking in human emotion in the course of their work, is a farce. Today's science endeavor is as value-laden as most things in life." According to Chaisson, ambition and jealousy have been factors in Hubble's distress.

Hopes Were Dashed

A review of some of the media headlines gives a picture of the dramatic events that surrounded the saga of the Hubble trouble. "Shuttle Soars 381 Miles High, With Telescope and a Dream," said one newspaper. *Scientific American* stated: "Hubble's Legacy—The Space Telescope Launches a New Era in Astronomy." In July 1990, *Time* had to adjust its appraisal, saying: "Cloudy Vistas for Big Science—NASA's [National Aeronautics and Space Administration] Shuttle Hopes Spring a Leak, and Hubble Has Eye Trouble." *Science* magazine explained the problem in more objective language: "Astronomers Survey Hubble Damage—Seldom Has So Tiny an Error Caused So Vast a Turmoil—But in a \$1.6-Billion Telescope, Micrometers Loom Large." The same magazine reported in December 1990: "Hubble Hubris: A Case of 'Certified' Blindness." It stated: "The Hubble Space Telescope's devastating optical flaw was the result of sloppiness all around, concludes the final report of NASA's official investigation panel."

All was not lost, however. In March 1992, *Smithsonian* magazine reported: "Stunning Images From an Ailing Space Telescope." It stated: "While many of its functions remain seriously impaired, the telescope is nonetheless deluging astronomers with valuable data. . . . It has produced surprises, such as globular star clusters (traditionally considered among the oldest structures in the Universe) in the bloom of youth; it has probed the heart of a distant galaxy to find confir-

mation for the theory that a star-devouring black hole lies at that galaxy's center."*

"NASA's Do-or-Die Mission"

Then, in November 1993, came the headline in *Science News* that scientists and astronomers had awaited: "The Big Fix—NASA Attempts to Repair the Hubble Space Telescope." According to *New Scientist*, it involved "the most ambitious repair mission in the history of space flight." The team of seven astronauts would have to recover the HST and repair it in their cargo bay out there in space. It was called "NASA's Do-or-Die Mission" and a "Rendezvous With Destiny." Was it a success?

Using a basketball expression, flight director Milt Heflin told *Newsweek*: "We slam-dunked this thing." The astronauic ophthalmologists had pulled off a scientific coup—in five space walks, they had fixed the optics of the HST and had installed a new camera as large as a piano! It was three years before they could get out there to replace the defective elements and install corrective ones. But it was an expensive visit to the eye doctor. According to one source, the repair operation to fix the lens cost \$263 million!

The drama reached its climax in January 1994 with headlines such as "The Hubble Telescope Is No Longer Myopic" and "Hubble Finally Gets a Heavenly View." *Astronomy* magazine announced: "Hubble—Better Than New." It reported the reactions of astronomers at the Space Telescope Science Institute when the first images came in: "Absolutely incredible." "The first images sent shivers down our spines." "Hubble is fixed beyond our wildest expec-

* Black holes are understood to be regions of space into which a star or stars have collapsed and "where gravitational forces become so intense that they prevent the escape even of particles moving with the velocity of light [186,000 miles per second]." Thus, "no light, matter or signal of any kind can escape."—*The International Encyclopedia of Astronomy*.

tations," exulted Dr. Edward J. Weiler, the project's chief scientist.

What Are the Benefits?

Correcting the optics soon paid off. In June 1994, *Time* reported that the HST had discovered hard evidence to support the existence of black holes. NASA announced that it had discovered a "disk-shaped cloud of gas rotating at a dizzying 1.2 million miles an hour." It is about 50 million light-years away and at the center of the galaxy M87. It is said to have the mass of from two billion to three billion stars the size of our sun but compressed into a space the size of our solar system! Scientists calculate that the gas disk has a temperature of 18,000 degrees Fahrenheit. The only present explanation for this phenomenon is the incredible force of gravity being exerted by a monster black hole around which the disk is whirling.

Hubble also gave excellent pictures of the comet Shoemaker-Levy 9 as it headed on its self-destructive course toward Jupiter, where it disintegrated in July 1994. The pictures that HST is sending back of galaxies are so sharp that one scientist said of the repair job: "A small change for a mirror, a giant leap for astronomy." Now, according to *Scientific American*, "Hubble has a resolution of at least 10 times better than that of any ground-based instrument, so it can see clearly throughout a volume of space 1,000 times larger [than other telescopes]."

Hubble is making the theorists revise some of their ideas about the age of the universe. In fact, they have come up with a paradox as matters are presently understood. The most recent evidence supplied by the HST provides, according to *New York Times* science writer Wilford, "strong evidence that the universe may be much younger than scientists previously estimated. It may be no more than 8 billion years old," as compared to previous estimates of up to 20 bil-

lion years. The problem is that "some stars are reliably estimated to be 16 billion years old." Little wonder that, as he says, "the universe seems to keep throwing the cosmologists nasty curves, exposing the woe-ful limitations of their knowledge." He adds: "Those who take on the universe as a field of study must accept the likelihood that for all their brilliance and ingenuity, many of the ultimate answers will remain beyond their grasp."

Man must learn the humility that Job was taught when Jehovah asked him out of the windstorm: "Can you fasten the harness of the Pleiades, or untie Orion's bands? Can you guide the morning star season by season and show the Bear and its cubs which way to go? Have you grasped the celestial laws?"—Job 38:31-33, *The Jerusalem Bible*.

What of the Future?

The Hubble telescope promises greater revelations for the immediate future. One astronomer wrote: "With the Hubble Space Telescope, we'll see the shapes of many galaxies around the vicinity of quasars [quasi-stellar radio sources, the most luminous objects in the universe]." As to understanding the origin of galaxies, Richard Ellis of the University of Cambridge, England, says: "We're about to enter a very exciting time."

Human curiosity will continue to spur the search for knowledge of the universe, its beginnings, and its purpose. Such knowledge should awaken in our hearts reverence for the Creator of the vast universe, Jehovah God, who said: "Raise your eyes high up and see. Who has created these things? It is the One who is bringing forth the army of them even by number, all of whom he calls even by name. Due to the abundance of dynamic energy, he also being vigorous in power, not one of them is missing."—Isaiah 40:26; Psalm 147:4.

Your Role in Your Prayers

ON A mountainside overlooking the city, the beleaguered king pauses briefly to contemplate his majestic palace, the sprawling capital, and the sad plight of his household. A large army has gathered to the south and is now marching on the city. High-ranking government officials have defected, and popular opinion has swung in favor of the rebels. Downhearted, the king offers a prayer to God. A deeply religious man, his confidence rises that God will hear his plea and thwart the plans of the conspirators. Then, turning away from his resplendent city, he descends the mountain and continues north in the direction of the wilderness beyond the river. What more can he do? The situation is now in God's hands.

In like manner, humble believers today turn to God in prayer in times of difficulty with the comforting assurance that along with providing clear guidelines on how to pray, the Bible reveals that Jehovah God is the "Hearer of prayer." (Psalm 65:2) We are assured that all honesthearted seekers of God will get a hearing ear.

Yet, are faith and prayer enough? What part do we play in the outcome of our prayers?

How Can We Contribute?

The king mentioned at the outset was King David of ancient Israel. Faced with the conspiracy of his conniving son Absalom and his hypocritical counselor Ahithophel, he chose to flee Jerusalem and seek refuge in the fortified wilderness city of Mahanaim on the eastern side of the Jordan River. Likely burdened by disappointment, depression, and anxiety, he petitioned Jehovah in prayer, saying: "Turn, please, the counsel of Ahithophel into foolishness, O Jehovah!" (2 Samuel 15:11-15, 30, 31) However, David did more than pray. He contributed in a positive way toward the successful outcome of his prayer. How so?

His contribution began long before the trials he faced. Over a period of many years, even before he was king, David proved himself a loyal worshiper of Jehovah. (1 Samuel 16:12, 13; Acts 13:22) He became intimate with God. Thus, when under trial David had faith that Jehovah would hear his prayer and respond in an appropriate way.

The same is true today. Often a primary method of contributing to the outcome of our prayers is to follow Bible counsel as a regular pattern of life.



Such loyal adherence to God-given principles engenders a close relationship with him. This nearness to God and pattern of faith should be in place *before* the trials begin. It should be like a strong foundation on which a house is to be built; it should be there *before* the weight of the structure is laid upon it. Thus we can—even now, before trials come—contribute to the successful outcome of many of our prayers.

Take an Active Role!

Although it is true that David's relationship with God played a vital role, he also recognized that he could not be a passive observer in the outworking of his prayer. To the contrary, David took an active role as is evident in the wise course of action that followed his prayer.

Among David's loyal friends was an Archeite named Hushai. Hushai met the fleeing king on the Mount of Olives. Although wishing to accompany David in exile, Hushai submitted to the urging of David that he remain in the city. He was to feign loyalty to Absalom, endeavor to frustrate traitorous adviser Ahithophel's counsel, and keep David informed of events. (2 Samuel 15:32-37) As hoped, Hushai was successful in gaining the confidence of Absalom. Now Jehovah would intervene.

The ingenious, though devious, Ahithophel proposed a brilliant plan. He urged Absalom to give him 12,000 men to attack David that very night while he was on the run, disorganized and vulnerable—a deathblow that would clinch a successful revolution! To the surprise of many, however, Absalom sought the counsel of Hushai on the matter. He advised Absalom to take the time to gather an overwhelming force of men, commanded by none other than Absalom himself. By Jehovah's direction, Hushai's counsel was accepted. Ahithophel, evident-

ly realizing that following Hushai's counsel meant sure defeat, returned to his home and committed suicide.—2 Samuel 17:1-14, 23.

There was no doubt that Jehovah had answered David's prayer—just as he had prayed. David's example of working in harmony with his prayer provides a valuable lesson for all who seek the assistance of God through prayer.

Jehovah Will Do His Part

True, Jesus taught his followers to pray for their daily bread and promised that if they put God's interests first, He would take care of their needs. (Matthew 6:11, 33) For example, if a person is unemployed, he must work in harmony with his prayer for sustenance by doing all he can to find or to create work.

Whatever the subject of our prayers, our ability to contribute to the outcome varies greatly. There are times when we can do much and times when we can do very little, if anything at all. The important point is not what we can or cannot contribute but whether we are doing the best we can.

We can be sure that Jehovah knows our circumstances and abilities. He fully realizes what it is possible for us to do, and he would never require us to do more than we can accomplish. Whether we can do a great deal or very little, Jehovah will make up for any lack. He appreciates and supports our efforts and will work along with them to accomplish the best outcome for all involved. —Psalm 3:3-7.

In the midst of hardship, King David could declare with confidence: "Salvation belongs to Jehovah. Your blessing is upon your people." (Psalm 3:8) May our confidence in the power of Jehovah along with our contributing our part, great or small, work to the successful outcome of our prayers.



From the book *Die Heiligkeit der Gesellschaft Jesu*

MAPS

to Meet Your Needs

BY AWAKE! CORRESPONDENT IN BRITAIN

FINDING your way around a strange country or city is a challenge. First, you have to get your bearings. Then, decide which is the best route. How can you find out? What you need is a map!

Maps—Since When, and Why?

Mapmaking, or cartography as it is called, has a long and checkered history. Some authorities trace the making of maps back 4,300 years to those engraved on clay tablets in Babylonia. But it was the early Greeks who drew the charts that were the forerunners of modern maps. After the maps of the ancient world drawn by Claudius Ptolemy in the second century C.E., cartography sank into the Dark Ages. Unexplored areas showed up as the domain of monsters and giants. Religion so influenced maps that many depicted a world dominated by the garden of Eden. Jerusalem and the Middle East began to appear at the top of maps of the then-known world.

Early maps of Britain also reflected an ecclesiastical influence. One such map traced the course that pilgrims followed to the religious shrines of England. Detailing the "Pilgrim's Great North Road," this map set out a route from the northern town of Durham to the southern coastal port of Dover.

The father of modern cartography was Gerardus Mercator (1512-94). He designed

a method of map projection famed among navigators for its accuracy, and many maps drawn according to the Mercator projection appear in modern atlases.

To landowners, maps became a boon. Reference to their clearly drawn boundary lines helped settle legal disputes. Government interest in maps grew, as tax assessment depended on accurate recording of land tenure.

Nowadays, maps fill everyday needs. Atlases help schoolchildren to grasp the elements of geography. Charts enable forecasters to display graphically what we may expect in the way of weather conditions. A map can help us to make the best use of public transportation. And for a family outing, a map can show the most scenic route to take.

Specialists are not neglected. There are population-density maps for town planners. Maps of the seabed help those who watch for wrecked ships or search for mineral resources. Archaeological maps are an aid to those digging up the past. Why, for space researchers there are even maps of the moon and of some planets! With such a wealth of information available on maps, it is to your advantage to develop and improve your skill in reading them.

How to Read a Map

Getting the most from your maps is akin to learning a foreign language. When you study

TOURIST INFORMATION

- Information centre Bureau d'information Informationsbüro
- Parking Parking Parkplatz
- Picnic site Emplacement de pique-nique Picknickplatz
- Viewpoint Point de vue Aussichtspunkt
- Camp site Terrain de camping Campingplatz
- Caravan site Terrain pour caravanes Wohnwagengelände
- Youth hostel Auberge de jeunesse Jugendherberge

RAILWAYS

- Track multipli
- Track narrow
- Bridges, Foo
- Tunnel
- Viaduct

WATER FEATURES

- Marsh or salting Towpath Lock Canal
- Aqueduct
- Wier
- Normal tide Lake
- Bridge Footbridge
- Canal (dry)

GENERAL FEATURES

- Electricity transmission line (with pylons spaced evenly)
- Pipe line (arrow indicates direction)
- 8 min

ROADS AND PATHS

Not necessarily rights of way

- | | | |
|-----------------|-----|--------------------|
| Service area | M-4 | Elevate |
| Junction number | 5 | En Vias überbrückt |

- | | |
|--------------|-----------------------------------|
| Unfenced | Footbridge |
| A 49(T) | Passerelle Fußgängerbr. |
| Sans clôture | Dual carriage |
| A 232 | Chausées séparées Zweiheitstrasse |

Many maps include a key, or legend, to define the symbols used

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Variations in elevation are shown by contour lines, usually in subdued colors

A grid system allows a location to be plotted on the map

Map usually shows what one inch or one centimeter equals on the earth's surface (not shown here)

A scale of miles or kilometers allows you to measure distances between places



another language, you are faced with a new vocabulary and a different grammar. In map language, symbols might be likened to words, whereas scale contours and grids function as the grammar. Most maps are drawn with a box containing the key to the symbols used on the map. This serves as a dictionary, defining the signs.

Symbols are carefully chosen to convey their meaning. To locate a lighthouse, for example, look for a symbol that resembles one. Churches and mosques may be designated by black squares or circles surmounted by crosses or crescents.

How can you become familiar with the meanings of such symbols? John Wilson, author of *Follow the Map*, recommends "the pleasant pastime of 'map browsing.'" He adds: "Let your eye wander idly over the map, and translate the symbols as you meet them."

Do you find that your area looks quite different from what your map shows? Why is this? Well, normally we view our surroundings from our own height, five to six feet above the ground. But maps show the land from a perspective, vertically far above each point. To grasp this notion, it is vital that you understand map grammar.

Scale, Height, and Position

The mapmaker's challenge is to record variations of altitude above sea level and any man-made features on the ground. All of this must be printed on a sheet of manageable size. To achieve this, maps are drawn to scale. One popular British map series shows the country at a scale of 1:50,000—which means that each inch on the map represents 50,000 inches of the earth's surface.

How, though, can a flat map show variations of altitude? Oblique hill-shading is one way of adding the third dimension. The sun appears to shine from a position over the map's top left-hand corner. Slopes facing east and southeast, being in the shade, are then

drawn in darker colors. Modern maps frequently have contour lines joining points of equal height above the mean sea level. Printing these marks in subdued colors avoids detracting from the map's other features.

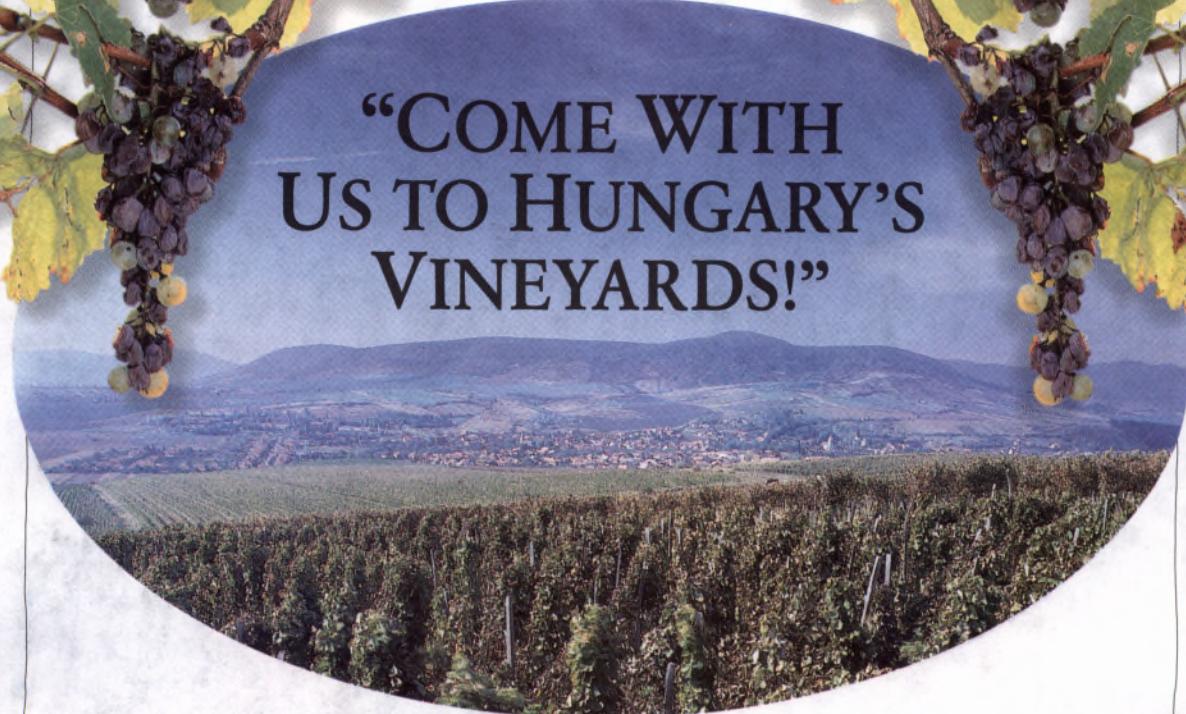
Many maps use a system of intersecting lines to help you clearly define your position. This grid, as it is called, allows any location to be given as a set of alphabetical or numerical coordinates that fix the spot within the grid of lines. For example, a town might be located at G-13, that is G on the vertical side and number 13 on the horizontal. Where these two points meet is where you will find the town. However, how can you be sure that your map will give you an accurate picture?

Maps in the Computer Age

Military needs have often resulted in the publication of very accurate maps. During the last 40 years, precision plotting using stereoscopic comparison of aerial photographs has become a reality, with many countries following similar schemes.

Already, there are computerized moving map displays in some automobiles as well as detailed travel maps for home computers. "Micro Chips Take the Wheel," read a headline in *The Observer*. The report explained one experimental project that uses computer discs with map information linked to speech synthesizers. The driver just keys in the computer screen map to indicate his destination. No need to worry about those puzzling road junctions! Why? Because as the car approaches each intersection, a voice tells the driver the direction to take. Compass and wheel sensors keep track of the car's course. Recent developments are even more reliable and simpler.

What will this mean for the future of maps? Will paper maps become collectors' items? Time will tell. In either case, the map will continue as a versatile instrument to meet your travel needs.



“COME WITH US TO HUNGARY’S VINEYARDS!”

BY AWAKE! CORRESPONDENT IN HUNGARY

The Zemplén Mountains are known for their cone-shaped hills of volcanic origin. On the slopes of these mountains lies the wine-growing region of Hungary, the picturesque Tokaj-Hegyalja.

IN NORTHEASTERN Hungary, tucked beneath the towering Mount Tokaj, lies the city of Tokaj. Extending from there, where two rivers join, to 35 miles northwest is a grape-growing region. Right in the middle of this fertile area, we find the small village Tolcsva, where a team of grape pickers are carefully picking what appear to be raisins from clusters of Hungarian Furmint grapes.

Come, taste the famous sweet Tokay Aszu wine of the Tokaj-Hegyalja! Here the

growers consider their product unique and label their wines with Latin names, such as *Vinum Regum, Rex vinorum*, meaning “King of Wines, Wine Fit for Kings.”

Wine From Raisins?

“Are you planning to make wine from raisins?” we ask curiously. Our question elicits an enthusiastic explanation. These are not really raisins but special grapes left to pucker on the vine, we are told. “What makes them so special?” we wonder out loud. To



Above: Wine matures in these casks

Right: The mold even grows on the bottles

our surprise we are introduced to *Botrytis cinerea*, which is a special mold that exists on the surface of grapes in this region.* We are told that the evaporation of water from the rivers below us makes the environment favorable for this special mold.

For the mold to do its work on the grapes, the correct climate is essential. The growers need a summer that is rich in sunny days along with enough rainfall to promote the early growth of the grape clusters. Then, if

the grapes become fully ripe in early September and a dry, sunny autumn follows, the fruit will be at its peak for wine-making.

But how does the mold help in the wine-making? The answer is somewhat technical; nevertheless, this is what we are told. A chemical reaction is set off when the skin of the ripe grape bursts on the vine, allowing the mold to feed on the fructose in the grape, allowing acids to form.

Do the acids give the wine a sour taste? We are assured that the sugar and alcohol mask the acidity of the malic acid and tar-

* It "concentrates grape sugars and flavours into honey-like sweetness," says *The New Encyclopaedia Britannica*.

taric acid. Other acids, such as citric acid and gluconic acid, are essential to the taste of the wine. The acidity of the wine depends on the composition of the soil, and the taste of the wine is also affected by the position of the vines in relation to the sun.

As the explanation continues, we find out that after being pressed, the pulp from the dry grapes is mixed with wine from the previous year, which was made from normal grapes. The result of a 72-hour extraction process and a final pressing is a thick liquid with high sugar content that will undergo a fermentation period in wooden barrels. When the alcohol level reaches between 13 and 15 percent, the fermentation is stopped chemically. At the end of six months, the wine has to be strained and allowed to stand to mature further. Good quality Aszu wine needs from three to five years before it is ready to be consumed.

Down Into the Cellars

Returning to the village, we enter a wine museum, where one exhibit catches our eye—an old two-pronged hoe. Working with this instrument in the hard soil was so tiring that the tool was known as the man-killer.

A jovial cellarman greets us and gladly guides us through the cellar of the museum. He proudly explains the care taken to maintain the correct temperature and humidity for the wine casks. Since the temperature should be 54 degrees Fahrenheit, the cellars are carved into limestone rock. Relative humidity is kept at 85 to 90 percent.

Again we are surprised, this time to learn that the maturing of the wine will further depend on the presence of the special mold, which settles on nearly everything in the cellar—wood, glass, even the brick walls—everything except the concrete floor. So that the mold is not disturbed by outside

fresh air, vintners try to walk through the cellars as little as possible.

Our guide quotes a Hungarian wine-makers' proverb: "Where there is a noble mold, there is a wine of good quality, and where there is a wine of good quality, there is a noble mold." To convince us of the truth of this statement, our hospitable cellarman offers us different kinds of Tokay Aszu wines to sip. By candlelight, with the wine in our glasses glistening with a translucent color, he points out how the wine leaves a ring on the wall of the glass, a characteristic of Tokay Aszu wine.

He tells us that a wine taster appreciates a dry wine, for it reveals qualities such as the flavor and bouquet of the wine, which may be hidden in sweet wine. It is said that a sweet Tokay Aszu wine is mysterious—it needs a connoisseur to reveal its secrets.

Concluding, he asks us: "Did you know that the Tokay Aszu wine was considered a medicine and used to be found in every pharmacy?" This reminds us of Paul's advice to Timothy: "Use a little wine for the sake of your stomach and your frequent cases of sickness." (1 Timothy 5:23) Finally, after viewing the bottling and pasteurization of the wine, we return home thinking how, when wine is used moderately, the words at Psalm 104:15 ring true: 'Wine makes the heart of mortal man rejoice.'

IN OUR NEXT ISSUE

My Long, Hard Fight to Find True Faith

Should I Learn Self-Defense?

The African School —What Did It Teach?

WATCHING THE WORLD

German Churches Admit Holocaust Blame

January 1995 marked 50 years since the liberation of the concentration camp at Auschwitz, Poland, where Nazis engaged in the systematic persecution of Jews, Slavs, Gypsies, Jehovah's Witnesses, and others. Some churches in Germany accept a share of the blame. *Süddeutsche Zeitung* reported that the German Bishops Conference described the "guilt-ridden history of our country and also our church," admitting that "there was much error and guilt among Catholics. Not a few let themselves be won over to the National Socialist ideology and remained indifferent to crimes." The chairman of the Council of Protestant Churches in Germany confessed that "in this bitter process of realization, we have become aware that even Christian theology and the church participated in the long history of alienation and enmity toward the Jews."

A Shrine for Breakups

People hoping for a divorce or a breakup in other unwanted relationships are flocking to a Shinto shrine in Ashikaga, 50 miles north of Tokyo. Known as the Tie Severing Shrine, it purports to be the only Shinto temple in Japan to accept petitions for divorce, says the newspaper *Asahi Evening News*. Every day, scores of worshipers arrive. Each writes his or her plea on an *ema*, a thin wooden board, hangs it up in the shrine's precincts, and prays that the gods will answer. The newspaper explains that about a hundred years ago, when the shrine was

founded, "the wives of rich local merchants wrote prayers asking that their husbands leave their lovers and come back to them." Today, though, the earnest pleas offered are no longer for reconciliation.

Eyes Do Double Work

The human eye has more than one function, researchers say. One, of course, is to give us conscious vision. The other, recently discovered and reported in *The New England Journal of Medicine*, is to register light impulses that regulate the body's internal daily clock. Because this second function operates independently of the ability to



see, even people who are totally blind and without perception of light can have normally functioning biological clocks. The finding could lead to changes in treating the blind. For example, one common practice is to remove the eyes of totally blind people and replace them with artificial eyes that are cosmetically more appealing. Also, totally blind people are usually not checked for such conditions as glaucoma, which blocks the retina's ability to register light. As a result, said Dr. Charles A. Czeisler, the head of the research team, most of these people are no longer able to regulate their internal clocks to the

24-hour day-and-night cycle, resulting in a permanent sleep disorder that mimics jet lag.

A "Patron Saint" for Films

The film industry will soon boast its very own "patron saint," reports *El País*, a Madrid, Spain, newspaper. To mark the first centenary of the movie industry, the Vatican is evaluating possible candidates. The favorite is Francis of Assisi, the inventor of the nativity scene, which some filmmakers consider to be an embryonic "Hollywood set." Another name put forward is Juan Bosco, a Salesian priest who used entertainment as a tool for teaching children. One film director suggested "Saint Domingo de Guzmán, who invented the Inquisition, one of the first great shows." Television, a more recent phenomenon, already has "Santa" Clara as "patron saint." She was nominated because she used to attend Mass by looking through the window of the cell where she was confined. There is, however, no evidence that saints have power over programming.

Afterlife or Hallucination?

The media often publicize accounts of "near-death experiences," wherein patients who were near death later claim to have glimpsed the afterlife. The experiments of a team of German neurologists recently suggested that such experiences are due to oxygen deprivation, which causes hallucinations. According to the Dutch newspaper *De Gooi en Eemlander*, the team studied 42 healthy youths who were rendered unconscious

for a maximum of 22 seconds by hyperventilation. Afterward, the youths described sensations and visions remarkably similar to "near-death experiences." Some reported seeing vivid colors and lights, seeing themselves from a bird's-eye view, seeing loved ones in a pleasant setting, and so on. Most youths described the sensations as pleasant and peaceful—so much so that they did not want to return to consciousness.

Half the Earth Untouched

"Despite mankind's best endeavours, just over half of the land surface of planet Earth is still wilderness," reports *New Scientist* magazine. A new study "found that 90 million square kilometres [35,000,000 square miles] of land, about 52 per cent of the total land area, is still undisturbed." Why is this so much higher than the results of a 1989 survey, which listed only a third of the planet as wilderness? Because this latest study, by Lee Hannah of Conservation International, included areas as small as 400 square miles, instead of the 1,500-square-mile minimum used previously. "An even finer grained study would be likely to uncover a still greater percentage of the planet untouched by humans," the article stated. However, Hannah pointed out that a good portion of the undisturbed land is "rock, ice and blowing sand," inhospitable to both humans and wildlife. "Natural habitat has been displaced by human disturbance over nearly three-quarters of the habitable surface of the planet," he said. The survey's three categories were: undisturbed (52 percent), partially disturbed (24 percent), and dominated (24 percent).

Gamblers for God?

Every year, some 29 million people stream to Las Vegas, Nevada, U.S.A., from all over the world. Most, of course, are there to gamble, but many of them want to pray and worship as well. So the Catholic diocese in the region recently built a \$3.5 million, 2,200-seat church a mere block away from four of the city's largest hotel-casinos, reports *The New York Times*. As



some 80 percent of the worshipers at the church are tourists, most of them in town to gamble, the church invites them to put casino chips in the collection plate. The church also has a gift shop, where patrons are invited to use their chips as currency. The shop even offers a souvenir gaming chip bearing an image of Jesus Christ. For a time the church employed a Franciscan friar to make weekly rounds to all the casinos in order to cash in the chips donated to the church. He was dubbed the chip monk.

Disadvantages of Bed Rest

"Prolonged bed rest can do patients more harm than good," claims *The Times* of London. Some 50 years ago, physician Sir Richard Asher questioned this standard medical practice and drew attention to such health dangers as thrombosis, muscle wasting, loss of calcium in the bones, kidney stones, consti-

pation, and depression. Studies have since confirmed this warning, and autopsies show that the risk of thrombosis followed by a lethal pulmonary embolism is directly related to the length of bed rest before death. On the other hand, doctors advocate bed rest in cases of acute back pain with sciatica and late complications of pregnancy. Indeed, with other acute and serious illnesses, there may well be no alternative but to rest. Doctors believe that once the crisis has passed, however, getting up and moving about accelerates recovery.

World's Richest Nations

Switzerland is the world's richest nation, according to a report by the World Bank. Its per capita gross national product—the value of all goods and services produced—was \$36,410 in 1993. This was almost \$12,000 more than that of the United States, which placed seventh in the list. Following Switzerland were Luxembourg, Japan, Denmark, Norway, Sweden, the United States, Iceland, Germany, and Kuwait. Mozambique remained the poorest nation in the world, producing only \$80 per person. Notably missing on this latest top ten list were a number of Middle Eastern oil-producing nations, reflecting declining oil prices. However, the list changes if you consider purchasing power. Because prices are lower in the United States than in most wealthy countries, Americans get more for their money than any other nation except Luxembourg. The list then changes to: Luxembourg, the United States, Switzerland, the United Arab Emirates, Qatar, Hong Kong, Japan, Germany, Singapore, and Canada.

FROM OUR READERS

Courageous Youth I am 15 years old, and I want to thank you for the January 22, 1995, article "Joshua's Faith—A Victory for Children's Rights." How moving it was to read about someone my own age who has such faith and love for Jehovah! Reading this article made me realize that I need to take Jehovah more seriously.

M. S., United States

I am 16 and find it very hard to find time to read all of our magazines. But I read the article about Joshua, and I have never felt so touched by anything. His stand against taking a blood transfusion was so strong! I couldn't help but cry. I now realize that I need to read everything I can that comes from Jehovah's organization.

T. S., Britain

I am an Anglican, but I enjoy reading *Awake!* I cannot help but cry for what Joshua went through and at the same time praise God that there are people with such faith in Him.

P. O., Nigeria

I am a 17-year-old full-time minister, and I suffer from a disease that causes acute anemia. My doctor has wanted to prescribe blood, but I am dealing with this problem. I read the article several times, and each time it gave me more courage.

I. L. M., Brazil

Even the death of loved ones has never moved me to the point of shedding tears. But I found myself shedding tears as I read Joshua's experience. His faith, courage, and integrity touched me.

T. M., Zimbabwe

Sleeping With Baby We noted in your July 22, 1994, issue an excerpt reporting Dr. James McKenna's research. ("Watching the World") It suggested that mothers' sleep-

ing with their babies will reduce SIDS (Sudden Infant Death Syndrome). The New Zealand Cot Death study has shown that there is a greatly increased risk of SIDS if the parents have the baby in the bed when they are asleep.

Dr. S. L. T., New Zealand

Thank you for this information. Dr. McKenna recently clarified his position and acknowledged the dangers of accidental infant suffocation when a mother sleeps with her child. (Compare 1 Kings 3:19.) Most doctors therefore discourage sleeping with one's baby and recommend putting an infant to sleep in a crib that has no pillows or thick comforters.—ED.

Bee Versus Computer I simply have to express my thanks for the article "Bee Versus Computer." (February 8, 1995) The article touched me very deeply. Our Grand Creator made even tiny creatures like the bee to be wonderful and unique.

C. K., Germany

Autism Thank you very much for the article "Autism—Meeting the Challenges of a Puzzling Disorder." (February 8, 1995) There is an autistic boy in my congregation, and I have become very attached to him. The article helped me to understand autism. Now I know that I can help out just by spending time with him and his mother.

A. F., Japan

Our daughter is not autistic, but she does have similar traits. We are glad you inform people about the problems many children have. It is so encouraging when people treat such children as human beings worthy of life. Comments such as 'I feel so sorry for you' or 'I could never do what you do' are not up-building. Our daughter is happy, and sometimes our other children put more of a strain on us. We do not regret her birth.

L. H., United States

Will There Be Enough Water?

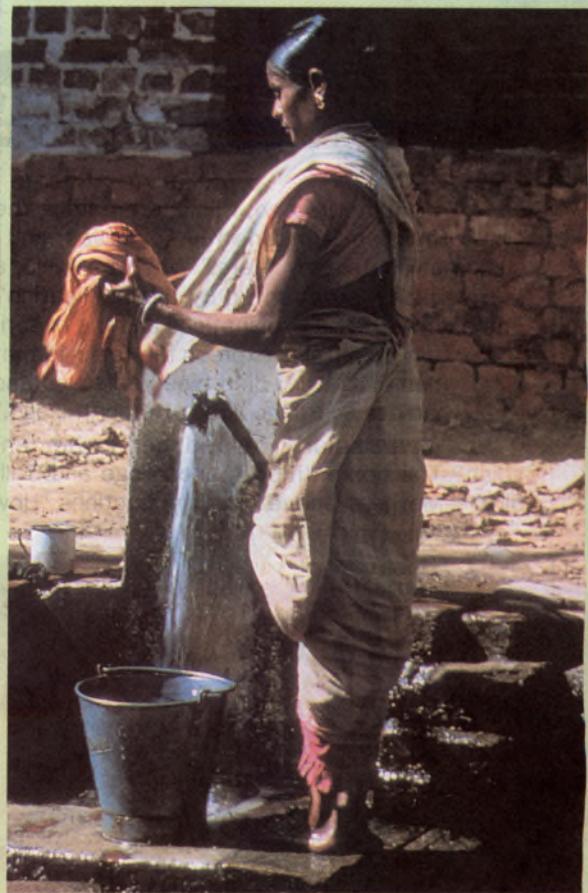
"Only 2% of the total volume of Earth's water is fresh, and 2/3 of that consumable supply is frozen in polar and glacier zones, leaving [less than] 1% as liquid, fresh water."

—*Research and Exploration*, a National Geographic publication.

DO YOU have drinkable running water in your home? Then you are among the more fortunate ones. Millions of people have to fetch their water, often from miles away—and then it is often hardly fit to drink. Others have to congregate at public taps or at trucks to get a meager ration of the precious liquid. *Research and Exploration* stated: "As humans multiply, problems of water utilization and management increase. These problems are most acute in the developing world, where some 1 billion people already find it difficult or impossible to obtain acceptable drinking water." That means that almost 1 in 5 of the world population have grave problems finding usable water.

The seeds of future conflicts are already sown in this shortage of water. One expert said: "An increasingly large number of people will be stuck in history, living in shantytowns where attempts to rise above poverty, cultural dysfunction, and ethnic strife will be doomed by a lack of water to drink, soil to till, and space to survive in."

What can we do individually to use this precious resource wisely? Use it economically and carefully—it is valuable and finite.



1) Don't waste water. Don't have taps running unnecessarily—such as when cleaning teeth or shaving. Don't spend too much time under the shower—assuming you are fortunate enough to have a shower!

2) Don't contaminate water or pollute it. If a polluted river or stream passes near where you live, someone upstream is ruining a vital lifeline for your community. Often the major responsibility for this pollution lies with city authorities, industrialists, farmers, and others who may allow raw sewage and chemical products to flow or leach into streams and rivers.

God, as earth's Creator and Landlord, is entitled to call for an accounting on the way we use our planet. The Bible prophesies that Jehovah will indeed 'bring to ruin those who are ruining the earth.'—Revelation 11:18.

"I Could Not Contain My Tears"

"A few moments ago, I finished reading the brochure *When Someone You Love Dies*, and I could not contain my tears." Why was Alicia, a Mexican lady, so affected by this publication? She answers: "The explanations and the experiences that it contains express the feelings that I had when my father died nine years ago and when I had a miscarriage about 18 months ago."

What particularly helped her in her anguish? The box entitled "Miscarriage and Stillbirth—Mothers Grieve" and the sections "How

Can I Live With My Grief?" and "How Can Others Help?"

Alicia also wrote: "The account regarding Lazarus' resurrection was very touching and reaffirms in a vivid way my faith in the resurrection."—John 5:28, 29.

