

Awake!

November 8, 1991



**The Population
Explosion
A Threat to Our Future?**



The Population Explosion —A Threat to Our Future? 3-14

“Population explosion,” “human time bomb,” “Malthusian dilemma”—these are just a few of the terms used to describe this threat to the future quality of life. But what about right now? How might the population explosion affect you? What is it like to live in cities where the population is already tightly packed? And what of the future? This series of articles examines these questions.



Is Gambling Really So Bad? 19

Many people get hooked on gambling when young. What can it lead to? Why should you resist the urge?

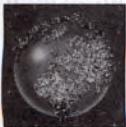


Cricket or Baseball —What's the Difference? 22

Two of the world's most popular sports are cricket and baseball. Are they related in any way? What are the similarities and the differences?

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World Population Growth —A Vital Issue



BABY Five Billion." That was what the government of China called Wang He, a baby girl born in a Beijing hospital at midnight, July 11, 1987. Whether that infant actually brought the total world population to 5,000,000,000 at the time, no one can tell. Nevertheless, she was born at the precise moment designated by the United Nations as when the world's population would reach that figure. The Chinese government merely seized upon the event to dramatize the intense issue of population growth facing China and the world.

Statistics indicate that the number of people on earth is increasing at a rate that alarms some experts. At the present rate of growth, earth's population will double in only about 40 years. At that pace, experts tell us, the amount of food needed to feed the world's population will soon outstrip production, and the result will be world starvation. Furthermore, since the world's supply of natural resources is finite, they will be exhausted that much sooner by an expanding population, and this can only mean earth-wide disaster. If the lack of food and resources does not spell our doom, the experts say, the environmental damage we are causing will most certainly do it. We are literally choking ourselves by what we are doing to the air, water, and land, and more people will only accelerate the pace. All of this sounds like a disaster in the making.

What, though, can be done about it? There are many schools of thought on the matter. Some feel that unless drastic action is taken to reduce population growth, the welfare of all humans will be threatened. Others believe that as was true in the past, new ways will be found to deal with the problems regarding food, resources, pollution, and whatever else is involved. Still others feel that the total population will eventually level off, so there is no need to be overly excited about it. In fact, there are strong opinions and views on just about every aspect of the subject. Clearly, world population growth is a controversial and vital issue.

What is noteworthy, however, is that the people living in lands that are still relatively spacious and affluent are generally the ones who are speaking out most forcefully about the coming doom. They are sounding the alarm because they sense that their standard of living or future well-being is threatened. But what about those living in the poorer, underdeveloped, and overpopulated lands? How do they feel about the population issue? What is life like in the congested corners of the world?

Awake! takes you to some of the most crowded places of the world to give you a firsthand glimpse of what it is like to live under the pressure of the population explosion and to help you understand some of the issues involved.

A Day in My Life in Crowded Hong Kong

Hong Kong is one of the most densely populated places in the world. With 5.8 million people occupying its 413 square miles of land, it has 14,483 people per square mile. Since only 10 percent of the land is occupied, that represents an average of about 140,000 per occupied square mile! Yet, the local people seem to have adapted admirably to the hustle and bustle of a crowded city, with its cramped living space, noisy traffic, and pollution.



I WOKE up to the shrill call of my alarm clock at 7:30 a.m., got up from my couch bed, and dressed quickly. I share the small flat with my parents and three younger sisters, all of whom work. Thus, there is always a lineup for the bathroom, and our time is limited. After a quick breakfast, I grab my bicycle for the ride to the train station. The daily ordeal has started. I become one of the vast multitude heading for work in bustling Hong Kong.

My train takes me hurtling past tightly packed tenements and densely populated skyscrapers. Then I change to a bus to cross the harbor. We make our way through a tunnel,

bumper to bumper. What a relief to emerge onto Hong Kong Island where my office is located in the central financial district. The whole journey can take anywhere from an hour to an hour and a half, depending on the traffic. I finally make it by 9:30. But there's no time to sit back—the phone starts to ring. My first client for the day. And that becomes the story of my day—one call after another, the telephone seldom on the hook. Then a brief break for lunch.

Now the problem is finding a seat in one of the numerous restaurants in the area. It seems as if everybody is trying to eat at the same time and at the same place and often at the same table! Once again I share my table with total strangers. That's life in crowded Hong Kong. Then after my quick but nourishing Chinese meal, it's back to the office.

My workday is supposed to finish at 5:30, but that is seldom possible. Sure enough, when I finally get a breather and look at the clock, it is 6:15. Some days it is well after seven o'clock before I can get away. And then comes the trek back home.

First the bus, then the train. Finally it pulls into my station, and I head for my bike. As I

Awake![®]

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

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cycle home, I recall how our little town has grown into a bustling, bursting modern city. The low village houses have been replaced by soaring high-rise buildings, from 20 to 30 stories high. Big, wide highways have taken over great swaths of terrain, and huge overpasses bristle with a constant stream of noisy traffic. The old leisurely way of life has gone forever.

Home is a bit on the small side—less than 300 square feet for six of us and no private room for me. That is why I sleep on a couch in the living room. At least my parents have a room to themselves, and my three sisters sleep on bunks in their tiny room. Privacy is a luxury for us.

Even though it is small, it is a vast improvement on what we had before, when all of us lived in one room in a government housing estate. But how good even that is compared with the lot of the thousands who live in Mong Kok district and who rent "cage apartments," stacked three high and measuring six feet long by 30 inches deep and 30 inches high. They have space for a mattress and a few personal belongings. No furniture.

By nine o'clock everybody is home, and we sit down for our evening meal. After supper someone switches on the TV. That kills my hope of some quiet reading and study. I wait until all have gone to bed at 11 o'clock, and then I have the

room to myself and some peace and quiet for concentration. By midnight I too am ready for bed.

I have been working since I left school some 12 years ago. Some day I would like to marry, but I have to work so hard for a living that I do not have much time even to get to know a woman well enough. And finding a place to live is harder than scaling heaven, as we say. Though we have learned to cope, this type of hectic city life does not seem natural to me. Yet I recognize that I am far better off than millions and perhaps billions in other parts of the world who live without decent homes, electricity, running water, or adequate sanitation. Surely we need a better system, a better world, a better life.—*As told by Kin Keung.*



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'Children Are Precious, but Sons Are Essential'

With a population of over 850 million and a birthrate of 31 per 1,000, India sees some 26 million new babies born each year, equivalent to the population of Canada. It is not surprising that one of the most urgent government projects is to control the rapid expansion of its population. How successful is it? What are some of the obstacles it faces?



BEFORE 20, No! After 30, Definitely Not! Only Two Children—Good!" is the advice given by one of the colorful posters that line the hallway to family planning headquarters in Bombay, India. Another portrays a harried mother surrounded by five children. It warns: "Don't Regret Later!" The message comes through loud and clear: Two children per family is enough. But getting people to accept and act on the government's two-children-per-family recommendation is not easy.

"The Hindus consider a man happy in proportion to the number of children he possesses. Among them, indeed, children are considered to be the blessing of a house. However numerous a man's family may be, he never ceases to offer prayers for its increase," says the book *Hindu Manners, Customs and Ceremonies*. From a religious standpoint, however, it is the male child that is of greater value to the patriarch of the household. "There is no misfortune equal to that of not leaving a son or a grandson behind to perform the last du-

ties in connexion with his funeral," the book goes on to explain. "Such a deprivation is regarded as capable of preventing all access to an Abode of Bliss after death."

Sons are also needed to carry on the rite of ancestral worship, or sraddha. "At least one son was almost essential," writes A. L. Basham in *The Wonder That Was India*. "The intense family feeling of Hindu India enhanced the desire for sons, without whom the line would disappear."

Along with religious beliefs, a cultural factor influencing the desire for sons is India's traditional joint, or extended, family arrangement, whereby married sons continue to live with their parents. "Daughters marry and go to live in the homes of their in-laws, but sons remain at home with their parents; and the parents expect their sons to look after them in their old age," explains Dr. Lalita S. Chopra of the Bombay Municipal Corporation Health and Family Welfare Division. "This is their security. Parents feel safe with two sons. Logically then, if a couple has reached the suggested two-child limit and both children are girls, there is a good possibility that they will keep trying for a son."

Though in theory all children are viewed as God-given, the realities of day-to-day life dictate otherwise. "Medical neglect of girls is evident," reports *Indian Express*. "Their survival is not considered really important to the survival of the family." The report cites a survey in Bombay that reveals that out of 8,000 fetuses aborted following sex-determination tests, 7,999 were female.

An Uphill Struggle

"In a family, it is the male who generally decides how many children to have and how large the family will be," explains Dr. S. S. Sabnis, executive health officer of Bombay Municipal Corporation, in an interview. Even if a woman would like to space her children or limit her family, she is under pressure from her husband who may be against it. "This is why we're sending male-female teams to each home in the slums in hopes that the male health worker will be able to speak to the father of the home and encourage limiting the size of the family, helping him to see that he can give better care to fewer children." But as we have seen, the obstacles are many.

"Among the poorer people, the infant mortality rate is high due to poor living conditions," Dr. Sabnis says. "So there is definitely a desire to have many children, knowing that

some will die." But little is done to care for the children. They wander unattended, begging or perhaps picking through garbage for food. And the parents? "They do not know where their children are," Dr. Sabnis laments.

Advertisements in India often portray a happy, prosperous-looking couple enjoying life with their two children, usually a boy and a girl, who are clearly well cared for. It is in this segment of society—the middle class—that the two-child concept is generally well accepted. But it is far removed from the minds of the poor, who reason, 'If our parents or grandparents had 10 or 12 children, why can't we? Why should we be limited to two?' It is here among India's impoverished majority that the war on population control is facing an uphill fight. "The population is young now and of childbearing age," reflects Dr. Chopra. "It appears to be a losing battle. We have a tremendous work ahead of us."



Growing Up in an African City

Population growth rates in sub-Saharan African countries are among the world's highest. There each woman, on the average, gives birth to more than six children. Poverty, deteriorating environment, and scarcity of resources only add to the hardship. Here is a firsthand account of what life is like in that part of the world.



I GREW up here, in a major West African city. There were seven of us children in the family, but two died early on. Our home was a rented bedroom and parlor. Mother and Father slept in the bedroom, and we children slept on mats on the parlor floor, boys on one side of the room and girls on the other.

Like most people in our neighborhood, we didn't have much money, and we didn't always have everything we needed. Sometimes there was not even enough food. In the morning, we often had nothing to eat except re-heated rice left over from the day before. At times even that was scarce. Unlike some who reason that the husband, as the wage earner, should have the biggest portion, with the wife next and the children getting what's left, our parents would go without and let us children share what small amount there was. I appreciated their sacrifice.

Going to School

Some people in Africa believe that only boys should go to school. They feel that it is

not necessary for girls to go because they marry and their husbands take care of them. My parents did not hold that view. All five of us were sent to school. But it was a financial strain on my parents. Things like pencils and paper weren't much of a problem, but textbooks were expensive, and so were the compulsory school uniforms.

When I began to go to school, I did not have shoes. It wasn't until my second year in secondary school, when I was 14, that my parents were able to buy shoes for me. Mind you, this doesn't mean I had no shoes at all. The only pair I owned was for church, and I wasn't allowed to wear them to school or any other places. I had to go barefoot. Sometimes my father was able to afford bus vouchers, but when he could not, we had to walk to and from school. It was about two miles each way.

Washday and Fetching Water

We washed our clothes in a stream. I remember going there with my mother, who carried a pail, a bar of soap, and the clothes. At the stream, she would fill the pail with water, put the clothes in, and rub soap into them. Then she would beat the clothes on smooth rocks and rinse them in the stream. After that she spread them on other rocks to dry because they were too heavy to carry home wet. I was young at the time, so I was assigned to guard the drying clothes so that nobody would steal them. Mother did most of the work.

Few people had water piped to their homes, so one of my chores was to go with a bucket to fetch water from an outside faucet, called a standpipe. The problem was that during the dry season, many of the standpipes were locked to conserve water. On one occasion, we went one full day with no water to drink. Not a single drop! Sometimes I had to walk miles in search of just one bucketful of water. Carrying the water on my head for such long distances wore away my hair where the bucket rested. I had a bald patch at ten years of age! I am glad to say that the hair grew back.

Children as Security

Looking back, I would say our lot in life was average, perhaps even above average for our part of Africa. I know lots of other families whose living standard was far worse than ours. Many of my friends at school had to sell at the market before and after school in order

to bring in money for their families. Others could not afford to have something to eat in the morning before school, and they would leave home hungry and be in school all day without food. I can remember lots of times when one of these children would come and plead with me as I ate my bread at school. So I would break off a piece to share with him.

Despite such hardships and difficulties, most people still like to have large families. "One child is not a child," many people here say. "Two children are one, four children are two." That is because the infant death rate is among the highest in the world. Parents know that though some of their children will die, some will live, grow up, get jobs, and bring home money. Then they will be in a position to look after their parents who have grown old. In a land with no social-security benefits, that means a lot.—*As told by Donald Vincent.*



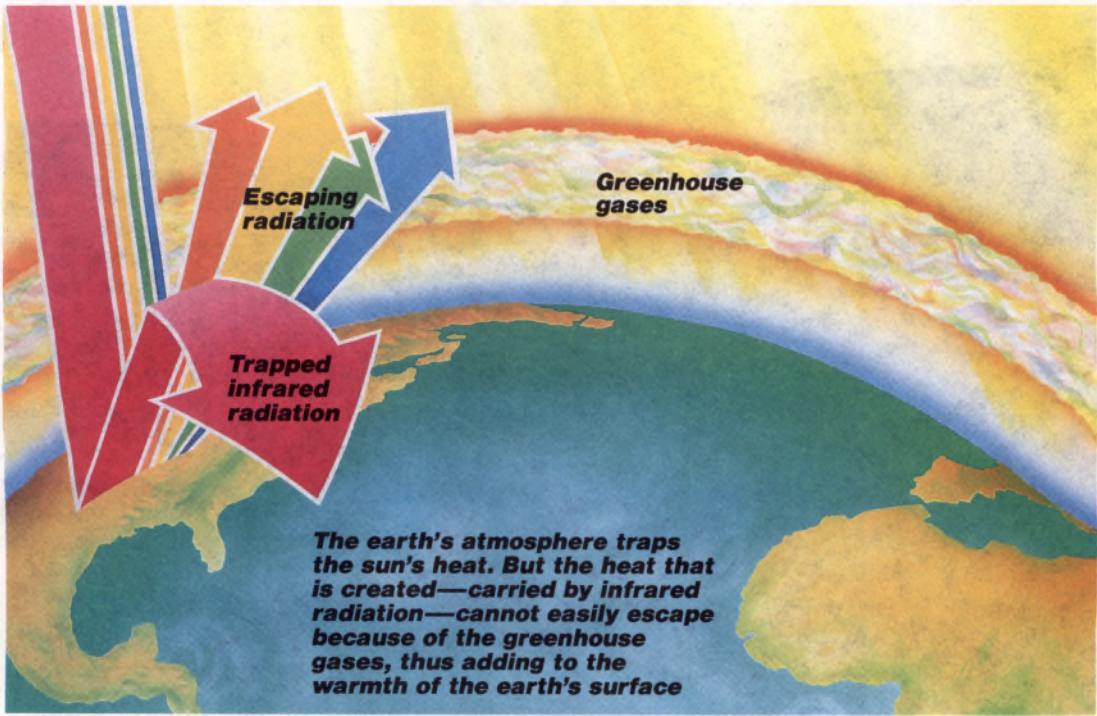
World Population —What of the Future?



RUN-DOWN housing, unsanitary conditions, scarcity of food and clean water, disease, malnutrition—these and numerous other hardships are a day-to-day reality in the lives of a major part of the world's population. Yet, as we have seen, most people living under those conditions somehow manage to cope with them and carry on with their daily life.

What, though, of the future? Will people have to go on enduring such harsh realities of life indefinitely? To complicate matters, what about the doom and gloom that environmen-

tal scientists and others are forecasting as a result of the continued population growth? They tell us that we are fouling our own nest by polluting the air, water, and soil we depend on. They also point to the greenhouse effect—emission of gases, such as carbon dioxide, methane, chlorofluorocarbons (refrigerants and foaming agents), that will result in warming of the atmosphere and changes in the global weather pattern, with dire consequences. Will this finally bring about the demise of civilization as we know it? Let us examine more closely a few of the key factors.



Are There Too Many People?

First of all, will the world's population go on expanding indefinitely? Is there any indication as to how far it will go? It is, of course, a fact that the world population is growing in spite of efforts at family planning. The annual increase is now about 90 million (equivalent to another Mexico every year). It appears that there is no immediate prospect of halting it. Looking ahead, however, most demographers agree that the population will eventually level off. The question in their mind is at what level and when.

According to projections of the UN Population Fund, world population may reach 14 billion before leveling off. Others, however, estimate that it may peak at between 10 billion and 11 billion. Whatever the case, the crucial questions are: Will there be too many people? Can the earth accommodate from two to three times the present population?

From a statistical point of view, 14 billion people worldwide would average out to 269 persons per square mile. As we have seen, Hong Kong's population density is 14,483 persons per square mile. Currently, the Netherlands' population density is 1,140, while Japan's is 848, and these are countries that enjoy above-average living standards. Clearly, even if the world population should grow to the extent predicted, the *number* of people is not the problem.

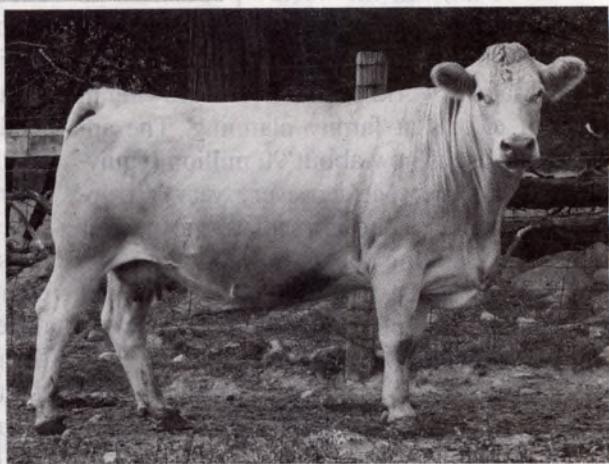
Will There Be Enough Food?

What, then, about the food supply? Can the earth produce enough to feed 10 billion or 14 billion people? Obviously, the world's present food production is not enough to care for such a population. In fact, we often hear about famines, malnutrition, and starvation. Does this mean we are not producing enough food to take care of the population now, let alone two or three times more?

That is a difficult question to answer because it depends on what is meant by "enough." While hundreds of millions of people in the world's poorest nations cannot get enough food to maintain even a minimum, healthful diet, people in the rich, industrialized nations are suffering from the consequences of an overly rich diet—strokes, some types of cancer, heart disease, and so on. How does this affect the food picture? By one calculation, it takes five pounds of grain to produce one pound of beefsteak. As a result, the meat-eating quarter of the world's inhabitants consumes almost half of the world's grain production.

As far as the total quantity of food produced is concerned, note what the book *Bread for the World* says: "If present world food production were evenly divided among all the world's people, with minimal waste, everyone would have enough. Barely enough, perhaps, but enough." That statement was made in 1975, over 15 years ago. What is the situation today? According to the World Resources Institute, "over the past two decades, total world food output expanded, outpacing demand. As a result, in recent years, prices of major food staples in international markets declined in real terms." Other studies show that the prices for staples like rice, corn, soybeans, and other grains dropped by half or more over that period.

What all of this boils down to is that the problem of food lies not so much in the quantity produced as in the level and the habits of consumption. New genetic technology has found ways to produce varieties of rice, wheat, and other grains that can double the present output. However, much of the expertise in this area is concentrated on cash crops, such as tobacco and tomatoes, to satisfy the appetite of the rich rather than to fill the stomachs of the poor.



It takes five pounds of grain to produce one pound of beefsteak. Thus, the meat-eating quarter of the world's population consumes almost half of the world's grain production

What About the Environment?

More and more, those who are keeping a close eye on the subject are coming to realize that population growth is only one of the factors posing a threat to mankind's future welfare. For example, in their book *The Population Explosion*, Paul and Anne Ehrlich propose that the impact of human activity on our environment can be expressed by this simple equation: Impact = population × level of affluence × prevailing technologies' effect on the environment.

By this standard, the authors argue that countries like the United States are overpopulated, not because they have too many people, but because their level of affluence depends on a high rate of consumption of natural resources and technologies that exact a heavy toll on the environment.

Other studies seem to bear this out. *The New York Times* quotes economist Daniel Hamermesh as saying that 'greenhouse emissions are more closely related to the level of economic activity than the numbers of emitters. The average American generates 19 times as much carbon dioxide as the average Indian. And it is entirely possible that, say, an economically vibrant Brazil with slow population growth would burn down its tropical forests more rapidly than an impoverished Brazil with rapid population growth.'

Making basically the same point, Alan Durning of the Worldwatch Institute observes: "The richest billion people in the world have created a form of civilization so acquisitive and profligate that the planet is in danger. The lifestyle of this top echelon—the car drivers, beef eaters, soda drinkers, and

throwaway consumers—constitutes an ecological threat unmatched in severity by anything but perhaps population growth." He points out that this "wealthiest fifth" of mankind produces nearly nine tenths of the chlorofluorocarbons and over half of the other greenhouse gases that are threatening the environment.

The Real Issue

From the above discussion, it becomes apparent that blaming population growth alone for the woes facing mankind today is missing the real point. The issue facing us is not that we are running out of living space or that the earth is incapable of producing enough food for a healthful diet for everyone or that all the natural resources will be used up anytime soon. These are merely the symptoms. The real issue is that more and more people are aspiring to a higher and higher level of material consumption without considering the consequence of their actions. This insatiable desire for more is taking such a heavy toll on our environment that the earth's carrying capacity is fast being exceeded. In other words, the basic problem lies not so much in the number as in the nature of humanity.

Writer Alan Durning puts it this way: "In a fragile biosphere, the ultimate fate of humanity may depend on whether we can cultivate a deeper sense of self-restraint, founded on a widespread ethic of limiting consumption and finding non-material enrichment." The point is well-taken, but the question must be asked, Is it likely that people everywhere will voluntarily cultivate self-restraint, limit consumption, and pursue nonmaterial enrichment? Hardly. Judging by the self-indulgent and hedonistic life-style so prevalent today, the opposite is more likely to occur. Most people today seem to live by the motto: "Let us eat and drink, for tomorrow we are to die."

—1 Corinthians 15:32.

Even if enough people wake up to the facts and start changing their way of life, we would still not be able to turn things around anytime soon. Witness the many environmental activist groups and alternative life-styles that have appeared over the years. Some of them may have succeeded in getting into the headlines, but have they had any real impact on the ways of so-called mainstream society? Hardly. What is the problem? It is that the entire system—commercial, cultural, and political—is geared to promoting the concept of built-in obsolescence and throwaway consumerism. In this context there can be no change without a thorough reconstruction from the foundation up. And that would require massive reeducation.

Is There a Bright Future?

The situation may be likened to that of a family living in a furnished and fully equipped house provided by a benefactor. To make them feel completely at home, they are given permission to use all the facilities in the house to their satisfaction. What would happen if the family began to damage the furniture, tear up the floor, smash the windows, clog up the plumbing, overload the electric

Why Is Food Often Expensive?

Even though the real cost of food has been falling, the common experience is that food prices are rising. Why? One simple reason is urbanization. To feed the multitudes in the world's ever-growing cities, food must be transported over great distances. In the United States, for example, "the typical mouthful of food travels 1,300 miles from farm field to dinner plate," says a Worldwatch study. The consumer must pay for not only the food but also the hidden costs of processing, packaging, and transporting it.

circuits—in short, threaten to ruin the house completely? Would the owner just passively observe and not do anything? Not likely. He would no doubt take action to remove the destructive tenants from his property and then restore it to its proper condition. No one would say that such action was not justified.

What, then, about the human family? Are we not like tenants living in a well-furnished and superbly equipped house provided by the Creator, Jehovah God? Yes, we are, for as the psalmist put it: "To Jehovah belong the earth and that which fills it, the productive land and those dwelling in it." (Psalm 24:1; 50:12) God has not only supplied us with all the necessities that make life possible—light, air, water, and food—but he has also provided them in great abundance and variety to make life enjoyable. Yet, as tenants, how has mankind behaved? Unfortunately, not very well. We are literally ruining this beautiful home in which we are living. What will the owner, Jehovah God, do about it?

"Bring to ruin those ruining the earth"—that is what God will do! (Revelation 11:18) And how will he do it? The Bible answers: "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.

What can we expect under the rule of God's indefinitely lasting Kingdom? In the words of the prophet Isaiah, we are given a foreglimpse of what is to come:

"They will certainly build houses and have occupancy; and they will certainly plant vineyards and eat their fruitage. They will not build and someone else have occupancy; they will not plant and someone else do the eating. For like the days of a tree will the days of my people be; and the work of their own hands my chosen ones will use to the full. They will not toil for nothing, nor will they bring to birth for disturbance; because they are the offspring made up of the blessed ones of Jehovah, and their descendants with them."

—Isaiah 65:21-23.

What a bright future that is for mankind! In that new world of God's making, no more will mankind be plagued with problems of housing, food, water, health, and neglect. At last, obedient mankind, under God's guidance, will be able to fill the earth and subdue it, without any threat of overpopulation.

—Genesis 1:28.

Why "Propaganda"?

In 1622, Pope Gregory XV established a congregation, or committee, of 13 cardinals, 2 prelates, and a secretary to supervise missionaries of the Roman Catholic Church. He called it the *Congregatio de Propaganda Fide*—the Congregation for the Propagation of the Faith—or *Propaganda* for short. In due course this word came to mean any effort to spread ideas or beliefs in order to make proselytes.

Today, "propaganda" is often associated with a distortion of facts, the dishonest influencing of people's minds, as for example in time of war. But some authorities feel that even the best of advertising can fairly be described as propaganda, especially if it involves persuasion. Comments *The World Book Encyclopedia*: "Educators in democratic societies teach people how to think, but propagandists tell them what to think."



Doubtful Sound, New Zealand

Power From the Heart of a Mountain

THE day trip you'll remember for a lifetime." That is how my visit to the southwest of New Zealand's South Island was described in the travel brochures. And it was true. The journey from Manapouri to Doubtful Sound, across water and mountains, brought me into contact with unique sights and impressive engineering achievements. It was like witnessing an eighth wonder of the world—a hydropower station buried in the heart of a mountain.

My journey also gave me a reminder of New Zealand's oldest inhabitants, the Maori, and their ancient legends and languages. According to two Maori accounts, "Manapouri" may mean either 'lake of sorrow or tears' or 'lake of the sorrowful heart.' For me it was also the name of the town that was my starting point on that memorable day.

An Unexpected Sight

As our boat sped smoothly across the calm lake, magnificent U-shaped valleys and



The access tunnel into the mountain and down to the machine hall

towering mountains came into view. We were fortunate to have a beautiful clear day, as this region gets up to 300 inches of rain a year! So it was a photographer's paradise, with trees and exuberant vegetation growing from the waterline straight up the mountainsides. The noise of our boat was the only evidence of any human penetration into the region on our 75-minute journey across the lake. But a journey to what?

To an unexpected sight—at West Arm, at the far end of the lake, in the middle of nowhere, rose the switchyard of a hydroelectric power station. What could have impelled anyone to build a power station here, so far from human habitation? Only a unique set of geographic and geologic circumstances could have given any engineer or surveyor this inspiration.

That idea came in 1904 when P. J. Hay, a surveyor, noted the potential of this body of water. Its surface is over 600 feet above sea

level, and having a depth of nearly 1,500 feet, its bottom is about 850 feet below sea level! Yet, it is separated from the sea by only about six miles of mountainous terrain. But it would be another 60 years before his idea could be made a reality. What triggered the initiative? An Australian smelting corporation operating in New Zealand needed power for its smelter at Tiwai Point, near Invercargill, about a hundred miles away as the crow flies. But how was electricity going to be generated?

Vision Made Reality

The plan, conceived by U.S.-based Bechtel engineering company, was to tunnel deep into the mountain called Leaning Peak and build a generating station right below the end of Lake Manapouri. Thus, its waters could fall down shafts and drive seven turbines that would generate electricity. The electric power would be transmitted to the national grid through the switchyard on the edge of the lake. (See diagram, page 17.) But how would all that water escape? The miners had to excavate a tailrace tunnel with a diameter of 30 feet that would extend some six miles under the mountains. This would allow the water to exit into Deep Cove in Doubtful Sound, one of New Zealand's superb fiords. That tunnel alone required the removal of one million cubic yards of rock.

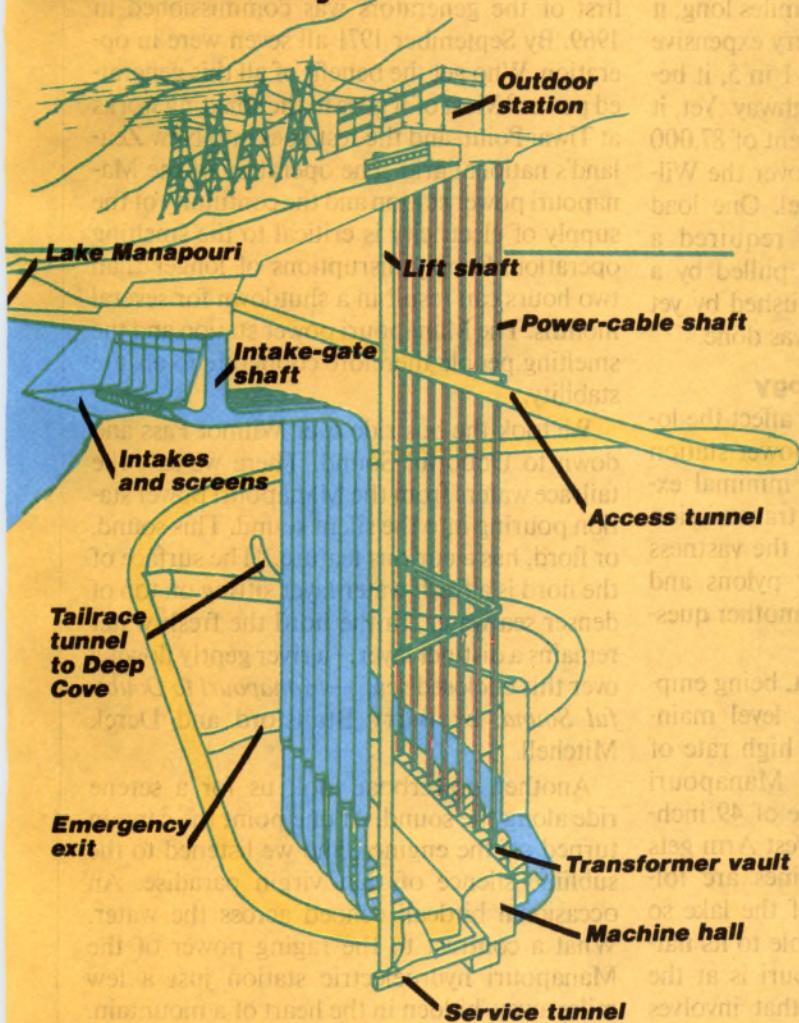
Imagine the vast amount of rock that would have to be taken out of the mountain just for the water shafts and the turbine chamber. This chamber, or machine hall, alone is 364 feet long, 128 feet high, and 59 feet wide. In length an American football field or a soccer field would fit into it. But first a tunnel was needed in order to reach and excavate the machine hall, where the turbines and generators were to be located. That was a unique challenge of its own! PHOTO BY J.P. TIGHE

This road tunnel, over a mile long and with a steady gradient of one foot every ten feet, spirals down to the machine hall. As we entered the mountain in our tourist bus, it was a sobering thought that we were descending into its very bowels.

When we finally got out of the bus and entered the turbine hall, it was like something

out of science fiction—a vast science cathedral in the depths of a mountain! But one question puzzled me, How did they get all the heavy machinery onto the site for this complex project? The only points of access were either by sea or by lake. There were no roads. It was determined that it would be easier to bring in most of the generating machinery by

Power-Plant Layout



▲ **Switchyard**



▲ **Machine hall**



▲ **Manapouri power station**

sea. That left a mountain range barring the way to the power-station site. The solution? Build a road.

New Zealand's Steepest State Highway

Work began in 1963 on the road link from Deep Cove to West Arm, "one of the most difficult roading ventures in the world," according to one source. Why was that? "Rain, snow, rivers of mud and masses of tangled vegetation stretched the completion time from 12 to 24 months." Some 14 miles long, it finally cost NZ\$4 per inch—a very expensive road! With gradients as great as 1 in 5, it became New Zealand's steepest highway. Yet, it was the vital link for the movement of 87,000 tons of material from sea level, over the Wilmot Pass (2,200 ft) to lake level. One load alone weighed 290 tons and required a 140-wheel transporter that was pulled by a bulldozer and grader and was pushed by yet another bulldozer! But the job was done.

Effects on the Ecology

How does this massive project affect the local ecology? Since most of the power station is underground, its visibility is minimal except for the switchyard and the transmission lines crossing the mountains. In the vastness of the region, even the power pylons and cables are dwarfed. But there is another question to answer.

If Lake Manapouri is, in effect, being emptied from the rear, how is its level maintained? One basic factor is the high rate of annual rainfall in the region. Manapouri township gets an annual average of 49 inches, while the power station at West Arm gets 148 inches. Also, strict guidelines are followed in controlling the level of the lake so that it remains as close as possible to its natural mark. Since Lake Manapouri is at the upper end of a water system that involves Lake Te Anau and the Upper and Lower

Waiau rivers, control weirs are used to maintain the level needed for the power station. When there is too much water for the generators to handle, the weir gates are opened to release the excess.

Who Benefits?

The installation of New Zealand's largest hydropower station has been an example of international cooperation. The turbines were manufactured in Scotland, the generators in Germany, and the transformers in Italy. The first of the generators was commissioned in 1969. By September 1971 all seven were in operation. Who get the benefit of all this generated power? Most of it goes to the smelting works at Tiwai Point, and the rest goes into New Zealand's national grid. The operation of the Manapouri power station and the continuity of the supply of electricity is critical to the smelting operation. Supply disruptions of longer than two hours can result in a shutdown for several months. The Manapouri power station and the smelting people therefore cooperate to ensure stability.

We took the bus ride over Wilmot Pass and down to Doubtful Sound. There we saw the tailrace waters from the Manapouri power station pouring into the silent sound. This sound, or fiord, has a curious feature. "The surface of the fiord is a fresh water layer sitting on top of denser sea water. In the fiord the fresh water remains a distinct layer—a river gently flowing over this enclosed sea."—*Manapouri to Doubtful Sound*, by Barry Brailsford and Derek Mitchell.

Another powerboat took us for a serene ride along the sound. At one point the captain turned off the engines, and we listened to the sublime silence of that virgin paradise. An occasional birdcall echoed across the water. What a contrast to the raging power of the Manapouri hydroelectric station just a few miles away, hidden in the heart of a mountain.

—Contributed.

Young
People
Ask . . .



Is Gambling Really So Bad?

TWELVE-YEAR-OLD Andrew and ten-year-old Julian were finally out of their parents' sight. Their family was taking a boat trip, and the boys had become fascinated by the various gambling machines on board. Noting their curiosity, a player gave each of them a coin so they could try the machines for themselves. The problem? Their parents had forbidden them to go near those machines.

Nevertheless, Andrew and Julian decided to take the risk. Their parents' warnings ringing in their ears, they played the machine—and doubled their money! Then they played

again. This time they were astounded at the amount of winnings that poured out! 'How can this be so dangerous?' they thought. 'It is so easy to make money! Is gambling really so bad?'

Like many youths in lands where gambling is common, Andrew and Julian saw little harm in it. This is easy to understand when you consider the example some adults have set in this regard. Many not only gamble but offer plausible excuses to justify their habit. They will say, for example, that gambling actually does much good, pointing to financial handouts from lotteries that help worthy causes. (But this makes no more sense than arguing that a donation from a drug baron to charity justifies the drug trade!) Yet others claim that gambling is harmless fun and entertainment, adding a measure of welcome excitement to life.

At any rate, in Britain and Ireland, as in other lands, thousands of youths have become gamblers. And the prospect of making a lot of money with little effort may very well have some appeal to you.

Gambling—The Hidden Dangers

Nevertheless, gambling poses some very real dangers to young people. Reports speak of "gambling junkies" and "the horrors that gambling can bring, when a harmless game grows into a compulsion that can turn a person into a zombie." According to *The Buzz* (a British television documentary), gambling among children "may lead to truancy, violence, extortion and theft, compulsive gambling and prostitution and, in extreme cases, suicide or attempted suicide." That gambling really has such potential for disaster is proved by real-life experiences.

"I started gambling when I was about 11 years old," says Adrian. "I went with my uncle and cousin to greyhound races. To begin with I was quite lucky and often won." The

effect on Adrian? "I had no hesitation in spinning a story—lying—to my dad in order to get money," he explains, "and before I was out of my teens, I had no compunction about stealing from the till in my dad's shop to finance my gambling habit."

Adrian points to another undesirable effect. "You can easily become an idler," he explains, "because the money you earn through honest labor may seem a pittance in comparison with what you think you can win." —Compare Proverbs 13:4; Ecclesiastes 2:24.

Robert (not his real name) started gambling at 12 years of age. He points to yet another danger: "You can get very superstitious." He explains: "My father had gambling machines in our shop. I knew exactly how they worked, and yet I superstitiously did things to try to affect the outcome, such as pushing the switch in a certain manner or leaving the winnings in the tray for some time. Some people actually talked to the machines." Yes, many gamblers unwittingly become superstitious worshipers of the god of good luck—a practice condemned by God.—Isaiah 65:11.

Compulsive Gambling

Another insidious danger is the tendency for gambling to become a virtual obsession. "Over 2,000 children under 16 are taken by their parents to Gamblers Anonymous every year, and the present rate of referrals . . . in Britain are

thought to be just the tip of the iceberg." (*The Buzz*) How addicted can they get? Said one report: "Once hooked, they must gamble whether they are winning or losing."

Robert remembers seeing one woman gamble away £90 (\$140, U.S.) every day. One young gambler was so desperate to get money to feed his obsession with fruit machines, as slot machines are often called in Britain, that he tried to murder his mother! Paddy, who started gambling at a very young age, had a similar inability to control his gambling habit. "I was raised in a gambling family," he recalls. "I would gamble on anything and everything. When I grew up and got married, gambling took food from my wife and children, and it eventually brought me to the point of suicide."

The Lure of the Slot Machines

Any form of gambling can produce such dire results, but one of the biggest dangers for young people today is the slot machine. This



Gambling for even small amounts of money can get one hooked

is "currently regarded as the biggest problem concerning young gamblers," says *Journal of Gambling Behavior*, Spring 1989. These machines, well described as one-armed bandits, are "subtle and seductive devices," says *The Buzz*. "The more you play, the more you are likely to want to play."

Is there any sense at all in playing a game, however seductive it might be, where the odds are fixed to guarantee that you will virtually always lose more than you win? *Young People Now* described your chances of winning this way: "Never give a sucker an even break, goes the saying. Fruit machines don't . . . [If] you put £10.00 in a machine on average it will keep £7.00 and give you £3.00 back."

No wonder Mark Griffiths, researcher into the effects of gambling on young people, states: "The only way to make money out of a fruit machine is to own one." Does it seem reasonable to you to get involved in such futile activity?

Nevertheless, these machines are cleverly designed to hook you into playing more. How? By showing three lines of fruit symbols instead of just the winning line! *Young People Now* explains: "The lines above and below the payout lines are shown to give players the illusion that they 'just missed' and so encourage them to have another go." The so-called near-miss, two winning symbols and a third losing one, is often seen by the gambler as a "near-win," and so he is encouraged to try again—and again, and again.

But this is typical of the gambling business. Manufacturers design machines and gambling games in such a way as to provide the illusion that instead of having lost, you have had a near-miss! You nearly won! This conditions you to keep playing because of the high you experience having come so close to "winning." Add to this the flashing lights and mes-

merizing sound effects, and you begin to get some idea of the powerful psychological pressures being used to entice you to play—to keep playing—and to keep losing.

Making the Right Decision

The best way to avoid becoming a compulsive gambler, then, is to avoid gambling in the first place. Avoid it in all its forms, including the betting of small amounts of money. Many a life-long gambling habit has begun by gambling pennies. And if the opportunity to gamble presents itself, consider the principle Jesus Christ stated at Matthew 7:17: "Every good tree produces fine fruit, but every rotten tree produces worthless fruit."

Think about it: What does gambling really produce in people's lives? Does it help one develop the fruits of God's spirit, such as joy, peace, and self-control, or does it generate strife, fits of anger, and greed? (Galatians 5:19-23) Remember, greed is condemned by God. Just one greedy act could make you reprehensible in his eyes. Ask yourself if gamblers are fitting association for Christian youths. (1 Corinthians 15:33) Remember that "the whole world is lying in the power of the wicked one." (1 John 5:19) Does not gambling clearly serve the purpose of Satan the Devil? So why be seduced into getting involved in it?

When Ireland's national lottery was first introduced, it was quickly dubbed a tax on idiots! That about sums it up. Who wants to be taken for a fool and robbed of needed resources by being seduced into the dream-world of the gambler? Fortunately, Andrew and Julian (mentioned at the outset) saw in time that gambling is a fool's game. They clearly see its dangers and avoid it. "Anyhow," they say, "there are much more worthwhile things to do in life than waste your money gambling."

Cricket or Baseball —What's the Difference?

By Awake! correspondent in Australia

WHEN England's Queen Victoria was celebrating her jubilee in 1897, a quarter of the world's land surface was under British control. Now, the once mighty British Empire exists only as a memory. And yet, surprisingly, its influence is still seen and felt in many parts of the world today. One such legacy is the intriguing English game of cricket.

It is popular in most lands formerly under British control, such as in Asia, in the West Indies, and in Africa—but not in the United States, where baseball takes pride of place. Yet, there are reported to be at least a hundred cricket clubs in that former colony. For those who have never watched cricket, let us explain. It is a game played on a large oval field, with all the players dressed in white, where bowlers try to hit, or break, a wicket defended by a batsman. But more about that later.

Does Cricket Resemble Baseball?

Yes and no. To most baseball enthusiasts, cricket seems to be a quiet, rather slow game, ‘baseball on Valium’ as one U.S. comedian put it. Some cricket terms, however, will sound familiar. On the other hand, the purposes of the games and the rules of play are quite different. Yet, an understanding of what each opposing team on the cricket field is trying to achieve could change your frustration into fascination.

As with baseball, cricket has two opposing teams. Each team is made up of 11 men, with one in reserve known as the 12th man. This contrasts with the nine-man baseball team. The term “batsman,” rather than “batter,” is used for the player striking the ball, and the shape of the cricketer’s bat is quite different from that of a baseball bat. (See illustration, page 23.) Also, the one delivering the ball is called a bowler, not a pitcher. The expression “scoring runs” is common to both games, though the method of scoring differs. The term “innings” is used in both sports. That these terms are similar should not be surprising, however; the *Encyclopedia International* tells us that baseball was developed in the late 19th century from the English game of cricket, combined with another sport known as rounders.

Nevertheless, apart from the above similarities, the differences between the games of cricket and baseball are many. The dress and stance of players, the design and layout of the oval cricket field versus the baseball diamond, the positioning of fielders, and the speed of play appear to have little in common. Yet, despite differences, those who understand either game usually have little difficulty comprehending and enjoying the other once the rudiments of play are explained.

So, to the Game!

The ideal ground for cricket is an oval or a field about 450 feet wide and 500 feet long. Near the center of the field is the pitch, 22 yards long and 10 feet wide. In first-class matches, the pitch is turf, mowed and carefully rolled. In other matches it may be concrete or hard clay covered with matting. At each end of the pitch are the wickets, made up of three upright wooden stumps that are 28 inches high and spaced for a total width of 9 inches. Thus, the ball cannot pass between the stumps. Two small bails, or shaped pieces of wood, fit in grooves on top, end to end, spanning the three stumps.

White lines, called creases, are marked across the pitch four feet in front of and parallel to each wicket. These mark the safe areas for batsmen when the ball is in play. The bowler must not overstep this line when delivering the ball; otherwise it is called a no ball and is penalized with an automatic free run.

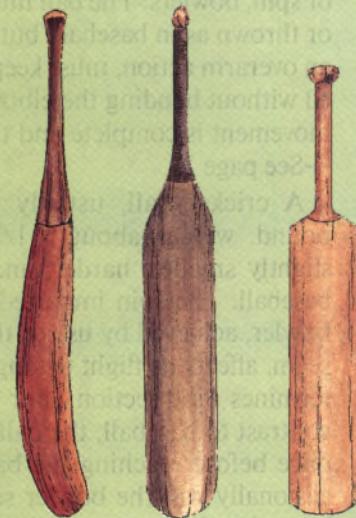
By tossing a coin, the opposing captains determine which team will bat first. The winner can either have his team bat first or send the

other side in to bat if he considers there may be advantages to his team due to weather, condition of the pitch, or other considerations.

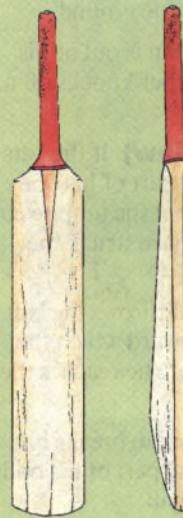
Two batsmen go to the creases—one at each end of the pitch. Both wear protective leg and body pads and batting gloves, and in recent years most professional batsmen wear helmets. All the players of the nonbatting side are strategically placed around the field at various distances from the batsman who is receiving the bowling. Their positions are identified by such colorful terms as "the slips," "silly mid-on," "point," "the covers," "the gully," "square leg," and "fine leg." The well-protected wicket-keeper (catcher, in baseball parlance) stands behind the batsman's wicket, intent on catching any ball that gets past the batsman as well as trying to catch him out or stump him when he is out of his crease.—See box, page 24.

Two bowlers are delegated by the captain to be on duty for as long as he determines. Each bowls six consecutive balls (eight in Australia and South Africa) from alternate ends of the pitch. These six-spell bowls are termed "overs." There are usually several bowlers on

**Development
of the
cricket bat
over the
centuries**



**Front and side
view of
modern bat**



Wicket with balls



Main Ways a Batsman Can Be Dismissed

Bowled. If the bowler breaks (hits) the wicket and the bails are dislodged.

Caught. If a ball hit by the batsman is caught before it touches the ground.

Stumped. If the batsman is out of his crease and the wicketkeeper knocks off a bail with ball in hand.

Leg Before Wicket (lbw). If the batsman intercepts with any part of his body except his hand, a ball that the umpire considers would otherwise have struck the wicket.

Run Out. If a fieldsman throws the ball and breaks the wicket toward which the batsman is running before he reaches the safety of his crease.

Hit Wicket. If the batsman breaks his wicket with his bat or any part of his body while trying to play the ball.

Batsman receiving ball from bowler.

Note *umpire (far left), wicket keeper (far right), and second batsman, advancing down the pitch*

each team, and the captain decides when to alternate from fast and medium fast to slower, or spin, bowlers. The ball must not be pitched or thrown as in baseball, but the bowler, with an overarm action, must keep his arm extended without bending the elbow until the entire movement is complete and the ball delivered. —See page 2.

A cricket ball, usually red and leather bound, weighs about 5 1/2 ounces and is slightly smaller, harder, and heavier than a baseball. The spin imparted to a ball by the bowler, achieved by use of the heavy stitched seam, affects its flight through the air and determines its direction after bouncing, for in contrast to baseball, the ball usually bounces once before reaching the batsman. Only occasionally will the bowler send down a non-bouncing full toss, or full pitch, one that the

batsman can reach before it hits the ground. A clever spin bowler is often more difficult to play than a fast bowler. He achieves spin by twisting the ball, either to the left or to the right, just as it leaves his hand. This causes two types of spin, termed "off breaks" and "leg breaks."

The Batsman's Big Job

Each of the batsmen has a dual role: to protect his wicket and avoid being dismissed or declared out in other ways; and to put runs on the scoreboard as quickly as possible. (See box, page 24.) An overly cautious batsman who concentrates only on defending his wicket and not on scoring, however, is often criticized for "stone-walling" because he makes for extremely dull cricket.

A skilled batsman depends on eye-hand-foot coordination, quick reflexes, and ability to run fast between wickets. Each time he runs safely from one wicket to the other, changing ends with his partner, he scores one run. If his stroke drives the ball to the boundary fence before it is fielded, he is credited with four runs without having to run them. If his stroke is so powerful that the ball clears the boundary fence, like baseball's home run, then six runs are added to his tally.

Each team stays at the batting crease until 10 of their number are dismissed, for the 11th batsman is always termed "not out," since he is left without a batting partner. The opposing team is then sent in to try to score more runs than their opponents. If it is a one-innings match, the highest total score determines which team wins. But most first-class matches have two innings for each team, so that a major cricket match may last (wait for it, baseball fans!) from three to five days, and each team may score hundreds of runs! Some famous batsmen have defied dismissal for sev-

eral days, scoring over 400 runs. Quite a contrast with baseball, where even though each team plays nine innings, a game is usually over in from three to four hours. And even after that, a team might win by one run to nil!

There are two umpires, one stationed at each end of the pitch. One stands some distance off to one side of the batsman, and the other directly behind the wicket at the bowler's end. Umpires' decisions are final. It is "not cricket" to argue with an umpire!

It Grows on You

Cricket's appeal is infectious once you get involved in the game. Tom, who migrated with his family from Europe when just a lad of nine, learned this soon after he came to Australia. He had never heard of the game, but he soon became a cricket enthusiast. Tom recalls: "As I learned to play cricket and became familiar with the rules, my enthusiasm grew. I soon learned that a batsman needs a sharp eye, quick reflexes, and a calm composure as he faces the ball hurled at him at speeds of up to 95 miles per hour."

Of course, there are many finer points of cricket not covered in this short article. But we hope that the next time you see a game in progress, you will watch it with more understanding, perhaps even with fascination, as you contemplate the daring strokes of the batsman and the wily skills of the bowler.

In Our Next Issue

The Bible Fought Disease Before Science Did

"Don't Do Anything Stupid, or I'll Kill You!"

Shenanigans in the Halls of Science

Does God Condemn the Use of Alcohol?

FORGET crack, smack, acid, and pot—alcohol is still the biggest demon society has to wrestle. Alcohol causes far more deaths and social destruction than does use of all other drugs combined.¹ These were the sentiments expressed at the 31st triennial convention of the World's Woman's Christian Temperance Union in Canada two years ago.

Such delegates see in the growing consumption of alcohol worldwide an appalling cost in human health and life, as well as in millions of dollars that will be spent annually by national governments to combat alcoholism. Convinced that God condemns their use, many well-meaning people argue for the outlawing of all intoxicating beverages. But does the Bible support this viewpoint?

Use of Wine in the Bible

Long ago God promised his obedient people: "Your stores of supply will be filled with plenty; and with new wine your own press vats will overflow." (Proverbs 3:10) Yes, he is the One who gave us the fruit-bearing vine, even providing tiny

yeast organisms that coat the grape as it nears the time for wine making.

The process of producing a fine wine was explained in part by God's prophet Isaiah. Previewing the blessings of the coming new world of righteousness, Isaiah wrote: "Jehovah of armies will certainly make for all the peoples . . . a banquet of wine kept on the dregs . . . of wine kept on the dregs, filtered." (Isaiah 25:6) Experienced wine makers know that wine "kept on the dregs," undisturbed for long periods of time during fermentation, gradually clarifies itself, improving both the bouquet and the flavor.

Enjoyment and Health Benefits?

God outlined both the enjoyment and the health benefits derived from wine. His prophet Jotham spoke of "new wine that makes God and men rejoice." (Judges 9:13) King Solomon wrote of 'cheering his flesh even with wine.' (Ecclesiastes 2:3) And in the well-known account of the marriage feast at Cana, Jesus, in his first miracle, turned a large amount of water into "the best wine," to the delight of the wed-



L'Absinthe by Edgar Degas, 1877—E.R.L./Sipa Icono

ding guests.—John 2:6, 7, 10, *The New English Bible*.

Jesus' recognition of the medicinal use of wine is apparent in his illustration of the neighborly Samaritan. Binding up the wounds of an injured man, the neighborly Samaritan poured "oil and wine" on them. (Luke 10: 30-34) The recommendation by the apostle Paul to young Timothy to 'use a little wine for the sake of his stomach and his frequent cases of sickness' harmonizes well with modern recognition of wine's dietary and medicinal value.

—1 Timothy 5:23.

Dr. Salvatore P. Lucia, a former professor at the University of California School of Medicine, stated in his book *Wine and Your Well-Being* that "wine [is] not only the oldest dietary alcoholic beverage but the most important medicinal agent in continuous use throughout the history of man." And research nutritionist Janet McDonald said that wine drunk in moderate amounts seems to be effective as a mild tranquilizer, an appetite stimulant, and an aid to digestion and to absorption of minerals in food eaten.

Moderation and Self-Control Needed

However, despite such favorable references to wine and intoxicating liquor in both the Bible and secular medicine, alcohol abuse has heaped terrible woe on much of mankind. Does that make God responsible for all the tragedies that have followed in the wake of the misuse of alcohol? On the contrary, in his Word, the Bible, he has given comprehensive guidelines governing the use and abuse of wine.

Consider, for example, the following strong warning against the abuse of this gift: "Do not come to be among heavy drinkers of wine, among those who are gluttonous eaters of flesh." Certainly this does not mean that only vegetarian teetotalers are pleasing to God, nor

does the text condemn those who use a little wine or eat meat moderately. Rather, the Bible's warning is against overindulgence in both eating and drinking. This is evident as another proverb states: "Who has woe? Who has uneasiness? Who has contentions? Who has concern? Who has wounds for no reason? Who has dullness of eyes? Those staying a long time with the wine."—Proverbs 23:20, 29, 30.

The Bible writers Peter and Paul advised moderation by counseling the early Christians to avoid "excesses with wine" and not to "be getting drunk with wine." This admonition was to be taken seriously, as the apostle warned: 'Drunkards will not inherit God's kingdom.' In other words, habitual abusers of alcoholic beverages do not have God's approval and lose out on everlasting life.—1 Peter 4:3; Ephesians 5:18; 1 Corinthians 6: 9, 10.

Thus, if individuals lack self-control in the use of alcohol, they should abstain from it entirely. (Compare Matthew 5:29, 30.) Besides physical deterioration, increased dependency on alcohol can cause grave spiritual damage. Hence, God wisely cautions us against overindulgence in alcoholic beverages.

Contrary to the point of view of the prohibitionist, the Bible does not require, or even indicate, total abstinence from wine or alcoholic beverages for all persons. (Deuteronomy 14:26) The psalmist says of Jehovah: "He is making green grass sprout for the beasts, and vegetation for the service of mankind, to cause food to go forth from the earth, and wine that makes the heart of mortal man rejoice." Indeed, God has appointed wine for a good and honorable purpose, when taken in moderation.—Psalm 104: 14, 15.

Watching the World

Dubious Distinction

In 1990 the United States became the biggest supplier of armaments to developing nations, surpassing the Soviet Union for the first time since 1983. According to a Congressional Research Service report, the United States is also the largest supplier of weapons to the Middle East, where over half of all arms purchased in the last eight years have gone. In the period from 1983 to 1990, developing nations purchased \$301.7 billion worth of arms. Of the \$41.3 billion worth bought last year from all suppliers, the United States sold a record \$18.5 billion—more than twice what it sold in 1989—while Soviet arms transfers dropped to \$12.1 billion. The study predicted a continued demand for U.S.-made weapons after their successful performance in the Persian Gulf war. China and France are the largest sellers of weapons after the United States and the Soviet Union.

Countries Beg: Stop Arms Traffic

"Latin American and Caribbean governments are urging the United States to stop the [arms] traffic, which in the last decade has become so extensive and well-organized that gun-smuggling groups can now offer the most powerful weapons on the market to clients anywhere in the world," states *The New York Times*. The weapons have been used in coup attempts, to disrupt elections, to assassinate candidates, and in kidnappings. The money made from illegal gun sales is said to be second only to profits from trafficking in narcotics. "We have the

reputation as being the No. 1 supplier of weapons in this hemisphere, and that reputation is probably well deserved," says Stephen E. Higgins, director of the U.S. Bureau of Alcohol, Tobacco and Firearms. "My experience has been that most of the countries we deal with have much more stringent controls on firearms than the United States does."

Incentive to Quit Smoking

"Lung cancer, heart attack, stroke. For some people who seek out risky activities, the deadly dangers of smoking actually increase the cigarette's allure, research has shown," notes *Science News*. "But two new reports focusing on certain nonlethal effects of smoking may provide even these daredevils with powerful incentives to kick the nicotine habit." The first points out that one third



of all women suffering from the embarrassing problem of urinary incontinence may be able to trace their problem to a current or past smoking habit. The second study found that both men and women smokers are more prone to facial wrinkling and that premature skin wrinkling increased with the duration of the habit and the number of cigarettes consumed. Heavy smokers were almost five times more likely to have excessive skin wrinkling than their nonsmoking counterparts. "For

many smokers, particularly the young, evidence that smoking causes conditions like wrinkles, bad breath or yellow teeth is much more compelling than the evidence that smoking kills," says Thomas E. Kottke of Mayo Clinic in Rochester, Minnesota, U.S.A.

European Values

The London weekly *The European* conducted a survey in six European countries to try to establish what is most important in people's lives. "Two concepts, the family and the rights of man, are in the top three of each of the six countries," reports the newspaper. "Also scoring well almost everywhere are freedom and equality." Although Europeans love their families, they "are not so keen on marriage" and are "less attached to marriage the younger they are." Those surveyed care about work, are scared of becoming unemployed, but at the same time, place money low on their list of priorities. A "striking feature," notes the paper, is that of "the values Europeans hold most dear," religion comes out at the bottom.

To Kill or Not to Kill

"Killing can be Christian," claims Roman Catholic cardinal Giacomo Biffi. In a recent audience with Italian conscientious objectors, he said: "You can be a Christian, kill, [and] make war if that serves to save other lives," as reported by the Madrid newspaper *El País*. While he is a staunch opponent of abortion, he asserted that "peace and nonviolence are not absolute values" or even "Christian values." The prelate told his astonished audience that

conscientious objection is really "meaningless" because peace "is an unworldly prospect that it would be Utopian to expect on this earth."

Non-Jews Immigrate to Israel

"We're filling Israel with non-Jews," complains Israel's immigration minister, Rabbi Yitzhak Peretz. He estimates that 35 percent of the 186,000 immigrants from the Soviet Union last year, and many of the more than 300,000 expected this year, are in fact Gentiles, which would make the Jewish State less Jewish. On a recent visit to Moscow, the rabbi was shocked when he saw a number of people wearing Christian crosses while applying to immigrate to Israel. According to Interior Minister Arye Deri, many Gentiles were using their ability to immigrate to Israel (citizenship is offered to relatives of Jews, and Soviet immigrants have a high rate of mixed marriages) to escape the economic problems in the U.S.S.R. and to benefit from the \$30,000 that Israel will eventually spend to resettle each Soviet immigrant. When the subsidy runs out, he predicts, they will leave. "Even bona fide Soviet Jews arriving in Israel are not all that devout," says *Newsweek*. "Most—72 percent, according to one poll—consider themselves secular and are unapologetic about it."

Earth View Obscured

Astronauts circling the globe on the space shuttle *Atlantis* in August reported a thick haze around the earth that obscured views from space. They speculated that it was caused both by ash from the recent volcanic eruptions in the Philippines and Japan and by the thick smoke from the burning oil wells in Kuwait. The

astronauts said that there was a distinct difference in the earth's atmosphere compared with previous flights. As he looked down from space on Kuwait's oil fires, flight commander Colonel John E. Blaha said: "This is a really sad scene."

New Species Found

"Kathryn Fuller, president of the World Wildlife Fund, looked no farther than her Washington, D.C., office and found pale yellow ants that proved to be new to science," says *National Geographic* magazine. The ants, attracted to her desk by crumbs from her lunch, were traced back to a potted plant. Specimens were given to ant authority Edward O. Wilson of Harvard University, who found that they belong to a genus called *Pheidole*, and he plans to name the new species in



her honor. "If you can find a new species in a Washington office," says Fuller, "the number of species out there in nature waiting to be discovered must be truly extraordinary."

On the other end of the scale, a new species of whale has been discovered in the Pacific Ocean off Peru—the first in 28 years. It is the smallest member of the group called beaked whales. An adult male measures about 12 feet. It has been seen so rarely that it took scientists 15 years to find enough specimens to confirm the new species, now called *Mesoplodon peruvianus*. The whale apparently

feeds on squid. "Just how a type of whale, even a relatively small one, could escape notice for so long is a mystery," notes *The New York Times*.

Aramaic Dying Out

Aramaic is evidently one of the languages spoken by Jesus Christ while he was on earth 2,000 years ago. Now the "Lord's tongue" is dying out, reports the newsmagazine *Der Spiegel* of Hamburg, Germany. Although still spoken by people in a few remote mountain villages in Syria, it is slowly being overtaken by Arabic as their youths become educated and enter military service. No written form of Aramaic has existed for centuries. To offset this, Archbishop François Abu Mukh of Damascus, who hails from one of the villages, is trying to establish a written form of the language and is organizing Aramaic classes for the villagers.

Profitable Garbage

"Brazil annually throws away US\$596,146,869." This is the value of 32.8 million tons of garbage, according to João Tinoco Pereira Neto, coordinator of the Center of Biological Treatment of Organic Residues of the Federal University of Viçosa, Minas Gerais. He estimates that '10.9 million tons of paper, plastic, glass, and metals, besides considerable amounts of clothes, rubber, leather, and lumber could be recovered.' And recycling garbage could provide "15 million tons of organic fertilizers," reducing the high cost of chemical fertilizers. Yet, Professor Pereira is quoted as saying to the *Jornal da Tarde*: "It is frustrating to know that various benefits could be obtained by adopting recycling of garbage and conclude that this is not seen as a vital public service."

From Our Readers

Death of a Child "The Bible's Viewpoint" articles "Why Did God Take My Child?" (February 8, 1991) and "The Death of a Child—Why Does God Allow It?" (March 8, 1991) provided the comfort I needed just at the right time. On January 9, I gave birth to a baby who died after three hours. I became angry at myself and even directed my mistaken anger at God. Then I read these articles. The depth of God's mercy poured from the pages, and I cried and cried. Thank you for the hope you provided when I was lonely and miserable.

C. K., Japan

School Teams Thank you for the article "Young People Ask . . . Should I Join the School Team?" (June 22, 1991) My school invited all students who were interested to join the volleyball team. I had always wanted to take part in the games. But I thought it over carefully. The games and training would conflict with my evangelizing ministry and Christian meetings. So after reading the article, I was convinced that I should not join the team.

M. C. P., Brazil

Jews and Christians I have just completed reading the articles on the theme "Christians and Jews—Can the Breach Be Healed?" (June 22, 1991) As a Jew, I grew up knowing that a large chasm existed between "the chosen people" and "the goyim." I was also taught about the future arrival of a Messiah, but it was a very vague concept. One day Jehovah's Witnesses called at my door and talked of a future of peace right here on earth. It sounded so appealing! Clearly, the Witnesses were not connected with the churches. Furthermore, they worshiped the God of Abraham, Isaac, and Jacob. I thus came to appreciate that becoming a true Christian would not betray my Jewish heritage. I therefore appreciate, more than words can say, your recent articles, and I hope that many more people will see the shining differ-

ence between Jehovah's Witnesses and other religions.

N. S., United States

Changing What You Are Although I have tried to overcome the bad habit of masturbation, I have been disappointed by relapses. However, through the series of articles on the subject "Should You Change What You Are?" (July 8, 1991), I was able to learn five specific steps I could take to change myself. It strengthened my determination to overcome my bad habit.

R. H., Japan

Asbestos I am so grateful for the article "The Asbestos Story—From Lifesaver to Death Threat." (March 22, 1991) I work at a factory and frequently work with asbestos. However, not knowing how dangerous the material is, I have done so without any of the protective measures suggested in *Awake!* The article thus proved beneficial for me and my workmates, as I was able to speak about the matter at our daily safety meeting.

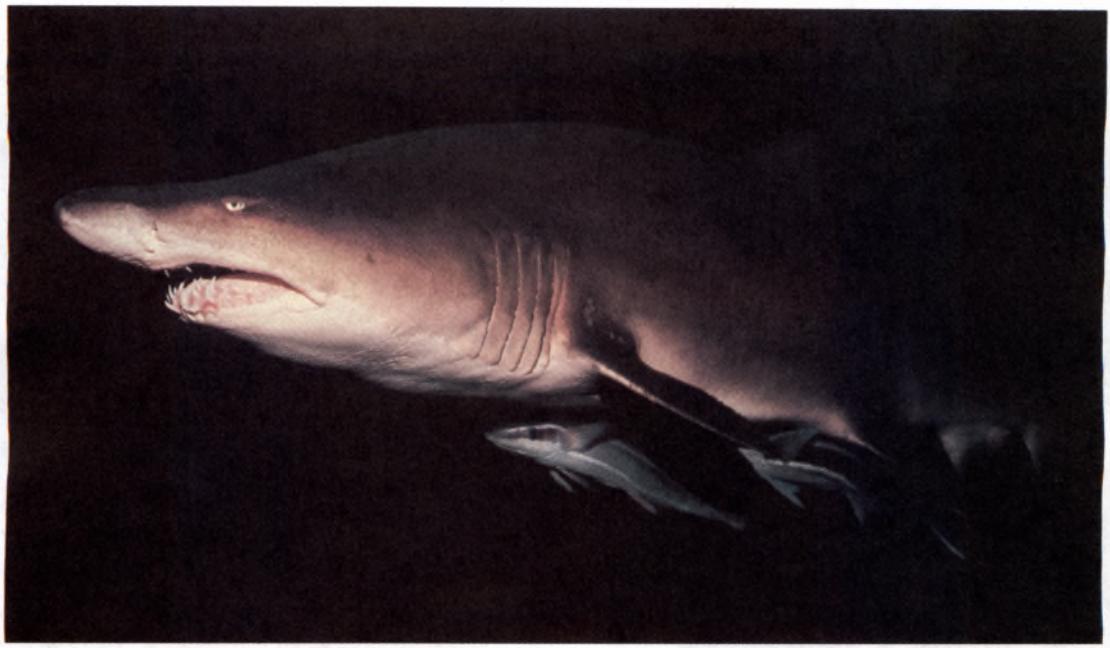
J. R. T., Brazil

There was a traffic accident involving asbestos, and those taking part in the rescue did not know how dangerous exposure to that material can be. I had read your article a few days before this incident. As an engineer, I was able to provide guidance so that the operation could be carried out in safety.

D. C., Brazil

Songbirds Thank you for the fascinating article on songbirds in the May 22, 1991, issue. My husband has been feeding the birds in our backyard for years, and we both enjoy watching them. But after reading about the incredible way the birds produce their notes, we now *listen* to them as well. We are so grateful for your beautifully written description of yet another of Jehovah's marvels.

J. S., United States



N. Orabona/H. Armstrong Roberts

The Fish That Nobody Loves

IS THE shark your favorite fish? Not likely. To most people, the shark is no favorite, though for some it provides their favorite meal, their favorite type of hide, or perhaps their favorite creature to kill for sport. More and more sharks are being killed for such reasons. *U.S. News & World Report* notes that the annual catch of shark in just the Gulf of Mexico, the Caribbean, and off the U.S. East Coast has risen by over 1,000 percent in the last ten years!

If you have heard no outcry calling for protection of the shark, it is not surprising. After all, many see the shark as a menace, an implacable eating machine with little in its brain besides an urge to sink its jaws into humans. But while shark attacks do happen, they are much rarer than the purveyors of scary movies would have you believe.

According to *U.S. News & World Report*, "fewer than 100 [shark attacks] are reported worldwide each year, and not many are fatal." Besides, not all sharks are the attacking sort. Species range in

length from 4 inches to 60 feet, and in weight from under 1 ounce to 15 tons! About 90 percent of the 300 species (including the very largest) pose no threat to humans.

And sharks are valuable. Like undersea vacuum cleaners, they play a crucial cleanup role in the oceans, gobbling up diseased creatures and refuse. Scientists eagerly study their defense system since sharks seem to be free of cancer or major infections. Still, sharks are not invulnerable. They reproduce slowly (giving birth to as few as two babies, or pups, in a year), so they may not spring back quickly if decimated.

Fortunately, the shark is finding some friends at last. The U.S. National Marine Fisheries has produced a 100-page plan to protect the fish, calling for limits on how many sharks may be taken by humans. Of course, no one has yet proposed a limit on how many humans the sharks may take; but the Creator of both man and shark promises a time when His human children will have nothing to fear on this earth.—Isaiah 11:6-9.

The High Tech Meadow

Today's lawn + meadow is 50 feet long in width + 100 yards long! It costs \$12,500 to plant 50 percent of the 300 acres (including the 75% pasture) + 100 boxes on linear of lumber.

And speak the language. I've been doing this since 1984. I've planted the grasses, helped them get established, and harvested the seed. I've learned what it takes to care for the grasses, what it takes to care for the animals, and how to live in harmony with the land. I've learned that there is a way to live in harmony with the land, and that way is to live in harmony with the land.

Living well depends on decisions about where to live, what to eat, and how to grow your own food. It's not just about what you eat; it's also about where you live, how you grow your food, and how you treat everyone you encounter along the way. It's about making choices that are good for you, good for others, and good for the planet. It's about finding balance between the needs of people, the needs of the environment, and the needs of the economy. It's about creating a sustainable future for ourselves and for generations to come.

—John D. Stilgoe, author of *Planning for the Good Life*

It's not surprising that the cost of maintaining a lawn and a garden has increased over the years. In fact, the cost of maintaining a lawn and a garden has increased by nearly 50% in the last 10 years. This is due to several factors, including the cost of labor, the cost of equipment, and the cost of materials. The cost of labor is the most significant factor, as it's become increasingly difficult to find qualified workers who are willing to work for reasonable wages. The cost of equipment has also increased, particularly for larger lawns and gardens. The cost of materials, such as fertilizer and pesticides, has also increased, due to inflation and the cost of shipping.

While the cost of maintaining a lawn and a garden has increased, the benefits of having one have also increased. A well-maintained lawn and garden can provide many benefits, including improved air quality, reduced soil erosion, and increased biodiversity. It can also provide a sense of relaxation and enjoyment, as well as a place to exercise and socialize. In addition, a well-maintained lawn and garden can increase the value of a home, making it more attractive to potential buyers.

So, while the cost of maintaining a lawn and a garden may be higher than ever before, the benefits are well worth it. By investing in a well-maintained lawn and garden, you can enjoy the many benefits that come with having one, while also contributing to a healthier and more sustainable environment.