

Awake!

MARCH 22, 1981

FEATURE ARTICLES



DOES RELIGION BELONG IN POLITICS?

HOW SURPRISED IN SAVANNAH



FEATURE ARTICLES

Does religion belong in politics? Whether it does or not, in the past it has been very active politically in many nations. The same is true today. Religion's activities in the political arena were particularly prominent in recent national elections. In the United States, in last fall's elections the so-called Electric Church played a significant role.

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WHY THIS MAGAZINE IS PUBLISHED

"Awake!" is for the enlightenment of the entire family. 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 stays politically neutral and does not exalt one race above another. It also shows how to cope with today's problems. Most importantly, "Awake!" builds confidence in the Creator's promise of a peaceful and secure new order within our generation.

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DOES RELIGION BELONG IN POLITICS?

part 1

MANY people are saying that religion should enter politics and "clean it up." Have you heard such talk?

Religion does seem to be getting more active in politics all over the world. Here are some examples:

In GERMANY, a reporter going to confession in 12 different German cities during a recent election was given political advice 11 times out of 12.

In ITALY, the efforts of the pope to repeal Italy's abortion law have created a furor. One member of the Italian Parliament called the pope's activities "a challenge to the sovereignty of our nation."

In JAPAN, religious organizations such as the Soka-Gakkai and Rissho Koseikai have been sponsoring candidates to national office and holding political rallies.

In the UNITED STATES, well-organized fundamentalists helped to engineer defeats for numerous liberal politicians last November.

All this activity has caused many people to ask—

CAN RELIGION REALLY CHANGE POLITICS?

History shows that religion and politics do not always mix well. Consider the mixture of religion and politics in the Inquisition, the Crusades, the Thirty Years' War, and the ongoing war in Ireland, not to mention the recent fighting in the Middle East, which has been called a 'holy war' by both sides.

But surely God is concerned about the problems that threaten to engulf the earth. Does not God want them solved? Of course he does. But—

IS GOD GOING TO SOLVE EARTH'S PROBLEMS THROUGH POLITICS?

If political power could be used to solve earth's problems, why did not Jesus Christ accept such power when on earth? Jesus was the Son of God. The record indicates that he would have made a far better world ruler than any of the Roman emperors of his day. Yet when Jesus was offered world rulership, he refused it. Why? Here is what the record says:

"The Devil took him along to an unusually high mountain, and showed him all the kingdoms of the world and their glory, and he said to him: 'All these things I will give you if you fall down and do an act of worship to me.' Then Jesus said to him: 'Go away, Satan! For it is written, "It is Jehovah your God you must worship, and it is to him alone you must render sacred service.'"'"—Matt. 4:8-10.

Jesus rejected Satan's offer, but he did not say that political power was not Satan's to offer. In fact, on several occasions Jesus referred to Satan as "the ruler of this world." (John 12:31; 14:30; 16:11) So, political power in this world does not depend on God; it depends on the Devil! Did you realize that?

Jesus Christ was not interested in mixing religion and politics. He wanted no part of Satan's political system, no matter how lofty and apparently noble the ends for which it might be used. Servants of God today should feel the same way about political matters, realizing that the 'ends do not justify the means.' As the Bible puts it: "What fellowship do righteousness and lawlessness have? Or what sharing does light have with darkness?"—2 Cor. 6:14.

'But the world is in terrible shape!' say some sincere people. 'If God is against politics,' they ask,

HOW WILL GOD STRAIGHTEN OUT THE WORLD?

A very important question. Ironically, most professed Christians speak the answer to this vital question in prayer but do not realize that they are saying it! The answer is found in the well-known prayer that Jesus taught his followers:

"Thy kingdom come. Thy will be done in earth, as it is in heaven."
—Matt. 6:10, *Authorized Version*.

In other words, God is not using any earthly kingdom to do his will because God prefers to use *his own kingdom*.

Do you really believe that politicians, however sincere, can solve this world's problems? Most realistic people do not. That is why the news that God's kingdom will soon do so should be good news for you, just as it was good news for people in Jesus' day.—Matt. 9:35.

'But who knows when God's kingdom is coming?' people ask. 'Is it realistic to look to it for a solution to the problems of our generation?'

Yes. God's kingdom is the only realistic answer to the problems of our generation. Jesus made it clear that our generation would see the arrival of God's kingdom. If you carefully read Jesus' words at Matthew 24, Mark 13 and Luke 21, you will see for yourself that Jesus had our generation in mind.

By refusing to mix politics and religion you can follow the example of Jesus and can demonstrate your faith in God's kingdom, the only solution to all the problems the politicians cannot solve.

THE ELECTRIC CHURCH TURNS ON

part 2

THE preacher wears no black robes. Instead, he glistens in a three-piece white polyester suit. He presides over no altar, but roams over the multilevel stage of his television "cathedral," bathed in klieg lights. Polished to a mirror finish, with every step outlined in flashing lights, and numerous backdrops constantly changing the scene, the stage itself seems to be the star of the show.

It is time for prayer, but this is no ordinary prayer. The preacher pauses before a table full of letters from his "prayer-key family" and settles down on one knee before the table, hands reverently clasped together. His freshly scrubbed choir takes its place, forming a semicircle behind him. As the preacher prays, the choir hums along, the lips of each member just caressing a microphone, night-club-style.

At the close of the prayer the scene dissolves to a videotaped commercial plugging the preacher's "prayer-key family." It is very professionally done. An elderly woman, obviously devout and lonely, is shown writing the preacher a letter. In the voice-over she tells how her loneliness, and most of her other problems, have vanished since joining the "prayer-key family."

Now we return to the preacher, just in time for his sermon. There is no Bible-waving. The sermon is "cool," in TV jargon, which means the preacher is talking to you as he would if he were in your living room. Again and again he makes the same point. If you want your prayers to be answered you must join his "prayer-

key family." Where does the key fit in? "Prayer is the key," he earnestly intones, "that unlocks the bank of heaven."

This is one example of the attention-grabbing phenomenon in American religion—the Electric Church. Its newly attained sophistication and popularity are sending religious and political shocks through the United States. Its brightest stars are taking in more money than most large American denominations. Who are they? Where did they come from? What do they stand for?

The Electric Church consists of TV preachers who buy their own air time and use it to get contributions with which they buy more air time, and so on. Of course, most TV stations are leery of selling time to a preacher who is only going to dun their viewers, so the preachers have elaborate ways of avoiding the appearance of asking for funds over the air.

What are some of these? They encourage their viewers to write in for a free pin or "prayer key," at which point the

THE theology of the electric church is simplistic and self-gratifying

viewers are put on a computerized mailing list, and then the hard sell begins. Or they offer a televised "counseling service," and those who call for help are later contacted by mail. Computerized mailing has made

the Electric Church a very profitable business. How profitable? Here are some typical figures:

Oral Roberts, former Pentecostal faith-healer, now somewhat toned down as a Methodist, \$60,000,000 a year.

Jerry Falwell, Lynchburg, Virginia, Baptist with a strong political message, over \$50,000,000 a year.

Pat Robertson started the first popular religious guest interview show and now has his own network broadcasting from his new \$20,000,000 headquarters. His Christian Broadcasting Network took in \$70,000,000 last year.

Jim Bakker, formerly associated with Robertson, has started his own guest show, and his network grosses \$53,000,000 a year.

Rex Humbard, with his "Cathedral of Tomorrow" and its spectacular stage, takes in \$25,000,000 or so.

The list goes on and on. All told, the top stars of the Electric Church are able to spend hundreds of millions of dollars to buy air time every year. Where do they get it?

Most of the people who watch the Electric Church are not rich. Benjamin L. Armstrong, who coined the term "Electric Church," explains: "As part of the Electric Church concept, the listener is conditioned to give." Most of those millions of dollars come to the Electric Preachers \$25 or \$50 at a time. Jerry Falwell, for example, may get 10,000 letters in a typical day's mail, over half of which contain contributions.

A prisoner in Pontiac, Michigan, was surprised to receive a computer-written request for \$35. Why? He says: "The machine-printed note explained that a friend of mine, who wished to remain nameless, had . . . requested that a special prayer be said in my behalf on the air . . . The prayer had been said, but my

friend had not responded to the subsequent required 'donation card' that had been mailed. Would I be kind enough to send a check?"

Sometimes the pitch for money is more

EVEN some sympathetic to the electric church admit that it has little content

subtle. "I saw a television show the other day that epitomized my fears about paid religious broadcasts," said one observer. "The preacher put two phone numbers on the screen during the program. One was a toll-free number for those viewers who wanted to make contributions, and the number for people who wanted counseling was not toll-free."

Why the constant demand for money?

One reason is that the Electric Church has been made possible by a great deal of very expensive technology. Most religious broadcasters could never compete with regular network programming for the American mass audience. When a religious program comes on TV, most people, bluntly put, turn it off. The problem for the Electric Church is: How can they reach the dedicated minority of viewers who want to watch religious programs?

The answer? "Revolutions in satellite technology, breakthroughs in computer applications, and the advent of cable TV systems and new over-the-air stations are turning the U.S. into a global village and making it economical to 'narrowcast' to a relative handful of supporters," as *Forbes* magazine points out. "So what if not everyone wants to watch a religious program? . . . TV, like magazines, can now cater to specialized audiences."

The result is a different economics for

the Electric Church. The viewers do not support these programs indirectly by purchasing soap flakes that have been advertised on the show. Instead, they must support the programs directly with their contributions. Soliciting and maintaining those contributions has become a massive computerized operation for most of the stars of the Electric Church. The computer is as vital to the Electric Church as the television tube.

The need constantly to raise money traps Electric Preachers in a boom-or-bust cycle. Big projects, like "cathedrals" or universities or hospitals, are started, followed by desperate pleas to the faithful for more money to "finish God's work." As a local banker said of one Electric Church superstar: "There's only one problem with a ministry like Jerry's. He can't stop raising money; if he does, it all falls apart."

This aspect of the Electric Church may remind thinking Christians of Jesus' words found in the Sermon on the Mount. Jesus pointedly said, "No one can slave for two masters; for either he will hate the one and love the other, or he will stick to the one and despise the other. You cannot slave

"THEY are helping people accept some very shallow values, while promising easy salvation in the most commercial setting"

for God and for Riches."—Matt. 6:24.

With the preachers of the Electric Church constantly in need of vast contributions from their viewers, is it likely that they will risk offending those view-

ers? Hardly. The theology of the Electric Church, not surprisingly, is simplistic and self-gratifying. "Ask not what you can do for your religion; ask rather what your religion can do for you," as *Forbes* put it. Even some sympathetic to the Electric Church admit that it has little content. As evangelical theologian Carl F. Henry observes: "Much television religion is too experience-centered, too doctrinally thin, to provide an adequate alternative to modern religious and moral confusion." In other words, TV religion cannot really help you to solve life's problems.

Instead, as Harvard divinity professor Harvey Cox notes, the preachers of the Electric Church "are merely perpetuating and deepening the values of a materialistic consumer culture. They are helping people to accept some very shallow values, while promising easy salvation in the most commercial setting."

How does that message square with Jesus' warning that the road to life is not easy, but difficult—"narrow is the gate and cramped the road leading off into life, and few are the ones finding it"? (Matt. 7:14) Does that sound as though eternal life can be yours merely by dialing Channel 21?

Consider this further admonition from Jesus Christ: "If any man will come after me, let him deny himself, and take up his cross [torture stake, *New World Translation*] daily, and follow me." (Luke 9:23, *Authorized Version*) Does a person deny himself and take up his "cross" daily propped in front of the TV? Could Jesus Christ really approve of a religion that promises people easy salvation—no torture stake, no self-denial—for just a monthly check to somebody's "worldwide TV ministry"?

Rather, it looks as if the Electric Church is a 20th-century example of what the apostle Paul warned Timothy about when he said: "For there will be a period of

time when they will not put up with the healthful teaching, but, in accord with their own desires, they will accumulate teachers for themselves to have their ears tickled; and they will turn their ears away from the truth, whereas they will be turned aside to false stories."—2 Tim. 4: 3, 4.

Why are people willing to give millions of dollars to support the Electric Church? Because they are being told what

THE ELECTRIC CHURCH SHOCKS AMERICAN POLITICS

part 3

THE speaker was impassioned and dynamic. Waving his Bible at a group of 1,000 ministers' wives, he declared: "We've got the answer to the political chaos in the country, to the economic ruin, to the moral shame and to the weakness of the family."

What was the answer? "We've got to unite our hearts and hands together to put this nation back together . . . We've got to demand a turnaround," said Texas preacher James Robison.

In language that would appeal to many sincere Christians, he scathingly denounced abortion. "If the mutilated massacre of the unborn in the wombs of their mothers is not wicked, then man can be found guilty of no sin ever."

Meanwhile, across the country another speaker, equally eloquent, was giving advice to a roomful of his colleagues. "What can you do from the pulpit?" he asked. "You can register people to vote. You can

they want to hear. They are assured that God will answer their prayers. They do not have to deny themselves or 'bear a cross' or do the work Christ did, but they are "saved" and God loves them—just as long as they keep those checks coming in.

However, even if the theology of the Electric Church is vague and imprecise, its politics are clear and specific. That is the subject of the following article.

explain the issues to them. And you can endorse candidates, right there in church on Sunday morning." Like Robison, Jerry Falwell—superstar of the Electric Church—was campaigning energetically for political issues.

A lot of people listen to what these preachers say. James Robison's weekly TV program is carried by 100 stations. Falwell's show is even more popular. Every week he reaches between 6 million and 18 million people on nearly 400 TV channels and another 400 radio stations.

Such politically conservative preachers of the Electric Church were eager to influence voters in the American elections last fall. Not long before the elections some of them spoke at a National Affairs Briefing in Dallas, Texas, which was attended by some 15,000 religious fundamentalists, mostly ministers. Republican candidate for president, Ronald Reagan, also addressed the group and praised it,

saying: "Religious America is awakening. Perhaps just in time for our country's sake." He was warmly applauded.

Of course, Reagan went on to win the election in what has been called a "conservative landslide." The religio-political action group, the Moral Majority, claimed a share in that victory, saying it had registered some 4 million voters during the campaign, most of whom voted for Reagan. Significantly, many of the senators opposed by the Moral Majority and similar groups lost their seats to relatively unknown politicians.

Surveying the Senate races, the *New York Times* commented that "the Moral Majority, Christian Voice, and other conservative, church-oriented groups played an active role with 'morality ratings' that were weighted against liberals. No matter how many members of Congress they helped to elect, their effect is expected to continue to be felt because of the number of incumbents whom they badly frightened."

One preacher was jubilant, calling the results "the greatest day for the cause of conservatism and American morality in my adult life." Others were less pleased. The Episcopal Bishops of America issued a pastoral letter condemning the endorsement of political candidates by preachers. The bishops claimed that such endorsement "in the name of God distorts Christian truth and threatens Americans religious freedom."

Other preachers are also concerned about the politics of the Electric Church. A Fort Worth minister objected that while gatherings like the National Affairs Briefing are billed as nonpartisan, they "always seem to turn into a Republican rally." Even conservative politicians have expressed concern, one Reagan aide saying that "this marriage of religion and politics is the most dangerous thing, the creepiest thing, I've ever seen."

None of these critics faze activists such as the one who admits that "fifteen years ago I opposed what I'm doing today, but now I'm convinced this country is morally sick and will not correct itself unless we get involved."

These preachers are quick to point out the apparent hypocrisy of liberal clergymen who were politically active against the Vietnam war or nuclear energy, but who denounce similar activism from conservatives. "Nobody's ever accused the National Council of Churches of mixing religion and politics," complains one of them, adding that when he gets involved, "that's violating separation of church and state."

By the end of the election campaign, it was clear that American religious leaders were sharply divided. Liberal religious leaders claimed that conservative preachers wrongly implied that people who did not agree with them were not Christians. The National Council of Churches, an object of the ire of these conservatives, issued a statement that "there can be discerned no exclusively 'Christian vote.'"

The conservatives, on the other hand, were convinced that they were on a mission from God to turn the country around morally, and that their liberal fellow clergymen were part of the problem. Indeed, when the Moral Majority decided that a Baptist minister who had served in Congress for 16 years was too liberal, they helped to organize some 2,000 volunteers to go from door to door in favor of the minister's opponent. "It was the Moral Majority movement that very quietly, but very effectively, covered my district like a tent," admitted the preacher, who was defeated in the primary election.

There is no doubt that many of the politically active preachers of the Electric Church are deeply concerned about the rising tide of immorality in America and the world. Most of them feel strongly that

a nation that tolerates abortion cannot have God's approval, and any sincere Christian would have to agree. They believe that a national lack of interest in the Bible has contributed to the moral breakdown we see today. In a TV sermon one of their leaders said: "We must all study the Bible and learn to believe in God. It is vital that we follow His teachings so that we will have the strength to fight back against the immoral and blasphemous forces that are taking over politics and the media."

What Christian would deny that we must study the Bible and believe in God? The question is, Does God teach us in the Bible to "fight back" for control of politics and the media? Is that the message God's Word contains for our generation?

You may recall that Jesus Christ had more than one opportunity to exercise political power, but never chose to do so. When people saw that he could feed them miraculously they sought to make him king, doubtless thinking that their economic problems would be solved. The account relates that "when the men saw the signs he performed [feeding about 5,000 men with only five loaves and two fishes], they began to say: 'This is for a certainty the prophet that was to come into the world.' Therefore Jesus, knowing they were about to come and seize him to make him a king, withdrew again into the mountain all alone."—John 6:14, 15.

Jesus did not seek political power; he ran from it! Why should he wish to become embroiled in the dirty politics of Judea and Galilee? As Jesus later pointed out to Pontius Pilate, "My kingdom is no part of this world." (John 18:36) If Jesus' kingdom was not of this world when he was on earth, is it now of this world just because Jesus is in heaven? That would not be logical, would it?

Jesus knew that he could not reform the

corrupt politics of his day, and he did not try. He knew that if he had become a political messiah promising freedom from Roman oppression, he would only have been used by various interest groups, such

MANY of the senators opposed by the Moral Majority lost their seats to relatively unknown politicians

as the Jewish nationalist Zealot party, and then he would have been discarded. None of this would have brought any glory to his Father, Jehovah God.

Is it likely that Jesus is interested in reforming the equally corrupt politics of our day? Or is it more likely that preachers who enter politics are themselves liable to be used and corrupted by the experience? It is significant that the Moral Majority was not any preacher's idea. The idea, and even the name Moral Majority, came from a group of conservative political lobbyists who persuaded Mr. Falwell to back the organization because of his nationwide popularity, his vast computerized mailing list, and his proved ability to raise money. Even well-known Electric Church star Pat Robertson, host of *The 700 Club*, admits that "the evangelists stand in danger of being used and manipulated."

Was it not this very manipulation that Jesus sought to avoid when he refused Satan's offer of "all the kingdoms of the world and their glory"? There was a string attached to that original offer that remains attached today. Satan asked Jesus to "fall down and do an act of worship to me." (Matt. 4:8, 9) Political power is

available to the ministers of the Electric Church. All they have to do for it is to continue to go along as a part of this world's political system under Satan.—John 14:30; 15:19; 2 Cor. 4:4.

No doubt fourth-century apostate Christians rejoiced when, after so much persecution, political power came their way under Emperor Constantine. But what did that power do to them? "Almost immediately after the Christians of the Empire received legal status the leading churchmen began to give the magistrates advice on how to conduct themselves in office," notes theologian Robert Culver. Soon the Church was fully drawn into Roman politics, fighting wars and torturing its enemies. Was political power worth the price? Or had Satan simply used it to entice the Church to abandon the precepts of Christ?

Suppose that the preachers of the Electric Church, however good their intentions, were to attain the same degree of political power as those early churchmen. Would they be able to resist the corrupting influences of Satan's political system? History does not indicate that they would. Indeed, in his limited political activity to date, one of them has publicly admitted

dent's staff. "I shouldn't have said it," he admitted. "Obviously it was a reckless statement."

Those who are trusting in politics are ultimately trusting in *politicians*, imperfect men, to solve their problems. The Bible simply does not indicate that men have that capacity. As Jeremiah, no stranger to the corrupt politics of preexilic Jerusalem, observed: "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."—Jer. 10:23.

The irony of trusting in politicians—of hoping that some are more moral than others because of their positions on political issues—was underlined by the scores on the "morality report" of *The Christian Voice*. Impressive scores of 94 out of 100 points were obtained by one congressman who had been indicted on bribery charges, and by another who admitted to alcohol problems and homosexual compulsions!

The Bible gives solid, realistic advice when it says, "That which is made crooked cannot be made straight." (Eccl. 1:15) The political systems of this world are inherently crooked. Their chief power broker, Satan, is "a liar and the father of the lie." (John 8:44) Neither history nor the Scriptures indicate that mankind will ever solve its problems through politics, despite all the good intentions in the world.

Does that mean that there is no hope for mankind? Do we have to resign ourselves to spiritual death in a flood tide of filth and immorality? Is there nothing that can be done about abortions, homosexuality, teenage sexual promiscuity, children being used for pornography, and rising divorce?

Something can, and will, be done about all these problems—and soon! Read about it in the next article.

"THIS marriage of religion and politics is the most dangerous thing, the creepiest thing, I've ever seen"

resorting to an age-old tactic of the Devil—deception. He was forced to acknowledge that he had fabricated a conversation with the president of the United States about alleged homosexuals on the presi-

THE ONLY HOPE FOR PERFECT GOVERNMENT

part 4

EVEN before the American presidential election was over, some leaders of the Electric Church expressed concern that their candidate, if elected, might not keep his promises to them."

How different it is with God, who cannot lie!—Heb. 6:18.

END OF POLITICS UNDER CHRIST'S RULE

"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."—Dan. 2:44.

END OF WAR

"He is making wars to cease to the extremity of the earth."—Ps. 46:9.

END OF MURDER, HOMOSEXUALITY, PORNOGRAPHY

"Do not be misled. Neither fornicators, nor idolaters, nor adulterers, nor men kept for unnatural purposes, nor men who lie with men, nor thieves, nor greedy persons, nor drunkards, nor revilers, nor extortions will inherit God's kingdom."—1 Cor. 6:9, 10.

END OF PAIN AND SUFFERING

"He will wipe out every tear from their eyes, and death will be no more, neither will mourning nor outcry nor pain be anymore. The former things have passed away."—Rev. 21:3, 4.

PERFECT JUSTICE ON EARTH

"He will not judge by any mere appearance to his eyes, nor reprove simply according to the thing heard by his ears. And with righteousness he must judge the lowly ones, and with uprightness he must give reproof in behalf of the meek ones of the earth."—Isa. 11:3-5.

TO COME IN OUR GENERATION

"The disciples approached him privately, saying: 'Tell us, When will these things be, and what will be the sign of your presence and of the conclusion of the system of things?' And in answer Jesus said to them . . . 'Nation will rise against nation and kingdom against kingdom, and there will be food shortages and earthquakes in one place after another. And this good news of the kingdom will be preached in all the inhabited earth for a witness to all the nations; and then the end will come. Truly I say to you that this generation will by no means pass away until all these things occur.'"—Matt. 24:3, 4, 7, 14, 34.

MICROWAVES

-HOW DO THEY WORK?

YOU cannot see it or smell it or touch it, but it is all around you. Some environmentalists call it "electronic smog," and one United States government agency warned that the levels Americans are exposed to every day without even being aware of it may be dangerous. It is not a local problem.

According to a U.S. government report, man may be entering "an era of energy pollution of the environment comparable to the chemical pollution of today." It warns that the "consequences of undervaluing or misjudging the biological effects of long-term, low-level exposure could become a critical problem for the public health, especially if genetic effects are involved."

What they are warning about is microwave radiation. But what are microwaves? How do they work? What can they do to you? How dangerous are they?

What They Are

Microwaves are a form of electromagnetic energy, or radiation. In frequency (rate of vibration) and wavelength, microwaves fall in the electromagnetic spectrum between infrared rays and radio waves.

There are two kinds of electromagnetic radiation: ionizing and nonionizing. Ionizing radiation includes, at one end of the spectrum, X rays and gamma rays. Nonionizing radiation, which makes up the rest of the spectrum, includes ultraviolet light, visible light, infrared rays and radio waves. (And it is between the latter two that we find "microwaves.") The terms ionizing and nonionizing denote an important difference.

Ionizing radiation is capable of dislodging electrons from atoms, creating electrically charged, highly unstable, and chemically reactive atoms called ions. In other words, ionizing radiation invariably damages cells of living tissue and can cause genetic mutations. Any exposure to this kind of radiation, however slight, involves some degree of risk.

Microwaves, on the other hand, are nonionizing energy. They are much less powerful in effect and do not have sufficient energy to dislodge electrons from atoms, which is why man has felt relatively free to utilize this form of energy for its beneficial advantages.

What They Are Used For

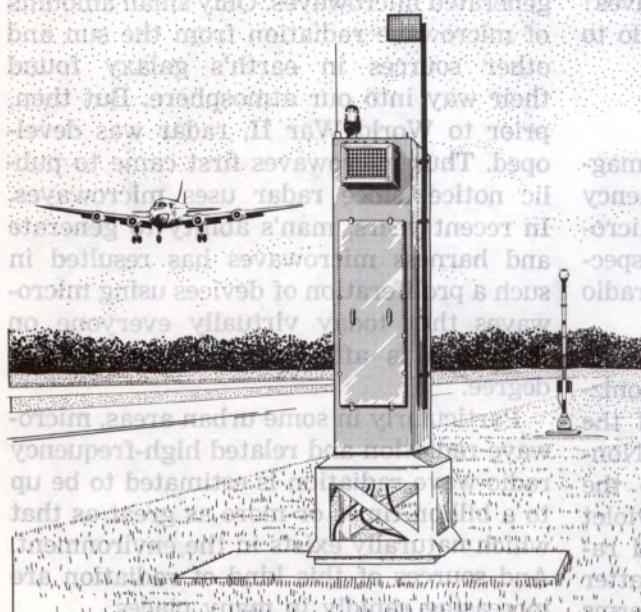
About 50 years ago there were no man-generated microwaves. Only small amounts of microwave radiation from the sun and other sources in earth's galaxy found their way into our atmosphere. But then, prior to World War II, radar was developed. Thus microwaves first came to public notice, since radar uses microwaves. In recent years, man's ability to generate and harness microwaves has resulted in such a proliferation of devices using microwaves that today virtually everyone on the earth is affected by them to some degree.

Particularly in some urban areas, microwave radiation and related high-frequency radio-wave radiation is estimated to be up to a billion times or more as great as that which naturally exists in the environment. And sources of this kind of radiation are increasing rapidly in many places.

Almost all airports now have radar navigational systems, which use microwaves.

Also, police radar operates on microwave frequencies. But in addition to radar, ultra-high-frequency television signals are also transmitted by microwaves. Long-distance phone calls can go from city to city as microwave radiation. Microwave ovens are increasingly popular. Computers in one city are able to transmit data to computers in another city via microwaves. Broadcasting, surveillance, and communications satellite systems utilize microwaves, as do some air-pollution-monitoring systems. Motorist-aid call boxes along highways work because of microwaves. Many burglar-alarm systems use them, as do some automatic garage-door openers.

The military, by far the largest users of microwave devices in today's world of electronic warfare, employ microwaves for such things as tracking and scanning radar, guidance systems for nuclear missiles and antimissile missiles, range finders for tanks, and for eavesdropping.



Airports now have navigational systems that use microwaves

The medical world has its own uses for microwaves: for sterilization, for experimental use in cancer treatment, to retard tumor growth, and in diathermy machines, which heat body tissues for treatment of such ailments as bursitis, arthritis, and muscle aches and sprains. An estimated two million people in the U.S. alone are treated with these machines annually.

Industry uses microwaves to dry potato chips, to roast nuts, beans and coffee, to raise bread and doughnuts, and to pre-cook bacon. They are also used to dry yarn, wood, paints, paper, leather, tobacco, pencils, textiles, match heads, and to cure rubber, nylon, urethane, and rayon. Many companies, such as banks, newspapers, and airlines, now use cathode-ray-tube video display units, called VDT's, which employ microwaves.

Projected uses of microwaves include a vast outer-space satellite power station to collect solar energy, convert it to microwaves, and beam them to the earth. Here on earth the microwaves would be converted into electricity. Another projected use is in a radar braking system for cars, which could beam microwave radiation ahead of a vehicle, sense an imminent collision, and activate brakes automatically.

Truly microwaves have a tremendous impact on our lives, and yet very few of us really know *how* they do what they do.

How Do Microwaves Work?

Since microwaves are basically just energy, their uses are varied. With radar, for example, microwaves are focused into highly directional beams and aimed at a target in short bursts or pulses. Microwaves are reflected by electrical conductors such as metal, so

the microwaves beamed at the target, say, an airplane, are bounced back to the sender. The time lapse between the sending of the signal and its return makes it possible to measure the distance to the target, remembering that microwaves travel at the speed of light. Comparison of the time lag at two different heights makes it possible to calculate the altitude of the target.

The reason the energy can be used in microwave ovens to cook food is simple: though metals reflect microwaves, foods absorb them. So a metal box, the oven, reflects the beams of microwaves, which bounce around inside the oven until they hit the food. Then they are absorbed into the food and cause the moisture molecules of the food to vibrate rapidly, at two and a half billion times a second. This friction results in heat, and this heat does the cooking. In effect, the food produces its own heat.

In a microwave oven very little of the energy goes to waste heating the oven or the air within it, as happens in conventional cooking. Also, very little goes to waste heating the cooking containers because in microwave cooking you use glass, paper, or plastic, all of which simply allow microwaves to pass through them, neither absorbing nor reflecting them. So when a small amount of food receives the full brunt of the microwaves' power, it cooks very quickly.

For example, in a conventional oven, a baked potato might require from 45 to 60 minutes to cook. In a microwave oven, one potato might be cooked in approximately 2½ to 6 minutes, depending on the size of the potato and the make and model of the oven. If two potatoes are cooked, it may increase the cooking time to 5 to 12 minutes. The increase in cooking time is due to the microwave energy being divided two ways instead of the full amount being absorbed by one potato. This marked

speedup of cooking times when using microwave ovens represents their principal appeal.

There are many millions of these ovens in use in the United States. In 1975, for the first time, sales of microwave ovens exceeded the number of gas ovens sold. It is predicted that one half of all homes in the U.S. will be cooking with microwaves by 1985. In Japan, their popularity is even greater; 17 percent of all homes there did their cooking by microwaves as reported for the year 1976, compared with 4 percent of the homes in the U.S. the same year.

Microwave ovens were first marketed to the general public in the U.S. in 1967, with only 10,000 ovens sold that first year. But sales have skyrocketed phenomenally since then. It is a growth, some say, that has burst on the scene without a complete understanding of the effects microwaves can have on the human system.

Because of this growing concern, in the mid-1970's the U.S. began extensive research studies into the potential risks involved in exposure to low-level microwave radiation and the validity of current Western safety standards. The results of some of this research are beginning to become available, and some scientists have begun expressing serious concern. Why? What are they discovering? These are questions we will examine in a future issue of *Awake!*

In Future Issues

■ **Children—A Blessing or a Heartache?**

■ **Killer Whales Not All That Bad**

■ **What's This World Coming to?**

Skills Replace Frills

TERRENCE Swilley was dismissed from Chicago's public schools as unteachable. In his first year of high school he had a straight F average. The school board placed him in a private inner-city school for grades 1 through 12. Mr. Swilley graduated from that school with a straight A average, a member of the National Honor Society, and he is now studying engineering at the Illinois Institute of Technology.

That private school is in Chicago's South Shore neighborhood, its student body is all black, and it is only one of several schools established in impoverished communities to show that poverty need not inhibit learning. Its curriculum has shifted from the usual experimental enrichment programs to the basic skills of reading, writing and mathematics. It stresses discipline and self-respect. Its founder, after teaching for years in inner-city schools, decided that an important need of the children was not being met, namely, their acquiring self-respect and self-esteem. Everyone needs to respect himself, and needs to meet certain standards to merit that respect.

Another school that has replaced frills with the teaching of basic skills is the Beasley Academic Center. It is a public elementary school in a school district that includes the poorest community in the city of Chicago. Beasley was organized in 1978 by Dr. Alice Blair, who said: "I wanted to demonstrate that children from communities such as Robert Taylor Homes [a housing project] could achieve if people really cared. I wanted to dispel the notion that, because youngsters are poor or come from poverty homes they cannot achieve." She has succeeded. In two years the school's 1,200 pupils have excelled in reading and mathemat-

In some schools at least, and the results are gratifying

ics. In these subjects they rank third among some 600 of the city's elementary schools. They are well above the national average for students of their age.

The school's philosophy is, "Students must do well." It is expected of them, and they meet these expectations. Parents are involved. They are required to sign pledges that the assigned homework will be done and that they, the parents, will be responsible for discipline. Students must learn one poem a week. They hear it in good English, practice it at home in good English before their parents, and recite it before the class in good English.

In New York city, private schools that have cracked down on the frills are stressing the basic skills—the easy electives are de-emphasized. There is a return to stricter discipline and more stringent dress codes. Special student smoking lounges have been closed, tardiness and cutting classes are penalized, free periods are now structured with study halls, and students are no longer allowed to leave school at will during the day. "There was a philosophy to let the child find his own way," the headmaster of one school said. "I think it has proved not to be so successful." In many cases the demand for these private schools to return to the traditional, conservative methods came from parents.

Dr. Ronald Edmonds, chief instruction officer of New York City public schools, said that "the evidence is overwhelming that school districts all across the country" are moving in this direction. "In the past five years," he said, "there has been a virtual avalanche of state action from Oregon to Florida in which legislatures in nearly 40 states have taken action that imposes competency standards and tests to measure competency on public schools."

CHILDREN, INNOCENT VICTIMS OF DIVORCE

"...But after I prepared my life for the office I was definitely writing it off as a divorce... But I guess I left part of it I had survived."

"AFTER Dad moved out, Mom went to work, and my brothers and I pretty much had to raise ourselves. We got used to coming home to an empty house. In fact, we'd invite our friends over to get 'stoned' after school. As I got older, I thought about marriage, but I didn't have the slightest idea what would make a marriage succeed or fail."

—Rob (parents divorced when he was nine).

"Dad tried to raise us and be strict, but

he didn't know how to talk to us, and he was usually too tired to try. I had to find out the facts of life on my own. I was married at 17, and divorced a few years later, with a lit-

tle baby. My husband and I could not communicate at all."

—Mary* (parents divorced when she was seven).

These are the comments of children who became victims of a worldwide surge in marital breakups. In the Soviet Union 30 out of 100 marriages fail. Japan averages a divorce every four minutes. The number of divorce petitions in Britain has increased fivefold since 1961. In the United States, about half of all marriages end in divorce.

Unhappy mates may look upon divorce as a way to solve their problems, but what is it doing to their children?

*Her name has been changed at her request.



What is the solution?

There is mounting evidence that family unhappiness is causing children emotional problems ranging from bed-wetting and poor grades to severe depression. In Britain, where 200,000 children watch their parents split up yearly, a schoolmaster says, "I have not met a problem pupil who has not experienced a disturbed family background."

But what if husband and wife are always fighting? Wouldn't it be better for the children if their parents got a divorce?

When a child sees his family splitting up, he feels his world is shattered

Psychology Today magazine answers that a recent five-year study of over 100 'children of divorce' revealed that divorce is *not* good for children. Even children in very unhappy homes did not want their parents to get divorced. Indeed, five years after the divorce most of these children were not happy, and over one third were seriously depressed. Why?

Experts agree that when a child sees his family splitting up "he feels his world is shattered." Young children may even conclude that the whole thing is their fault, that Daddy went away because they were bad. This can give rise to severe emotional problems. "I thought maybe I'd acted mean to my mother and my sister and I was being punished by God," said one little girl regarding her parents' divorce.

Divorce almost always creates financial strain, especially for the parent with custody of the children. The situation is even worse if the parent must move and the child suddenly loses his friends and neighborhood as well as one of his parents. Prob-

lems that children have at this time can affect them years later.

"I lived with Mom for a while after the divorce," says Mary. "But she had to work nights just to make enough to support us. She tried to be a good mother, but often she could only give me some money to buy candy for my brothers and sister and then leave us alone. You know, that's about how I wound up treating *my* little daughter. I guess I felt that if I had survived, she could too."

Mary feels that her treatment as a child of divorce affected her later as a wife and mother. Is her case unusual? Apparently not.

Extensive surveys indicate that children of divorce, when grown, are more likely to have marital problems than are children of intact families. As adults, they are also more likely to be bothered by crying spells, insomnia, feelings of worthlessness, guilt, and despair, say psychologists. In view of this, how valid is the popular notion that children settle down within a few years after divorce and become happier than before?

If the mere fact of divorce is enough to shatter a child's world, what happens when the legal arguments regarding hostilities enter the picture?

"I'd like to see us get divorce out of the court system," says an Atlanta judge. "Once divorce gets into the court system, lawyers take adversary postures and want to fight." Such fighting can create needless bitterness for parents and children.

One woman wrote: "My lawyer wants me to bring an action against my husband to remove him from the house to change all the locks on the doors and claim that my husband is dangerous and violent. My husband does not really act that way, but my lawyer says it would look better for me for the final settlement if I do this. He says it's done all the time. I know it would upset my children."

ts Of course, not all lawyers give that kind of advice. Nevertheless, as the judge pointed out, the very "adversary" nature of many legal systems encourages such tactics. Hence, one Atlanta attorney simply refuses to take divorce cases to court, offering instead to act as a mediator—but he is an exception.

What about the new "no-fault" laws? Are they not supposed to take the fighting out of divorce? They are not working out that way. Now, instead of fighting about who caused the marriage to break down, lawyers fight over money and the children.

If children are pressured or bribed to take sides in custody fights, they can suffer real damage. When a 13-year-old girl was allowed by the courts to choose which parent she wanted to live with, she be-

If children are pressured or bribed to take sides in custody fights, they can suffer real damage

came "totally confused." Worse still is the plight of the estimated 25,000 children who are kidnapped every year by their own parents in custody disputes. Such parents may "go underground" with their children, refusing even to enroll them in school for fear they will be caught as kidnappers.

Some people feel that joint custody is the solution, but this results in children being shifted from one home to another "like shuttlecocks," according to one British school official, causing them to become disoriented. The official added, "I am convinced that this is more upsetting to the child than the previous divorce pattern."

If the children are having difficulty adjusting to their new circumstances, might

this be solved by taking them to a counselor or a psychologist? University of Rochester professor Christopher Lasch writes in a recent book that the rise of such 'helping professions' has done more harm than good—reducing the family to the role of a passive 'consumer of advice.' "The only solution is to persuade people they're actually able to solve their own problems," he says.

Illustrating the danger in some current psychological theories is the case of a New York City clinical psychologist and divorced father. When his ex-wife remarried, with her having custody of their son, the father dropped out of his son's life. Why? His theories dictated that "non-interference on my part would be beneficial to the boy in that he wouldn't be conflicted with split loyalties." The result? "Apparently my misguided altruism, despite considerable research in the professional literature, has worsened matters to a horrendous degree." His son was arrested for auto theft.

What that boy really needed was a father who would show genuine interest in him. If this expert had done more of his research in mankind's oldest and most widely circulated guide to human behavior, he might have found this statement: "A son is wise where there is a father's discipline, but the ridiculer is one that has not heard rebuke."—Prov. 13:1.

The above statement is found in the Bible. Whether you believe that the Bible is God's Word or not, you likely know that it has been looked to for advice about family life for thousands of years. Theories on marriage and divorce have changed again and again over the years, but the Bible continues to provide practical solutions for people in every situation of life.

Perhaps you always thought of the Bible as an "other-worldly" book for religious people. It may surprise you to hear it described as a guide to human behavior

or a practical guide in marital matters, but why not look into it for yourself? That's what Rob and Mary, 'children of divorce,' have done, along with thousands of others. "The Bible has given me tremendous insight into how to make a marriage work," says Rob. "It has given me a lot of confidence I didn't have before."

What does the Bible say that is so different?

Good Advice About Marriage and Divorce

For one thing, the Bible gives people *a view of marriage* that can help them to avoid divorce altogether. It states clearly that God is the Author of marriage and that he regards it as something worth preserving.—Gen. 2:21-25; Matt. 19:3-6.

By contrast, modern "experts" often speak of marriage as a social convenience. One such psychologist, himself divorced, stated: "So long as two people find contentment built around a happy relationship, they are willing to keep things the way they are. But when this feeling has changed because the relationship is frustrating and no longer conducive to happiness, productiveness, and the satisfactory nurturance of the children, then I see nothing wrong with dissolving the marriage." What fruitage has this viewpoint borne?

"My first husband and I never really worked to keep our marriage together," admits Mary. "We couldn't talk things out. When problems came up, it was easy for me to think of getting a divorce instead of fighting to save the marriage." After studying the Bible with Jehovah's Witnesses, Mary remarried with a different viewpoint. "I'm extremely happy with my marriage," she says, and it shows in her face. "My husband has made it a major goal to have a good family life, and so have I. Sure, it takes work, but knowing how God feels about our marriage makes

us want to keep it in good shape, and that has made all the difference."

Can the Bible Help You?

Many millions of people are not happy with their marriages today and are considering divorce at this very moment. They see divorce as the only solution to their problems, the only way out of an unhappy life-style. But is it?

No, there is a better way. A way that will result in lasting happiness for both the marriage partners and their children, without the tangled problems and difficult side effects of divorce. What is it?

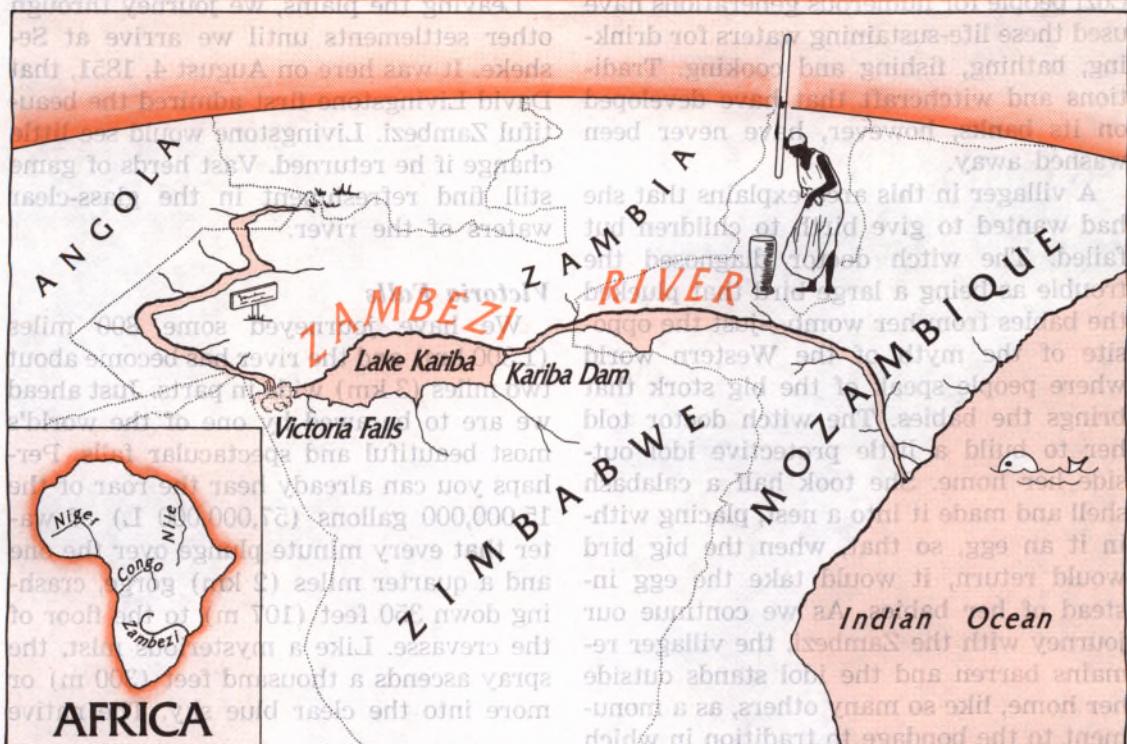
Applying the Bible's counsel to save the marriage.

Perhaps you think this is impossible, but as Jesus Christ said, "all things are possible with God." (Mark 10:27) Jehovah's Witnesses are happy to provide Bible-based help free of charge to all sorts of persons with marital problems. They can cite numerous cases of marriages on the rocks that were saved with the aid of the counsel in the Bible. A right view of marriage is indeed possible, along with the practical advice on family life needed to make such a marriage a successful reality. If you are having trouble in your marriage, why not contact Jehovah's Witnesses and give God's Word an opportunity to help you?

MARRIAGES BASED ON THIS KIND OF LOVE NEVER FAIL

"Love is long-suffering and kind. Love is not jealous, it does not brag, does not get puffed up, does not behave indecently, does not look for its own interests, does not become provoked. It does not keep account of the injury. It does not rejoice over unrighteousness, but rejoices with the truth. It bears all things, believes all things, hopes all things, endures all things. Love never fails."—1 Cor. 13:4-8.

THE MIGHTY ZAMBEZI



By "Awake!" correspondent in Zimbabwe

THE place is the undulating countryside of Africa, about 5,000 feet (1,500 m) above sea level in northern Zambia. There an unusual birth takes place—that of the mighty Zambezi, the fourth largest river of Africa, after the Nile, Congo and Niger.

Waters issue from a black, marshy bog and gather together into a tiny stream. Then, like a mischievous little boy, the stream bounces, tumbles, leaps and romps over rocks. As it grows larger it develops power, energy, majesty and, finally, winds its way to be swallowed up in the Indian Ocean.

The mighty waters of the Zambezi have served people for thousands of years and played a vital part in the growing pros-

perity of the peoples of Central Africa. Energy from these waters, now arrested at Kariba Dam, is being used to industrialize and modernize the lives of thousands of people and light up a once-dark continent.

Upper Zambezi

Would you like to get acquainted with the 2,000 miles (3,200 km) of this river from its source to the Indian Ocean? In the 1850's the Scottish explorer David Livingstone did just that, but you will not need to battle fever, tsetse flies and mosquitoes as he did.

Just 20 miles (32 km) from the river's source, the Zambezi is already strong and vigorous and some 15 yards (14 m) wide.

Building up strength and volume from its many tributaries, it pushes its way down to the Barotse Plain. It is here that the Lozi people for numerous generations have used these life-sustaining waters for drinking, bathing, fishing and cooking. Traditions and witchcraft that have developed on its banks, however, have never been washed away.

A villager in this area explains that she had wanted to give birth to children but failed. The witch doctor diagnosed the trouble as being a large bird that plucked the babies from her womb—just the opposite of the myth of the Western world where people speak of the big stork that brings the babies. The witch doctor told her to build a little protective idol outside her home. She took half a calabash shell and made it into a nest, placing within it an egg, so that, when the big bird would return, it would take the egg instead of her babies. As we continue our journey with the Zambezi, the villager remains barren and the idol stands outside her home, like so many others, as a monument to the bondage to tradition in which so many here are still held.

We call the Zambezi a river, but in February, March and April you would think it was a large lake with water stretching as far as the eye can see.

The waters rise as much as 40 feet (12 m) during the rainy season. Every year as the waters rise, thousands of villagers go to higher ground and take part in the "Kuomboka" ceremony. The paramount chief in his royal barge is paddled over to his summer palace, accompanied by a thousand voices in traditional song.

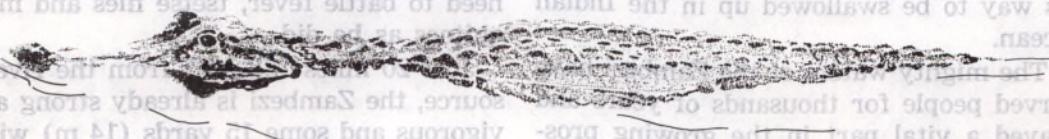
The 1850's the Scottish explorer David Livingstone did just that, but you will not need to paddle far to find some of the same scenes, if you travel along the Zambezi River.

Rhythmically dancing, thousands of the Lozi people greet the paramount chief upon his arrival.

Leaving the plains, we journey through other settlements until we arrive at Sesheke. It was here on August 4, 1851, that David Livingstone first admired the beautiful Zambezi. Livingstone would see little change if he returned. Vast herds of game still find refreshment in the glass-clear waters of the river.

Victoria Falls

We have journeyed some 800 miles (1,300 km) and the river has become about two miles (3 km) wide in parts. Just ahead we are to be awed by one of the world's most beautiful and spectacular falls. Perhaps you can already hear the roar of the 15,000,000 gallons (57,000,000 L) of water that every minute plunge over the one and a quarter miles (2 km) gorge, crashing down 350 feet (107 m) to the floor of the crevasse. Like a mysterious mist, the spray ascends a thousand feet (300 m) or more into the clear blue sky. The native



**Swimming
is Suicide**

people here call it *Mosi oa Tunya* (the smoke that thunders).

David Livingstone is said to have discovered these falls in 1855, naming them after Queen Victoria of England.

Although the average flow of water is 15,000,000 gallons (57,000,000 L) a minute, 159,000,000 gallons (602,000,000 L) have been recorded in the wet season. With this much water, in one minute you would have enough to give 10,000 people a good-sized bath every day for four years.

Do you see those signs on the bank of the river? "Swimming is Suicide." Yes! Water so beautiful and crystal clear, and yet you dare not swim in it for fear you might find yourself legless or lifeless, a victim of the crocodile, the hidden danger in the depths of this beautiful river.

Batoka Gorge and Lake Kariba

This huge river suddenly finds itself confined to a narrow gorge that snakes its way through the Central African plateau. The water level never drops below 50 feet (15 m), and during the rains it increases to over 100 feet (30 m). We travel 60 miles (97 km) through this Batoka Gorge named after the Batoka people. The area is desolate, uninhabited, with wiry, dry shrubbery growing over the cliffs. Twenty-three miles (37 km) from the Victoria Falls the river has worn itself 800 feet (244 m) deep into the rocks.

We are now entering Lake Kariba, one of the largest man-made lakes in the world. It stretches 160 miles (256 km) ahead of us. In the years following 1958, with the construction of the dam and the resultant rising waters, some 50,000 Tonga people left their homes to find new settlements.

This huge lake has now become a rich source of food for the people. In just one 14-week fishing period over 1½ million pounds of fresh and dried fish were produced, excluding local consumption.

Leaving the dam through a narrow gorge 14 miles (23 km) long, we enter a veritable paradise of rich, green, lush vegetation. Buffaloes, hippos, elephants, hyenas and birds of every description have made their homes here, inaccessible to the thrill-seeking hunter.

Middle Zambezi to the Indian Ocean

We are now in the middle Zambezi and the hard, rocky terrain has given way to the beautiful Chicora Plains, where the river continues to meander for 60 miles (97 km). It is picturesquely framed by a narrow belt of rich evergreens.

The calm and quiet of this part of our journey is suddenly broken. No doubt you can hear the crashing of millions of gallons of water racing and gamboling over the rocks and boulders of the Kebrassa Rapids.

The next gorge is known as Lupato Gorge, some 4,000 feet (1,220 m) below the surrounding barrier hills. As if with a final surge of energy, from this point the river races wildly over jagged rocks. Churning, foaming, boiling, it crashes on relentlessly. As the river roars out of the gorge, though, it soon changes its pace. As if spent, it quits the race and now glides on with majesty, spreading its waters three to five miles (5 to 8 km) wide, meandering down a broad valley for the final 200 miles (320 km) of its journey.

The Zambezi divides up into a number of large streams leading to the delta, where it enters the Indian Ocean. Our exciting journey ends as the river loses its identity. Its waters, at one time so refreshingly crystal clear, now murky from the delta sands, are swallowed up by the warm blue brine of the Indian Ocean.

Livingstone called the Zambezi "God's highway to the interior." We appreciate the Zambezi as one of many rivers that beautify our earthly home and refresh its inhabitants.

When Men Meet Animals

BENEFIT OF TLC



Can TLC (tender loving care) reduce the risk of heart disease even though large amounts of cholesterol are consumed? It apparently can—at least in rabbits. Researchers at Ohio State University reported on experiments with two sets of rabbits who were given identical diets. One set got "tender loving care," and the other group got ordinary care. As for the TLC rabbits, a researcher said: "I'd visit them four or five times a day just to say hello and cuddle. They were happy." The result? Said Dr. Fred Cornhill, assistant professor of surgery at the university's College of Medicine: "We saw twice as much atherosclerosis [cholesterol buildup]—in one case three times as much—in the aortas of the animals given ordinary care as we saw in the TLC rabbits." The experiment seems to agree with other studies showing that stress may contribute to heart disease, and the rabbits receiving tender loving care evidently felt less stress. Doubtless humans would too.

WATER CONSERVATION



Ever since Bible times survival in the desert has depended on co-operation between man and camel. Why are camels so suited to desert life?

Water retention is a major factor. If you lose 10 percent of your body weight in water, you will die. A camel can lose three times as much water safely. If you get hot, you sweat easily, but camels get hot very slowly and sweat very little. Your kidneys excrete much more water than camel kidneys do. But that isn't the whole story.

Did you ever notice the mist formed by your breath on a cold day? That mist of water vapor means that you are losing water each time you breathe out. Not so the camel. It is unique in its ability to conserve water when it exhales. How does the camel do it?

If you roll a piece of paper into a loose scroll and blow through it, you have a model of the inside of a camel's nose. But the camel's "scroll" is not made of paper. It is a mucous membrane with a special water-absorbent coating.

Incoming air picks up moisture from the membrane's coating, leaving the membrane cool and dry. When the camel breathes out, warm moisture from the lungs is absorbed by the membrane before it can be lost out of the nose. In this way the camel saves 68 percent of the moisture it would otherwise have lost!

SNATCHED PURSE RETRIEVED

A doctoral candidate in zoology at Rutgers University was recently on her way to deposit a turtle in a swamp. She planned to attach a

Some properly used,
some heartlessly abused



transmitter to the back of the turtle; then with a receiving device tuned to the transmitter she could follow the turtle's movement when the turtle deposited her eggs. However, at a traffic light, a man reached into her automobile and snatched her purse. It contained the turtle transmitter. So, shortly thereafter, she and a zoology professor activated the receiver. It homed in on a stable behind an uninhabited house, a few blocks from where the purse was stolen. There it was, with everything intact, except the cash. With purse recovered, the transmitter was soon placed where it belonged—on the back of a turtle in a swamp.

JOGGING PIGS

Even pigs have joined the jogging fad. To test the effects of jogging and high-fat diets on heart problems, a group at Arizona State University decided to use pigs, since they are said to have psychological characteristics that resemble those of humans, such as susceptibility to stress. The goal of the pigs is two miles (3.2 km) a day. However, not all 18 pigs in the study jog. Six just eat and sleep pig-fashion. Six others started jogging when they were piglets. And six more started jogging when they reached the weight of 150 pounds (68 kg). As for the jogging pigs, Ross Consaul says: "They burn up the track for about the first lap. After that, most of them need some encouragement." This is given by prodding them occasionally with a long two-pronged fork. Another reason why pigs were chosen for the jogging study is, as assistant professor of agriculture George Seperich says: "We can be fairly sure no one is going to invite our pigs out for beer and pizza in the middle of our study." Preliminary findings are that the jogging pigs appear to have more energy and to have a more contented disposition.

"NO MORE TEARS"? FOR WHOM?

"Science News" of last October reported: "Remember shampoo commercials hawking 'no more tears'? Most data on whether or not a product is an eye irritant have emerged from Draize testing. Named for the Food and Drug Administration researcher who developed it during World War II, the test involves dropping a substance directly onto the cornea of an albino rabbit. Reactions—such as blistering, lesions or other tissue damage—are scored by comparing the tested eye against the rabbit's other, unexposed eye. Many rabbits undergo intense pain in order to validate suspicions that bleaches and other goods shouldn't make eye contact."

A coalition headed by the Humane Society of the United States is pressuring laboratories for humane alternatives to the Draize test. "It's a fairly inhumane test," admits EPA's Jim Roloff. Technicians hate to do it, he says, because "if you get a very corrosive chemical, it's really cruel." He contends the test is unnecessary if skin tests indicate that a substance is highly caustic.

HER SIGHT IS DIM, BUT HER FAITH IS BRIGHT

CAROL DIVERS has weak vision but a strong sense of humor. She lost her right eye to diabetes in 1976 and has only partial vision in the remaining eye. "I could lose it any time," she admits, "but I can't let myself think about that possibility."

Carol has suffered from diabetes since she was 11. She is now in her 40's and has raised two sons despite her physical problems. "When I learned I had diabetes I thought that, like measles, it would go away. The doctor gave me a book to read about the disease. I read it and threw it at the wall. My diabetes would never go away. It seemed so unfair. I was pretty depressed about my future.

"Everybody knows that diabetics have problems with their blood-sugar level," Carol points out. "What is less well known is that juvenile-onset diabetes, which I have, often leads to a host of nasty problems for the body. Blindness is one of them, caused by tiny extra blood vessels that grow in the retinas of diabetic people and then rupture, filling the eye with blood. Diabetics have severe circulation problems and can lose limbs to gangrene. They can have kidney problems, hardening of the arteries, extra difficulty in child-bearing. The list just goes on and on."

It sounds depressing, doesn't it? But for millions of people diabetes is a grim daily reality. "You can go batty just thinking about the horrible things happening inside your body, and waiting for the next retinal hemorrhage." The solution? "Try to



see the humor in the situation if you can," advises Carol, "and don't let yourself dwell on negative things."

The humor in the situation? "Sure," says Carol cheerfully, "like the time I tried to make a call on a friend's princess phone. Only the phone turned out to be her butter dish.

"The point," Carol adds, "is that laughter can keep you from feeling too sorry for yourself. The last thing a sick person needs is self-pity."

Similar good advice can be found in the Bible, a book whose practical counsel on living is often underappreciated. For example: "A heart that is joyful does good as a curer, but a spirit that is stricken makes the bones dry."—Prov. 17:22.

In other words, "a glad heart is excellent medicine" (*Jerusalem Bible*), "but a broken spirit makes one sick." (*The Living Bible*) Carol Divers did not always appreciate this good advice. What changed her point of view?

"Back in 1962," she relates, "I was newly married with two little boys when an elderly lady called by to offer me a subscription for the *Watchtower* magazine. I wasn't very interested in the magazine, but I took the subscription because the lady reminded me of two of my aunts who were Jehovah's Witnesses. I had always admired my aunts, although I didn't really understand what they believed."

"The result was that I started to learn what the Bible says about human suffering, and I realized that it made a lot of sense. I was glad to learn that the Bible does *not* teach that God wants us to suffer. In fact, there would be no diabetes or any other kind of suffering if people had been obedient to God from the beginning."

"Reading about Job helped me not to feel sorry for myself. In the account of Job, Satan claims that any person who suffers enough will eventually turn against God. I was determined not to let Satan have the last laugh in *my* case."

Bible knowledge has helped Carol avoid self-pity in another way as well. "When you have a chronic disease," she says, "it's so easy to think 'Why me?' Why don't other people have to suffer as I do? But the Bible shows that everybody is really in the same boat with me. We are *all* dying. Some of us just happen to be dying faster than others. Knowing that makes me want to go out and help other people to have the hope for the future that I have, instead of just moping around, wishing I didn't have diabetes."

What is Carol's hope for the future? "I'm going to be totally cured," she announces confidently. "I'm going to get my sight back, I'm never going to have to take another injection of insulin and I'm actually going to feel *healthy* all day long, every day."

Of course, modern medicine cannot cure Carol's diabetes nor replace her missing eye. But she isn't looking to medicine for

a cure. "If Jesus were on earth today he could cure me," she points out. "He cured people blinder than I am. Why did he do it? To show how people will be cured under God's kingdom."

Carol believes deeply in that kingdom. "You've heard people pray, 'Thy kingdom come'? Well, believe me, it's coming. I fully expect to be here when those prayers are answered. Jesus gave a prophecy to show when the Kingdom would be near, and it reads like your morning newspaper. You can read it yourself at Matthew chapter 24, Luke 21 and Mark 13."

Carol's Bible-based faith has given her more than hope for the future. It has helped her to avoid health problems now. How so?

"The Bible taught me that Jehovah God views life as sacred," she says. "As I studied the Bible I realized that I had an obligation to take better care of myself. How would Jehovah believe that I wanted to live forever if I cheated on my diet or neglected my present health?"

"Of course, taking care of yourself requires self-control, but the Bible helps a person to develop that quality. Besides, self-control is a matter of life or death to a diabetic."

Why is that? "When the body is under stress it releases stored sugar from the liver. So when a diabetic gets excited, it's like gobbling sugar cubes, the last thing a diabetic needs! I've always been an emotional person, but I had to learn to bite my tongue before saying something that would start an argument. I had to learn to be a peacemaker. It has taken years, but now things just don't get me as upset as they used to."

"The Bible says that the peace of God will guard our hearts and mental powers," laughs Carol, "but it guards my blood-sugar level as well!"

Doesn't Carol Divers ever get depressed? "Sure, I get depressed," she an-

swers candidly, "but it never solves anything. Over the years I have learned that when I'm depressed the best thing I can do is get interested in other people and get my mind off myself."

"My vision started to go in 1970, and that was very depressing. But about that same time it seemed as if I kept getting opportunities to help other people to learn more about the Bible. You know, getting more involved in teaching the Bible was the best therapy I could have had. Since I started going blind I've studied with 11 persons who really got the message, and who are now teaching others."

As her vision has become worse, Carol has become steadily more active in this Bible teaching work. "My two sons are both away from home, serving at the headquarters of the Watchtower Society," she says proudly. "That means I have more time than I used to. So last September I was able to begin serving as a regular pioneer, which means that I spend most of my time now visiting people to share things with them from the Scrip-

"When you have a chronic disease, it's so easy to think, 'Why me?'"

tures. It's something I've wanted to do for a long time.

"I'm not a superwoman," Carol admits. "I could never get along without a lot of help from my family and friends in the congregation. I was always an independent person, and when I started going blind it was very hard to admit to myself that, like it or not, I was handicapped. I had never thought of myself that way. Asking for help didn't come easy to me, but I've learned that I *can* ask for help, both from other people and from Jehovah God. Je-

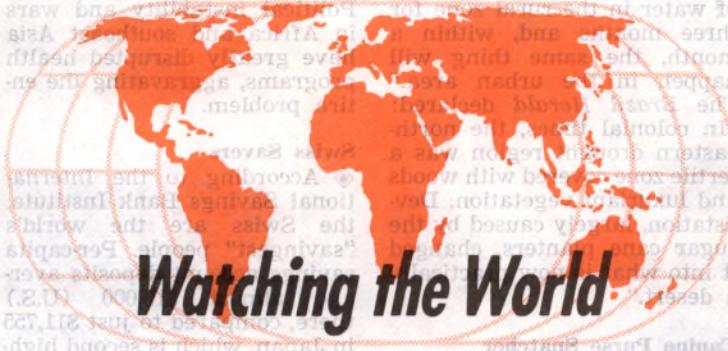
hovah provides both the people and the help. That has been a wonderful lesson for me." "I find that depression comes from thinking about things I used to do and can't do anymore. The solution is simple. I make myself think about what I *can* do, and then try to find a new way or a better way to do it."

"For example, I was discouraged one summer because I had to spend long periods at home. So I started a little 'Kingdom School' for children in the congregation one day a week in my home. That cheered me up since I love children, and the kids love the school. We act out Bible scenes, play games, memorize scriptures. Once we even tried to build Noah's ark out of Popsicle sticks!"

"There have been times when my remaining eye has hemorrhaged and I've been totally blinded and confined to bed for days or weeks. Prayer is very important at times like that. So are the wonderful tapes of the Bible that the Watchtower Society provides, and so is the telephone. Even if I can't get out, I can still phone people. If I think hard enough, I can always remember somebody who is in even worse shape than I am, and who would appreciate a call."

Nobody likes to suffer, including Carol Divers, who has suffered more than most people. While we do not choose to suffer, we can choose how we will react to suffering. Will we become bitter, blame God and dwell on what might have been? Or will we take advantage of our opportunity to lean on God for help, drawing closer to him?

Carol puts it this way: "I don't know what is going to happen to me tomorrow —what more there will be to live through—but I know that whatever Jehovah permits, it will be all right. I *know* he will give me the needed strength. He always has."



Watching the World

Food Situation Deteriorating

◆ The president of the World Food Council, Arturo R. Tanco, Jr., recently appeared before the Parliamentary Committee on Development and Cooperation. "I come before you," he said, "to plead for the one billion hungry people of the Third World." Last year, he pointed out, as many as 50 million persons starved to death in developing nations. One of the most shocking statistics that he presented was that one third of all children never live to the age of five. Hunger and disease kill them off. The world food situation, he said, is deteriorating, and food production in most developing countries is down.

Galileo Sighted Neptune?

◆ A young astronomer in Berlin is credited with discovering the planet Neptune, eighth in order from the sun, in 1846. However, two astronomers now believe that Neptune may have been seen by the 17th-century astronomer Galileo. In 1612 and 1613 the Italian astronomer reported observing "fixed stars" that were near Jupiter. Astronomers Charles Kowal and Stillman Drake made careful studies of tables showing the positions of heavenly bodies during the 17th century. This has convinced them that Galileo actually saw Neptune. "The indicated posi-

tion of Neptune is consistent with the exact correspondence of the directions, and the absence of any bright stars in that area make us confident that Galileo actually saw Neptune," said Kowal. If so, Neptune was unwittingly discovered way back in 1612-1613.

"Only One Integrated"

◆ *The Wall Street Journal* recently featured a front-page article headlined: "In Much of the South, Separation of the Races Still Is Key Fact of Life." A subtitle summarized the staff reporter's conclusions from his research: "Despite New Laws, Old Ways Linger On, Particularly Outside a Few Big Cities." Writing from Laurel, Mississippi, he also observed that "social mingling between young blacks and whites is rare, and it is discouraged. There is very little interracial social contact among Laurel adults, either. The Jehovah's Witnesses church here is about the only one integrated."

Sunday Schools Dying?

◆ In 1974 American Sunday school attendance for the first time dropped below its expected growth rate. The decline continues at a rapid rate. "In the last ten years alone, national Sunday school enrollment has dropped nearly one-fourth," says Charles Arn of

the Institute for American Church Growth in Pasadena, California. "Many major denominations have lost 30 percent to 50 percent of their Sunday school enrollment in the last decade. . . . In fact, if the decline . . . continues at the rate it has . . . in two generations the Sunday school, as we know it, will become extinct."

China's Increased Hypertension

◆ High blood pressure has often been viewed as a problem peculiar to Western countries. But now Wu Ying Kai, a director of a cardiovascular center in Beijing, reports dramatic increases in high blood pressure in the People's Republic of China. "For a long time it's been thought that there wasn't much hypertension in China," he said. "In general we still have a little less hypertension but if we're going on at the rate we have the last twenty years, I think we will catch up to you soon." In big cities, such as Shanghai and Beijing, the increase in high blood pressure is 10 percent, a rate corresponding to that of the U.S.

"Frozen Stiff," But Alive!

◆ "The body was cold, completely solid, just like a piece of meat out of a deep freeze." With those words, Dr. George Sather described the condition of Jean Hilliard, a 19-year-old girl who was found in the snow after a December night of -22° F (-30° C) weather. The girl's car stalled in northwestern Minnesota and she tried to walk to a house two miles (3.2 km) away, collapsing just 15 feet (4.5 m) from the door. She was found in the morning and taken to the hospital. Doctors could not give her intravenous feeding because "she was frozen too solid to penetrate the skin." Her temperature was too low to register on a thermometer. Her pulse was about 12 beats a minute. But after several hours wrapped in an electric

heating pad, she revived. "I can't explain why she's alive," said the doctor. "She was frozen stiff, literally. It's a miracle."

Ebla Tablets and the Bible

◆ Some 20,000 clay tablets were discovered a few years ago at the archaeological site of ancient Ebla in Syria. A number of Bible names never before found in non-Biblical writings reportedly appeared. Dr. G. Pettinato was formerly the chief translator of these tablets. Recently Dr. Pettinato was interviewed by the *Biblical Archaeology Review* and asked if he has changed his mind on his readings of the clay tablets since his successor has disagreed on relating some of the tablets to the Bible. "I haven't retracted anything," Pettinato replied. Asked about the names of Sodom and Gomorrah, he said: "The names of Sodom and Gomorrah are already published in the catalog. You can check." He also mentioned the city of Zoar as being in the catalog.

The professor was also asked if he has changed his mind about whether the God "Ya" appears in the tablets. He explained that "in the God list," they found the "God YA." And he added: "Also in an economic tablet from Mesopotamia . . . we have an offering to the God Ya. So . . . the existence of this God is sure, and I cannot understand why some of my colleagues don't want to accept reality. Really I cannot understand it."—Sept./Oct. 1980, pp. 46, 48, 51.

Brazil's 'Drought of the Century'

◆ Thirteen million people living in the northeastern part of Brazil have been threatened by a drought called 'the worst of the century.' The government transferred 800 trucks to the stricken area to distribute 17 million liters (4,500,000 gallons) of water daily, but it was not enough. The

mayor of Soledad declared: "There has not been a drop of water in the rural zone for three months and, within a month, the same thing will happen in the urban area." The *Brazil Herald* declared: "In colonial times, the northeastern drought region was a fertile zone covered with woods and luxuriant vegetation. Devastation, largely caused by the sugar cane planters, changed it into what is now practically a desert."

Canine Purse Snatcher

◆ Chicago police were looking for a black Doberman pinscher, wearing a spiked collar. Why? Because it snatched a purse containing \$270. The wife of a Chicago police officer opened her car door, and the snarling dog seized her arm. As she tried to flee, the dog snatched her purse and ran off. One detective investigating the matter asked: "What do we do for a line-up if we find a suspect? Do we have to have all Dobermanns? Can't we throw in some cocker spaniels?"

Setback in War

Against Malaria

◆ The World Health Organization's 25-year-old war against malaria with the "wonder drug" chloroquine has suffered a serious setback. According to *Asiaweek* of Hong Kong, "As it cured, the widespread use of chloroquine also produced a new generation of drug-resistant wonder bugs that are ravaging parts of Asia now with stubbornly lethal force." WHO estimates that about 250,000,000 persons suffer with malaria, mostly in developing lands. One researcher said of some areas: "We're back to using quinine, the oldest anti-malaria drug." But since quinine causes side effects such as nausea and ear ringing, people tend to take it a few days and quit. Haphazard use of quinine with a virulent strain of malaria can be fatal. But there is more

to the problem than drug-resistant strains of malaria. Political instability and wars in Africa and southeast Asia have greatly disrupted health programs, aggravating the entire problem.

Swiss Savers

◆ According to the International Savings Bank Institute, the Swiss are the world's "savingest" people. Per-capita savings account deposits average almost \$16,000 (U.S.) there, compared to just \$11,755 in Japan, which is second highest. United States savers are far behind, with just over a \$5,000 average in the bank. Austrians bank about \$6,000 on the average, and the Dutch about \$4,300.

New Light on Obesity

◆ Researchers at Boston's Beth Israel Hospital may have learned why many overweight people seem unable to lose weight, though taking in a minimum of calories. They found that such persons have lower levels of an enzyme that evidently controls energy use and hence fat storage in cells. The ability to control this enzyme may one day aid in treating obesity. "For the first time, we have a possible biochemical difference in obese individuals that tells us why some people seem predisposed to obesity and have trouble losing weight," said Dr. Jeffrey S. Flier, who reports on the research in the *New England Journal of Medicine*.

Bomb Shelters for Business

◆ In the People's Republic of China, Beijing's massive system of bomb-shelter tunnels is reportedly being put to "peace-time" use. To alleviate overcrowded business areas, government policy now directs that factories, warehouses, restaurants and even movie houses are to fill the tunnels, designed to protect the city's

8,000,000 inhabitants from air attack. A civil defense official declared: "Their main use is for war. But the city called for us to make full use of the tunnels in peacetime."

Marijuana "Symptoms"

◆ When children use marijuana they develop "definite symptoms," according to a letter by pediatrician Ingrid L. Lantner, M.D., published in *Medical Tribune*. The doctor's letter said: "Marijuana creates definite symptoms which subside after they are marijuana-free for three to four months, without psychotherapy or environmental changes. These symptoms are tiredness, irritability, [lack of] motivation, loss of short-term memory, cough, irregular periods and others. . . . Mari-

juana greatly aggravates the symptoms of any emotional or mental illness. . . . The entire medical profession should condemn any use of marijuana because of its horrendous health hazards."—December 10, 1980, page 11.

Pitter-Patter of Little Feet

◆ Many big families have difficulty providing adequately for food and clothing. But one family in Chile has more of a problem than most. Gerado Albina, 63, and his wife now have 36 children, born over the past 36 years. Mrs. Albina, 54 years of age, is now expecting her 37th child. Included among the children are two sets of triplets and five pairs of twins. Recently, a television program provided funds for the family to buy

their own plot of land and a modest home.

More Sugar, Fewer Eggs

◆ The U.S. Agriculture Department has reported on what foods were eaten by Americans last year compared with 20 years ago. Sugar and sweetener consumption soared to an increase of 26.2 percent. This represents a yearly average of 137 pounds (62 kg) per person—over 1/3 pound (170 g) every day! Accounting for a large part of this increase is the growth in consumption of soft drinks—an amazing 175 percent. This amounts to 37.5 gallons (142 L) of soft drinks per person. On the other hand, the eating of eggs dropped 15.4 percent, and butter consumption was down almost 40 percent, evidently because of concern over cholesterol.

