

Awake!

DECEMBER 8, 1979



*How
will you be
spending Christmas?*

FEATURE ARTICLES

Christmas is celebrated around the world. Some have in mind the birth of Jesus. Others celebrate with equal fervor, having nothing religious in mind. Many who have faith in Christ raise serious questions about certain aspects of the celebration. Our correspondent in Germany considers the reasons why, in the following articles:

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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.

The Bible translation used in "Awake!" is the modern-language "New World Translation of the Holy Scriptures," unless otherwise indicated.

Ten cents a copy

Watch Tower Society offices
America, U.S., 117 Adams St., Brooklyn, N.Y. 11201 \$2.50
Australia, 11 Bresford Rd., Strathfield, N.S.W. 2135 \$2.50
Canada, 150 Bridgeland Ave., Toronto, Ontario M6A 1Z5 A\$2.50
England, Watch Tower House, The Ridgeway, London NW7 1RN £2.30
Hawaii, 1228 Pensacola St., Honolulu 96814 \$2.50
New Zealand, 6-A Western Springs Rd., Auckland 3 NZ\$3.00
Nigeria, West Africa, P.O. Box 194, Yaba, Lagos State ₦2.40
Philippines, P.O. Box 2044, Manila 2800 ₦17.50
South Africa, Private Bag 2, Elandfontein, 1406 R2.20
(Monthly editions cost half the above rates.)

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Remittances for subscriptions should be sent to the office in your country. Otherwise send your remittance to 117 Adams Street, Brooklyn, N.Y. 11201.

Notice of expiration is sent at least two issues before subscription expires. Second-class postage paid at Brooklyn, N.Y. and at additional mailing offices.

CHANGES OF ADDRESS should reach us thirty days before your moving date. Give us your old and new address (if possible, your old address label). Write Watchtower, R.D. 1, Box 300, Walkkill, New York 12589, U.S.A.

POSTMASTER: Send Form 3579 to Watchtower, Walkkill, N.Y. 12589. Awake! (ISSN 0005-237X)

NOW PUBLISHED IN 34 LANGUAGES

SEMI-MONTHLY EDITIONS

Afrikaans, Cebuano, Danish, Dutch, English, Finnish, French, German, Greek, Iloko, Italian, Japanese, Korean, Norwegian, Portuguese, Spanish, Swedish, Tagalog, Zulu

MONTHLY EDITIONS

Chichewa, Chinese, Hiligaynon, Malayalam, New Guinea Pidgin, Polish, Sesotho, Swahili, Tahitian, Tamil, Thai, Twi, Ukrainian, Xhosa, Yoruba

AVERAGE PRINTING EACH ISSUE: 8,300,000

Published by

WATCHTOWER BIBLE AND TRACT SOCIETY OF NEW YORK, INC.
117 Adams Street, Brooklyn, N.Y. 11201, U.S.A.

Frederick W. Franz, Pres.

Grant Sulter, Secy.

How will you be spending Christmas?

ARE you eagerly looking forward to Christmas, perhaps even counting the days? Millions of persons are. Or will you be celebrating only halfheartedly? or perhaps not at all? There are millions of persons who are not enthusiastic about the festivities. How will *you* be spending Christmas?

Many people consider Christmas to be one of the most beautiful times of the year. Though its many customs differ from land to land, yet each, in its own particular way, lends to the celebration's popularity. In the northern hemisphere, it is the time to be "dreaming of a white Christmas"—the fragrant smell of fir trees; the festive air of crowded streets decorated with colored lights, and shoppers, loaded down with colorfully wrapped packages; the sound of familiar Christmas carols. In the southern hemisphere—in Australia for example—preparations are made for an open-air Christmas dinner, or, as is customary in Brazil, people head for the beaches.

Despite the popularity of Christmas, however, the number of persons celebrating it is decreasing. A European news agency recently reported that "for billions of people, this festival does not exist." It explained that now that they have become independent some African and Asian countries have shaken off "Christian celebrations." But even in the so-called Christian nations of Europe and the Americas many people have stopped celebrating. Why?

The Date of the Celebration

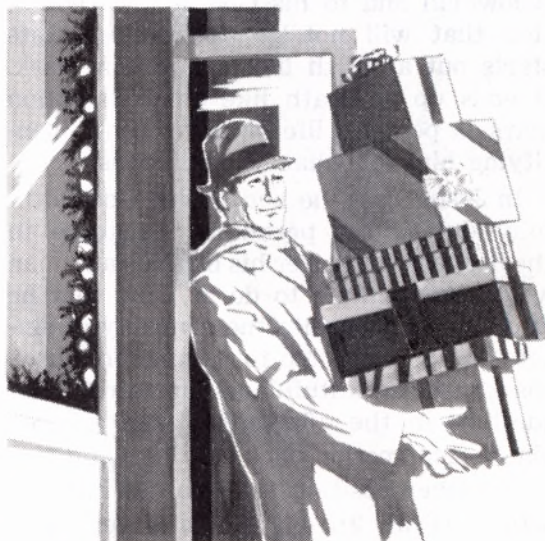
Obviously, a person not professing Christianity might object to celebrating what is commonly recognized as Christ's birthday. On the other hand, persons who see in

Christ Jesus a divine provision for man's redemption from sin and death would properly be expected to show some kind of appreciation for this provision. Would not celebrating Christ's birthday on December 25 be a fine way of doing this?

But was Christ really born on December 25? The *New Catholic Encyclopedia* answers this question by saying: "The date of Christ's birth is not known. The Gospels indicate neither the day nor the month." A newspaper writer, based in London, noted: "Just about the only real point of agreement [in this matter] among historians seems to be that it [Christ's birthday] wasn't December 25."*

This writer continued by saying, however: "What really matters is the significance of the event commemorated." You may agree. But still, does it not strike you

* Check it out for yourself in the *Encyclopædia Britannica*, *Encyclopedia Americana*, or *New Catholic Encyclopedia*.



as strange to celebrate a person's birthday on a day other than the anniversary of his birth? Is the correct date of no consequence whatsoever? Would a person not rather pick a date with at least *some* backing, rather than one with little or *no* backing at all?

The Event Being Celebrated

For the sake of argument, let us concede that "what really matters is the sig-

"The date of Christ's birth is not known. The Gospels indicate neither the day nor the month." — New Catholic Encyclopedia.



nificance of the event commemorated." That Christ's birth was important no Christian would deny.

Yet, as important as Jesus' birth was, it could not undo the Bible truth recorded at Ecclesiastes 7:1, which says that "the day of death [is better] than the day of one's being born." Viewed from God's standpoint, these words are readily understandable. During a person's life he can build up a fine record of service to his fellowman and to his God, a fine reputation that will not go unrewarded. Life starts out at birth like a question mark. It ends up at death like an exclamation mark, a person's life pattern openly identifying him for what he really was.

In Jesus' case, he had served God faithfully during his prehuman existence in the heavens. But after his birth as a human would he continue to do so, now that he would be thrown into the company of sinners and be subjected to Satanic pressure? His death in faithfulness answered that question in the affirmative, and assured him a resurrection back into heaven to an even higher position than he had enjoyed before. (Phil. 2:5-11) So in a very per-

sonal way, the day of Christ's death was better than the day of his birth.

Bringing the rest of mankind into the picture—which day has brought them the greater benefit? Was it the infant Jesus' *taking up human life at birth* that effected a ransoming of mankind, or was it, rather, the anointed Jesus' *laying down his human life at death*?—Heb. 9:14, 15.

Keeping these facts in mind, we should not be surprised that Jesus commanded his followers to commemorate his death. (Matt. 26:26-30; 1 Cor. 11:23-26) This was to be done on Nisan 14, the exact anniversary of his death, according to the Jewish calendar. However, the Bible nowhere indicates that Christ's birthday should also be celebrated.

Despite possible sincerity, the person celebrating on December 25 Christ's birthday, instead of celebrating on Nisan 14 Christ's death, is actually celebrating on the wrong date the wrong event! How did such a mix-up come about?

European Roots of Christmas

Our remembering that Christmas is chiefly a product of the northern hemisphere will help us to understand. When European pagans were being converted to Christianity, an attempt was made to

"Jesus commanded his followers to commemorate his death . . . The Bible nowhere indicates that Christ's birthday should also be celebrated."



put to Christian use some of their popular customs and ideas. On December 25, at about which time the days begin to lengthen again, the sun-worshipping Romans celebrated the birthday of the unconquered sun (*natalis solis invicti*). In the fourth century C.E., this was changed

into the celebration of the birth of God's Son. Later, the fir tree used by the pagan Germanic tribes in their winter solstice celebrations was adopted as a "Christmas" tree. Little by little, pagan and Christian ideas and customs became fused or united.

Speaking of this development, a British Columbian newspaper said: "Christmas is the product of the early medieval church's strategy of syncretism [an effort to reconcile and unite various systems of religious opinion] . . . The danger of syncre-

'In the fourth century C.E., a festival of the sun-worshiping Romans was changed into the celebration of the birth of God's Son.'



tism and natural theology is that they open a two-way street. The intention is for Christian truth to supersede the pre-Christian beliefs they supposedly unfold, but inevitably the opposite happens as well. That is, Christian truth is colored by pre-Christian notions, and the net result is a genuine paganization."

Perhaps now you can better appreciate why some persons who have great love for Christ and for what he taught have stopped celebrating Christmas as a religious holiday.

How About a Nonreligious Christmas?

Apart from any religious significance, some persons celebrate Christmas simply as a nonreligious holiday for the family, particularly "for the children." They claim that doing so promotes a better family atmosphere and strengthens friendships.

The giving of gifts is a fine thing and no doubt it does deepen the bonds of love and friendship between friends and relatives. But are the appendages of Christmas, such as Santa Claus and Christmas

stockings, really necessary before we can surprise our children, our relatives, our friends, with a gift?

Not all parents agree that humoring their children with the story of Santa Claus is a good thing. Problems can arise, as illustrated in the case of a seven-year-old girl interviewed in North America. She said: "Knowing Santa isn't for real does sort of make me wonder whether Jesus is for real."

A Canadian child of 10 was also disturbed: "I know there's no such thing as Santa. When I saw the writing on presents supposed to be from Santa and it was my mom's writing, then I knew. I told my folks. They told me it wasn't a lie. They call it a fantasy. My father said: 'I've never lied to you in my life.' I said: 'What about Santa Claus and the Tooth Fairy and all that stuff?' He said there's some things kids really like to believe in because it's really fun. But I still kind of call it a lie."

This should give grown-ups, particularly parents, food for thought. Might not a practical gift given at a time of need be more appreciated than one given on a pre-determined date just out of a sense of duty? Furthermore, leading a child to think that he has received a gift from a mythical Santa does little to strengthen

Said one young girl: "Knowing Santa isn't for real does sort of make me wonder whether Jesus is for real."



the bonds of love between parent and child.

In the light of this, it is not difficult to appreciate why some persons, although loving to give gifts and do fine things for their family and friends, have stopped celebrating, not only a religious, but also a nonreligious Christmas.

How Christian is the "Christmas Spirit"?

A BOOK entitled "All About American Holidays" says that, although the commercialization of Christmas is undesirable, this negative feature is "offset" by "the fine spirit of friendliness . . . also the feeling of generosity" shown at Christmastime. This is commonly called the "Christmas spirit." But is the so-called "Christmas spirit" really all that good? Does it make up for all the many negative aspects of Christmas? Is it Christian, if not in the religious, at least in the moral sense?

Let's examine this matter in the light of qualities that the Bible shows to be characteristic of God's spirit, and which should therefore be characteristic of the lives of true Christians. These qualities are highlighted in the boldface subheadings that follow. (Gal. 5:22, 23) Are they characteristic of the "Christmas spirit"?

Love and Kindness

If the "Christmas spirit" is truly Christian, then it should be characterized by love and kindness. Is it?

One might argue that the giving of gifts at Christmastime is in itself an indication of love and kindness. This is true, however, only if right motives are involved. Are they? Are those caught up in the "Christmas spirit" mainly interested in *giving*, or is the selfish motive of *receiving* very prominent?

If unselfish giving is the main consideration, why are not "Christian" businessmen influenced to promote increased giving by dropping their prices at Christmastime instead of raising them? Why do prices, at least in some places, tend to go sky-high at this time of year?

An *Awake!* correspondent from West

Africa reports that the people living there love to receive gifts. Although about 60 percent are "non-Christians," at Christmastime they are all caught up with the "Christmas spirit." Moslem beggars, hands outstretched, greet passersby with a "Merry Christmas." Workers in public services and public offices expect to receive gifts from their clients and customers and even remind them of this, lest they forget. Some postal workers have even refused to handle mail belonging to persons who would not participate in this custom of forced Christmas giving. This is more than opportunism; it is extortion.

A week before Christmas of 1977, the *Toronto Star* issued a warning about "purse-snatchers, shoplifters, pick-pockets, forgers and burglars. And . . . con artists with phony charities." The article also mentioned that "shoplifting picks up pace at Christmas." In fact, in the United States, a nationally known authority on security states that "almost 40 percent of each year's inventory losses take place during the 10-week pre-Christmas season."

If the "Christmas spirit" is truly Christian, why does it fail to deter, or at least cut down on, selfish, unloving and unkind acts at Christmastime?

Goodness and Self-control

If the "Christmas spirit" is truly Christian, then it should be characterized by *goodness and self-control*. Is it?

Think of the *overeating*, *overdrinking* and *overindulgence* connected with Christmas. How often Christmas parties degenerate into drunken bouts and *revelries* that encourage loose conduct and *immorality*!

These influences are aptly described by

the Boston *Sunday Globe* in connection with a group of persons who are particularly susceptible: "For a recovered alcoholic, or a person actively struggling against the disease, the holidays offer a test of will that few people could pass without support. It's a time of year when people are expected to drink, when even social drinkers find themselves tipsy (or worse) more often than usual, due to a pervasive social ethic—eat, drink and be merry—that's as much an imperative as an invitation."

If truly Christian, why does the "Christmas spirit" fail to deter this loss of self-control, which is good for neither one's health nor one's pocketbook, and can actually be dangerous?

Joy

If the "Christmas spirit" is truly Christian, then it should be characterized by joy. Is it?

An article by I. R. Rosengard, M.D., in the 1977 December issue of *Science Digest*, said: "You're not alone in feeling a 'holiday depression.' It's a neurosis of epidemic proportions . . . and here are a doctor's rules for avoiding the Christmas Blues." He continued, saying: "Not everyone feels joyful on holidays—and some people feel far worse than usual . . . At Christmas time, unhappy people feel even worse because they are ashamed to be miserable when everyone else seems to be happy . . . Many of us . . . feel disappointed in ourselves because our Christmas emotions are something less than joyous."

This explains why a medical doctor and doctor of philosophy quoted in a German religious journal said "that the number of suicides piles up on Christmas Eve." If the "Christmas spirit" is truly Christian, why does it so often fail to make people really joyful at Christmastime?

Peace, Long-suffering and Mildness

If the "Christmas spirit" is truly Christian, then it should be characterized by peace, long-suffering and mildness. Is it?

Of course, there is much talk at Christmastime about "peace on earth and good will toward men," but the reality is that strife and family arguments become common at this time of year. The *Sunday Oregonian* newspaper reports that before Christmas "some parents and relatives are working up to fights that will make Christmas Eve one of the worst shifts of the year for policemen." Explains a sheriff's deputy: "Relatives get together and drink, and they start discussing past problems they've had and they begin digging up hatchets that had been buried and should have stayed buried." And among low-income families, "the stress of providing a good Christmas for children increases tensions and tempers heat up," says the *Oregonian*. "Sometimes a home's Christmas can be destroyed in a marital melee, with packages used as projectiles and the Christmas tree left in a shambles."

As regards peace on a global scale, a story is often told with misty eyes about Christmas Eve in 1914 when a British sentry heard the sound of voices singing "*Stille Nacht, Heilige Nacht*" from German trenches 100 yards (91 m) away. British troops sang back: "O Come, All Ye Faithful." Then both sides left their trenches to sing carols together for a few brief hours. But they quickly returned afterward to the slaughter, so-called "Christians" all! Does this event reveal any truly peaceful "Christmas spirit"? Or, rather, does it not highlight a spirit of hypocrisy, in this case, carried to a chilling extreme?



If the "Christmas spirit" is truly Christian, it should be characterized by the fruitage of God's spirit. Is it?

Faith

If the "Christmas spirit" is truly Christian, then it should be characterized by faith. Is it?

Christian faith, according to its definition at Hebrews 11:1, is based on realities or facts. Since Christmas is based to a large extent upon tradition, myths and falsehoods, how could we expect it to promote strong faith?

A parish letter published in Germany said, in speaking about Christ and the early Christians: "His teaching was much more important to the people than the date of his birth." It added: "The first Christians did not know such a thing as a birthday celebration."

Of what benefit is it to believe that Christ was born if we neglect to believe in what he taught or to exercise faith in the

value of his ransom sacrifice? Not much faith is needed to believe that Christ was born; much more is needed to believe in the value of his ransom sacrifice and in his position of kingship in God's established kingdom. If the "Christmas spirit" is truly Christian, why does it do little more than boost church attendance at Christmastime, and yet not succeed in motivating church members to bring forth real works of faith in imitation of Christ throughout the entire year?

In summary, if the "Christmas spirit" is truly Christian, then it should be characterized by the fruitage of God's spirit. Is it? Galatians 5:22, 23 tells us that "the fruitage of the spirit is love, joy, peace, long-suffering, kindness, goodness, faith, mildness, self-control." Is this what we have observed to be the spirit of Christmas? Or, as we have noted, are the works of the fallen flesh as described in the same chapter of the Bible, verses 19-21, more likely to fit what actually prevails during the Christmas season? "Now the works of the flesh are manifest, and they are forni-

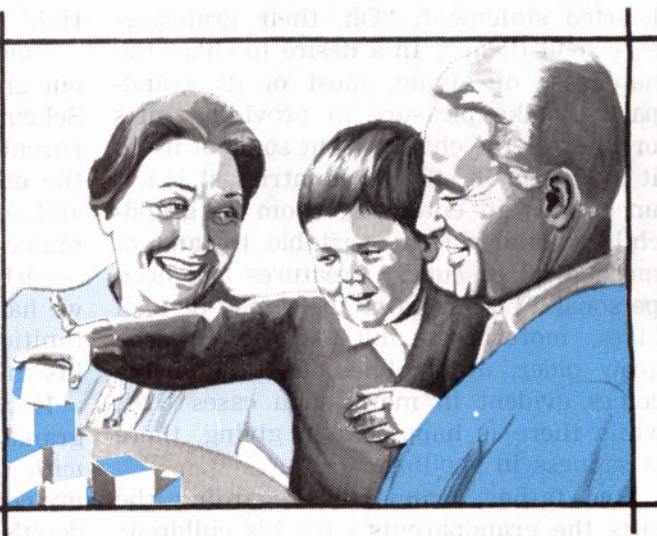
cation, uncleanness, loose conduct, idolatry, practice of spiritism, enmities, strife, jealousy, fits of anger, contentions, divisions, sects, envies, drunken bouts, revelries, and things like these. . . . Those who practice such things will not inherit God's kingdom."

Viewed from the overall standpoint of global and general celebration, rather than from the standpoint of possibly sincere individuals who may conduct themselves quite decently when celebrating Christmas, what do we find? It is apparent that the "works of the flesh" are all too often manifest and the "fruitage of the spirit" is all too often lacking.

Perhaps you can now better appreciate why persons interested in showing forth the fruitage of God's spirit and avoiding the works of the flesh try not to get caught up in the "Christmas spirit." We hope that these facts, when considered prayerfully, may help you to decide in a way pleasing to Christ, the Founder of Christianity, how you will be spending Christmas.

the Art of being a Grandparent

WHEN our son became a father, a new series of relationships began, one involving parents and children—and let's not overlook grandma and grandpa. The wise man said at Proverbs 17:6: "Grandchildren are the crown of old age, and



sons are proud of their fathers.”—*The New English Bible*.

A practical application of this scripture could be seen at a major maternity hospital in Sydney, Australia. The lift that took us back to the ground floor was crowded with an interesting cross section of grandparents who obviously had the responsibility of caring for grandchildren in families where new members had arrived. The patience, attention and affection, along with the gray hairs, identified grandma and grandpa. Today the grandchildren were in their charge, and it was obvious that most of them were pleased about it.

However, being a grandparent involves more than occasional baby-sitting. The long-range effect on the grandchild of things said and done, and the position of the parents, need to be considered. As is true of all relationships in this age, there can be problems, pitfalls and, sometimes, heartaches. To be a respected grandparent (for we cannot be loved on demand) offers a challenge.

Together, let's consider the *art of being a grandparent*.

What About Gifts?

How often have you heard the light-hearted statement, “Oh, their grandparents spoil them”? In a desire to share the happiness of giving, most of us grandparents take pleasure in providing gifts or toys for the children, but some of us do it too often. In affluent countries, it is not uncommon to enter the room of grandchildren and find a veritable toyland of mechanical or cuddly creatures and even personal TV sets. Later there may be trail bikes, motorbikes and, as the children grow older, automobiles. In time it becomes evident in many such cases that, while there is happiness in giving, there is sadness in spoiling.

One father commented regarding the gifts the grandparents gave his children:

“It embarrasses me, and often I get annoyed, because the children tend to expect toys every time my parents visit.”

Of course, life without gifts would be very empty. But when we give, we do well to try to make it something lasting, something that will contribute to the child's mental or emotional development and, in most cases, something not too expensive. Along with other things, we may need to give more of ourselves and our time. Doing this with success requires communication.

How Well Do You Communicate?

Early communication is necessary, and not very difficult, for little is expected in the way of a reply from babies. Progressive communication through the teen years and into adulthood offers more of a challenge.

The “gift” of time plays a large part in communication. As grandparents, we need to take time to listen to our grandchildren's problems and adventures of daily life. This is important to the development of their personality and lets us know where some kindly help might be offered. Proverbs 20:11 advises us: “Even by his practices a boy makes himself recognized as to whether his activity is pure and upright.”

Now, what if we learn that something our grandchild has done is not so upright? Scheming with him to hide it from his parents is surely no way to help him. On the other hand, getting excited, shouting and scolding is not a good way to communicate. He is going to make mistakes—perhaps some of them serious—even as we have done. Can we use these as opportunities to reason with him, to readjust his thinking, to help him to grow?

How well do you communicate with your grandchildren? Ask yourself: Do I talk *with* my grandchildren, not *at* them? Is my conversation based largely on do's and don't's, or am I a good listener and then

do I give reasons and explanations? As appropriate, do I share life's experiences with my grandchildren, my failures, my joys, my love for them? Have we walked in the countryside together, by the sea, in a park or the garden? Have we observed and talked together about wildlife, the seasons, life's dangers and life's blessings? What respect, when together, have we shown for our Creator, for our fellowman and for each other?

A memorable occasion in the life of one grandparent occurred during a walk in the local park with his four-year-old grandson. At the base of a tree a large winged insect lay dead on the ground. The young boy was afraid of the insect. The grandparent picked it up, and a simple discussion of the subject of life and death ensued.

Are you looking for something that would interest your grandson? What boy is not attracted to grandpa's toolshed, with its array of hand and power tools, items collected over the years? The opportunities to share in a special project of mutual interest are many. If you are not one who is handy with tools, what about reading? What a gift of lasting value it would be if your spending some time in reading together stirred in your grandchild a thirst for the knowledge and the fascination that good books offer!

And let us not forget grandma's sewing room or kitchen. What little girl is not attracted by the colored cottons and fabrics, and the desire to make a doll's dress, and, later, perhaps one for herself? As time passes, perhaps grandma can also share with her the secrets that she has learned about cooking.

We could all benefit from the mistake of a grandparent who did well in his grandchildren's early years but who, as they grew older and got a broader education, felt that they no longer needed him. Sadly, his freeness of communication became impaired. He allowed their apparent mental

maturity to squeeze out his emotional maturity and the lessons that he could share from the school of life. No matter what their age, we grandparents have much to offer younger ones. But we need to be good listeners too. And if we disagree with a view the younger ones express, there are times when we do well simply to share our thoughts and then let the children think about it. Even if we know we are right, it is not always wise to insist on it right now. Keep the door of communication open.

Are You Patient and Tolerant?

There is a saying, "You can't put an old head on young shoulders." Handling successfully the problems that arise between young and old takes patience and tolerance, and today's society is experiencing a famine for both.

Young folks are often strongly influenced by the world around them. There is a natural desire to be accepted by their peers. They may feel that their parents stand in their way. As grandparents we can help. Since we are not usually so directly involved in the day-to-day matters of family discipline, the children may be more inclined to take to heart what we say. It often helps if we share with them some of the problems that we had along the same line in our youth.

In some matters we may find that we do not see eye to eye with our children in the way they are handling matters involving the grandchildren. But we need to remember that, according to the way outlined in the Bible, parents have the prime responsibility for upbringing. (Prov. 6:20; Col. 3:20) Damage to a precious relationship can occur if we grandparents, even with good intentions, interfere with the parents' handling of such matters as eating habits, discipline, schooling, medical treatment and manners. A comment made by a father is worthy of consideration: "I do not react

favorably when TOLD how to care for my family. After all, they are *my* children. However, I do appreciate suggestions made in a manner that conveys concern and tolerance for the problems my wife and I face as parents."

It is indeed difficult to manifest patience and tolerance when we see situations develop that could lead to sadness. Yet if we as grandparents are to be respected, we must appreciate our proper role relative to the family circle, not trying to take the role that the parents properly fill. There are times, of course, when we need to be shown patience and tolerance—let us explain.

How to Handle Us Grandparents

The seasons of the year provide quite a contrast, and have been likened to our changes in life. Some cope with seasons better than others do.

Problems can arise as we grandparents

grow older. Some of us get more difficult to deal with as the years go by. What we do may seem to interfere with family arrangements. We may become more irritable and less patient and tolerant. Some of us, sad to say, are affected by varying degrees of senility. If, in earlier days, we have sown patience, tolerance and love, we have reason to hope that we will reap these qualities in return.

We grandparents, however aged, like to be made to feel that we are still part of the family. Truly, a relationship bonded with continuing communication and a realization that old and young can enrich each other with life's experiences is truly satisfying. When there is mutual love and respect, all three generations—grandparents, parents and children—can, even in a turbulent world, enjoy many of the blessings that God purposed when instituting the family arrangement.—*Contributed.*

from frontier shelters to "dream" homes

By "Awake!" correspondent
in Canada



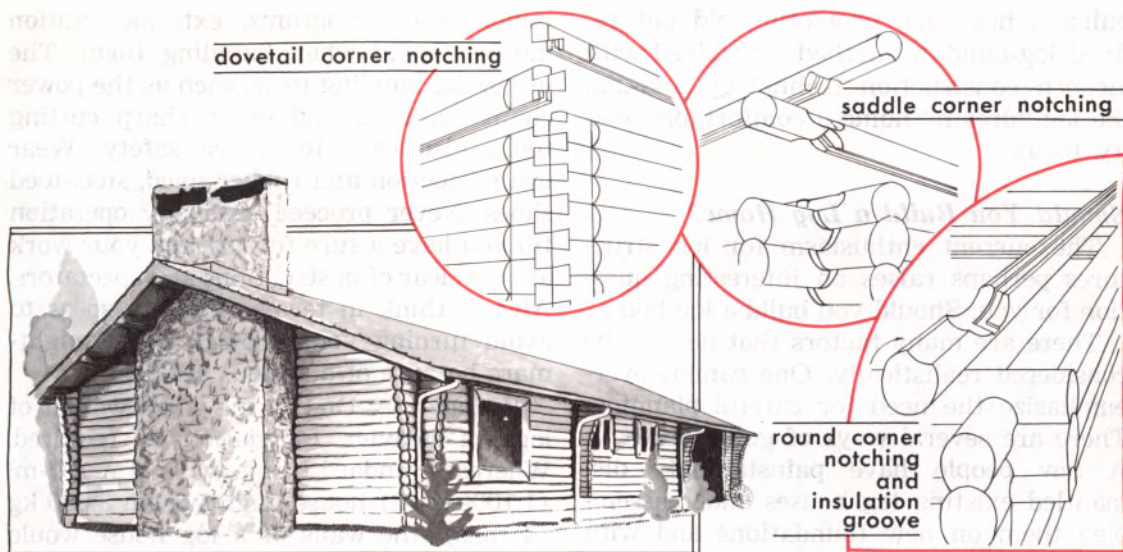
A NEW generation of log structures is capturing the attention of an increasing number of people in Canada. This renewed interest has prompted the erection of "dream" homes, community halls, public libraries, museums and even a few Kingdom Halls of Jehovah's Witnesses—all constructed with logs.

Why this resurgence of interest in log structures? There are several contributing factors. Many are attracted simply by the natural beauty of the logs. Also, economic factors have caused some to take a serious look at log construction. For others, who

desire a return to nature, a log home expresses their rejection of the concrete and plastic world that has engulfed them.

Brief History

The history of the development of log building in Canada helps us to appreciate that log structures are by no means necessarily just shacks. For example, in 1605 at Port Royal, Nova Scotia, skilled axmen constructed a large log home that French architects had designed and that became French explorer Samuel de Champlain's "Habitation." It was such a lovely home



that a visit today to the rebuilt replica of it might well start you dreaming about the one that you would like to build.

In later years, other craftsmen contributed further to the development of log buildings in Canada. For example, Scandinavian immigrants brought with them refined knowledge and skills. Unlike the French style, which held that vertical posts should carry structural weight, Scandinavian style called for structural weight to be carried mainly by horizontal logs. Instead of having vertical posts at the corners into which logs were tenoned, Scandinavians lapped and notched the intersecting logs, having their ends protrude past the corners.

What is claimed to be the largest log building in the world was constructed in 1930 at a site between Ottawa and Montreal. "Le Chateau Montebello," a Canadian Pacific Railroad hotel, has a central hexagonal hall that measures 30 m (98 ft.) across, with an impressive stone fireplace reaching 20 m (66 ft.) high. From this central hall six dwelling areas radiate outward like six spokes of various sizes, containing 200 rooms and suites for guests. The 3,500 builders who worked on the

project fitted some 10,000 logs in place and completed the project in a remarkable four months' time. The finished structure has an overall length of about 136 m (446 ft.), and is three stories high. What a magnificent log structure it is!

Ingamo Hall at Inuvik, north of the Arctic Circle, in the Northwest Territories, is a recently completed log building that maintains these traditions. A four-year construction project, this Indian-Eskimo community center has been so masterfully put together by two log craftsmen (using Finnish building techniques) that it is a challenge to try to slide a piece of paper between the logs.

One more modern-day example is the attractive Kingdom Hall of Jehovah's Witnesses at Masset, in the Queen Charlotte Islands in British Columbia, one of several log Kingdom Halls in Canada. Some of its logs are 15 m (49 ft.) long!

Projects like these are establishing the credibility of log building as a modern construction practice. Many are coming to the realization that the new-generation log home need not be just a log cabin with a dirt floor, drafty walls and a leaky sod roof. The new breed of dedicated log

builders has been promoting old but refined log-building methods combined with modern construction technology, making the log "dream" home a comfortable reality today.

Should You Build a Log Home?

The current enthusiasm for log structures perhaps raises an interesting question for you. Should you build a log home?

There are many factors that need to be considered realistically. One cannot over-emphasize the need for careful planning. There are several ways of going about it. A few people have painstakingly dismantled existing log houses and reassembled them on new foundations and with new roofs. Some choose the option of ordering a "packaged" log home and then putting the prefabricated pieces together themselves. Still others prefer a hand-fitted log home. Due to the excellence of workmanship required for a satisfactory log home of this kind, many have found it wise to hire a professional log builder. But there is room for a word of caution here, too. One should know beforehand the abilities of the craftsman. Examine closely his previous work.

For those who would like to enjoy the work of their own hands, here are a few practical suggestions:

Time: There is a general tendency to underestimate what it will cost in terms of time. For example, skilled log builders sometimes can place only two to four logs a day. What could an unskilled person accomplish?

Money: Some also tend to underestimate the financial cost. Since there are so many variables (from the availability and price of the logs to optional features such as fireplaces), the cost of each home should be carefully calculated in advance.

And from the standpoint of construction here are some more tips:

Safety: Because each log will weigh

hundreds of kilograms, extreme caution must be used when handling them. The use of log-building tools, such as the power chainsaw, axes and other sharp cutting tools, also calls for extra safety. Wear eye protection and rubber-soled, steel-toed shoes. Never proceed with any operation till you have a sure footing and your work area is clear of obstructions and spectators. Always think in terms of safety so as to avoid turning your project into a nightmare because of a serious accident.

Foundation: Due to the extra weight of logs, a heavier foundation is required. Whereas standard frame walls of a 102-m² (1,100-sq.-ft.) house might weigh 3,600 kg (4 tons), the walls of a log house would weigh approximately 12,700 kg (14 tons). To prevent settling and to satisfy building inspection departments, a steel-reinforced foundation wall, 25 cm (10 in.) thick, with a 61-cm (24-in.) footing might be required. These figures would change with varying soil conditions.

Selection and Preparation of Logs

Many problems can be avoided by choosing reasonably straight logs with little taper. Size, too, is important for home construction. Logs with 35- to 43-cm (14- to 17-in.) butts and 25- to 30-cm (10- to 12-in.) tops provide good appearance, structural strength and sufficient insulation. Different varieties of trees may be used, but professional log builders seem to prefer pine, spruce, fir or cedar.

The best time to cut logs is in the winter when the sap is low and the logs can be skidded on the snow, reducing damage. Peeling off the bark is best left until the logs are ready to be used. Indeed, some experts feel that logs are best used soon so as to allow them to "cure" in place in the building. If they must be stored, they should be piled straight and kept off the ground to allow for air circulation and to keep them away from moisture. When the

logs are in place, wood preservatives can be applied.

Fitting and Notching

Once you have your logs selected, on the site and peeled, the next step is the erection of the walls. This requires planning, resourcefulness, ability, hard work and care. Each log must be selected carefully and fitted into place. One common method of placing logs involves careful "scribing"—fitting each log to the one below it and notching the corners where the logs intersect.

A very important factor to consider is the settling that takes place while logs "cure." When installing doors and windows and any frame partitions or stairs, extra vertical space must be provided equal to about 6.25 cm per m ($\frac{3}{4}$ in. per ft.) of height. Framing must not be fastened directly to the logs but be secured to a vertical member "floating" in a groove in the logs. If this is not done, serious problems may develop as the logs settle.

If you wish to do your own building, it would be wise, if possible, to take advantage of any courses of instruction offered or to arrange to work alongside someone who is proficient in these skills.

Insulation

Log walls provide good insulation if they are properly constructed and of large enough logs. For example, a wall constructed of tapered logs with 25-cm (10-in.) tops and properly fitted has an insula-

tion R factor approximately 20 percent higher than a 5 by 10 cm (2 by 4 in.) frame wall with nine cm (three and a half in.) of fiberglass insulation. Of course, it would be even higher if larger logs were used and the underside of each log were grooved so that resilient insulation could be hidden between the logs.

Another plus for log walls is their heat-retaining capacity. The type of wall described earlier has about five times the ability to hold heat that frame walls have. This contributes to a more constant temperature and, hence, a more comfortable living condition. The same principles for insulating the roof and floor apply as in standard construction; otherwise the insulating advantages of log construction will be lost.

Plumbing and Wiring

An area where foresight saves a great deal of work later on is in making provision for installations such as plumbing and electrical wiring to be done while the logs are being put in place. Care in concealing these services presents a more pleasing appearance.

It should be obvious that much is involved in the construction of a log home. Perhaps you could first construct a toolshed or similar small structure. In doing so you would gain skill in log work and would only have to live *with* your mistakes and not *in* them. You would also be in a better position to determine whether your new "dream" home should be built of logs or not.

'Attitude of Early Christians'

In his book *The Ancient World*, Willis Mason West wrote: "The attitude of the Christians toward society added to their unpopularity. Because Christ had preached peace, many of them refused to join the legions, or to fight, if drafted. This seemed treason, inasmuch as a prime duty of the Roman world was to repel barbarism. Moreover, the Christians were unsocial; they abstained from most public amusements, as immoral, and they refused to illuminate their houses or garland their portals in honor of national triumphs."

HOW a LIVING HOPE

MANY people consider the present world conditions to be hopeless. Granted, there seems to be little promise of a radical change for the better. However, despite this fact, hundreds of thousands of persons look confidently to a bright future. Why?

This is because they have accepted the promises that Jehovah God has made in his Word the Bible. They look forward to the time when he will act to remove all crime, violence, oppression and injustice. (Dan. 2:44; 2 Pet. 3:13) But this is not all. Regarding what the Most High has in store for humankind, Revelation 21:4 says: "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." By means of a resurrection, even the dead will be able to share in these blessings. (John 5:28, 29) What a grand hope this is! And, because it originates with God, it is certain of fulfillment.

To help others to appreciate the grand hope set forth in the Scriptures and to strengthen it in themselves, Jehovah's Witnesses have been holding a series of "Living Hope" conventions, scheduled to be completed early in 1980. The conventions continue to provide abundant evidence that a Bible-based hope has tremendous power.

Even outside observers have noted the good effect of this hope. For example, in the Netherlands,

a high-ranking policeman, though off duty on Sunday, wanted to be on the convention grounds to help to direct traffic. He had so much enjoyed the orderliness and fine spirit of the Witnesses that he volunteered his services on his day off.

A Challenge

How a people whose hope unites them in genuine brotherhood can deal with unexpected obstacles was demonstrated in connection with the "Living Hope" convention in Hollywood, Florida. About two weeks before the gathering was to begin at the Sportatorium, a Witness, while making home visits, met a man who did maintenance work there. He expressed wonderment as to how it would be possible for Jehovah's Witnesses to begin their convention on Thursday morning, July 5, since a rock concert had been scheduled for the night before and would continue until 11 p.m. Immediately the Witness alerted those in charge of preparations.

This posed a real problem. How could hundreds of Witnesses enjoy the program if they had to spend the night in readying the convention site?

In a marvelous demonstration of brotherly love, the Spanish-speaking Witnesses, who were to have their convention at the same place but not until the following week, responded. Upward of 1,000 volunteers eagerly cooperated, starting work at 2:30 a.m. on July 5. They moved huge piles of debris, swept up litter and washed all 14,000 seats. When the floor-washing machine broke down, they mopped the entire area by hand. At 5 a.m. the place was spotless, and platform construction could begin. The last loudspeaker was connected just seven minutes before the opening session.

Affects Their Lives

After the second convention, the one in Spanish, was over, an official for the Sportatorium management was moved to say: "It was really upbuilding to see how all of you smiled, and how you greeted one another in such a warm, loving way. Only kind words could be heard during the time of your two conventions—no fights for seats or places, only orderly lines. This place has never been so clean and tidy."

Truly, the love and unity that come from sharing a common hope made it possible to meet a big challenge successfully.

Efforts to Attend

Often an individual's attending an assembly presents a personal challenge. Yet thousands of Witnesses proved that they were willing to meet it. Why? It can be attributed to their Bible-based hope, a desire to keep that hope strong and their concern for the spiritual welfare of others.

Take the case of Anita, whose husband is not a Witness. To maintain a normal family life for her mate, she, with her three children, arranged to spend only two days at the first convention in Corvallis, Oregon, and then another two days at the second convention in the same city. By driving over 200 miles (320 km) round trip every day, she was able to care for the needs of her husband and family in the evening. Not only did this arrangement enable her to benefit from the entire convention program, but she had the joy of aiding other Witnesses in like circumstances to attend with her.

Regarding her own efforts to be present at the "Living Hope" convention, one delegate said: "I was determined to attend this assembly. Being without a husband and low on money, I decided to be resourceful. I bought a 15-foot (4.6-m) travel trailer from a fellow Witness and financed it through the bank, where I am employed. Since I was to travel a long way, I took a

course in auto mechanics. With that knowledge, I tuned up the car and installed new brakes. Another Witness and her children joined me. With our four children and trusting in Jehovah all the way, we successfully completed our trip of 500 miles (800 km) over high mountains."

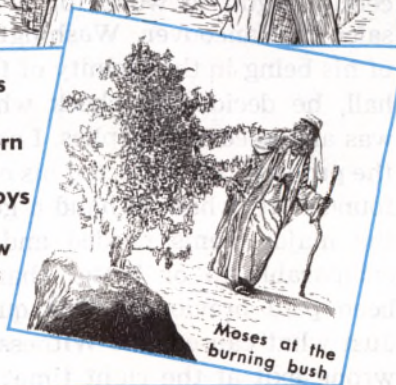
Not Discouraged by Tragedy

In a number of cases, Witnesses faced very discouraging circumstances that put their Bible-based hope to a test. For example, about a month before the first convention in Puyallup, Washington, a Witness lost her husband in death, leaving her a young widow with three small children and one older son. On Thursday morning, the day the convention started, the house caught fire, destroying all their clothes. With only their bathrobes, the family escaped the fire. Fellow Witnesses quickly responded to the needs of this



A widow having a problem with her son

Bible dramas emphasized loving concern for fatherless boys and deciding how to use one's life



Moses at the burning bush

mother and her children, providing ample clothing, so that they were able to attend the sessions on Friday.

Regarding her desire to be present for the start of the convention, she commented: "I wanted to be there to let the brothers and sisters know that I'm still alive. However, I just couldn't make it. I am thankful to Jehovah for having been able to attend from Friday onward. I really benefited. It was almost as if Jehovah God said, 'Sit down, I have something to tell you.' That's exactly what I did. I listened, and it was most encouraging."

When the Unexpected Happens

Similarly, other Witnesses came to appreciate more fully the wisdom of committing their cares to Jehovah God. For example, in connection with the convention at Woodburn, Oregon, food supplies began to run short by the second day of the gathering. Therefore, Witnesses in charge of getting provisions assembled that evening and arranged to contact suppliers in Portland. All were encouraged to pray about the problem. But efforts to obtain food proved to be in vain.

Meanwhile, however, a Witness arrived unexpectedly at the assembly hall. He had taken a wrong exit from the freeway and found himself about 12 miles (19 km) off course. It so happened that he had recently begun to work for a food wholesaler in Vancouver, Washington. In view of his being in the vicinity of the assembly hall, he decided to check whether there was any need for supplies. Learning about the problem, he contacted his company and found that it had on hand a good stock of the major items needed and at a price comparable to or better than what had been paid previously. The question was: Just what caused this Witness to take the wrong exit at the right time?

Aid for the Program from

a Variety of Sources

As the Witnesses listened to the discourses and observed the Bible dramas at the conventions, few realized that sometimes what they heard and saw had been made possible through aid from a variety of sources.

Because of flooding in Texas, many Witnesses encountered problems in getting to the convention at Houston. On account of the situation, the part of one of the speakers was canceled in the morning and rescheduled for two o'clock in the afternoon. To get to the convention, he and his son waded through water up to four and a half feet (1.4 m) deep, the father carrying a change of clothing in a plastic bag. A car that was scheduled to pick them up did not arrive. So they hitchhiked. One automobile took them part way. Then another ride was procured. The driver was a ham radio operator and therefore had something in common with the speaker's son. Hence, the driver took both of them directly to the convention site.

One of the dramas at the "Living Hope" convention depicted life in Egypt during the time of Moses and included a scene of Moses at the burning bush. The couple responsible for procuring the needed props were amazed to find how help came from inside and outside the congregation. For the burning bush it was decided to use aluminum polycarbonate moved by air, with a light shining on it. One Witness donated a furnace fan; another provided the bush, and still another lent two 1,000-watt photo flood lamps. Merchants in the area supplied ideas and help in making the best use of the available props.

The wife who was to get the jewelry for the drama told what happened: "In our congregation there wasn't enough fancy jewelry for one Egyptian, let alone all of them. I mentioned our drama to an old

lady at a little grocery store. Surprisingly, she knew a woman who had much costume jewelry. The owner of this jewelry contacted me and brought over \$350 [U.S.] worth of costume and real jewelry and also demonstrated how it could be used to best advantage."

Effect of the Program

Up to now 1,342,117 have attended the series of "Living Hope" conventions world wide. Again and again expressions were made on how encouraging the program was. One elder, with many years of experience, commented: "The program reached not only the mind but also the heart. Everyone was very much impressed by it."

Another elder stated: "This program is very personal. It deals with the individual, with his need to improve not only his relationship with God and with the brothers, but also with his own self, the inner man."

Regarding the drama entitled "The Need of the Fatherless Boy," one Witness said: "This drama was filled with vital points—elevated wisdom regarding problems that people in the world might not even think about."

Hope in Action Among

Those Getting Baptized

A prominent feature at the "Living Hope" conventions was a mass baptism. Interviews with those getting baptized revealed that Bible-based hope had stirred them to action.

Among those baptized at Saarbrücken, Germany, were a married couple and their son. The parents had lost two children through sickness and accident. The only comfort that their clergyman could give them was to tell the father: "Lord, thy will be done." "This did not seem to me to be much comfort," the father said. Later, through a study of the Bible with Jehovah's Witnesses, the family was greatly strengthened. As the father put it:

"Now we have a marvelous hope through God's Word, the Bible."

One who stood up to get baptized at the convention in Nuremberg, Germany, was a man whose childhood had been spent in a series of homes, including one for juvenile delinquents. When he was only 21 years old, policemen found him in the streets suffering from alcohol poisoning, and took him to the hospital. He continued to drink, however, and was on the verge of delirium tremens. Concerning this period of his life, he said: "My hands and arms were almost paralyzed. I wondered why I was alive." Nevertheless, by means of a Bible study, he was able, as he himself said, "finally to find out the meaning of life." Encouraged by the Scriptural hope, he gave up drinking and smoking, married the girl with whom he had been living and stopped mistreating her.

One of the newly baptized Witnesses, a 26-year-old, at Landover, Maryland, had the following to say:

"Sitting in the Washington Capital Center among the 121 candidates for immersion and looking about at the 13,176 persons in attendance—all listening intently to the speaker and sitting peacefully together—was a deeply emotional experience for me. I had come to the convention in handcuffs with two armed guards from the Maryland State Penitentiary in Baltimore, where I have already served more than 27 months of a 25-year sentence. As I look back, I can see how I squandered and wasted my youth, but, by Jehovah's undeserved kindness, I now have a bright and happy future. Within a few hours, I will be going back to my confinement. Of course, I do look forward hopefully to possible parole and release. But whether this ever comes in this old system, I will never again be confined spiritually, for, indeed, Christ has set me free."

At the convention in Niagara Falls, an 87-year-old woman was among those seek-

ing to be baptized. With only one leg, blind in one eye and with defective vision in the other, and afflicted with diabetes, this woman has been able to maintain a good disposition. It took half a dozen men to lift her from her wheelchair and lay her gently into the water for baptism. As she was lifted back into her chair after baptism and wheeled out, a beaming smile could be seen on her face.

Reporting on the event, the *Buffalo News* stated: "The woman's action was typical of some 10,000 Jehovah's Witnesses present at their annual district convention Saturday. While none could match the drama of the elderly woman's baptism, the men, women and children milling around the convention center showed a similar singleness of purpose."

What helped the 87-year-old woman and the many thousands who attended the "Living Hope" conventions to have such

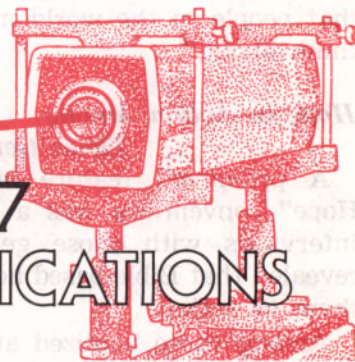
"singleness of purpose"? This woman's comments provide the answer: "Jehovah has been very good to me. He saved me a good memory. Even though I've lost much physically, I'm very grateful. I love Jehovah. All the brothers and sisters are one large family. I haven't had a family in years, and now I have one. This brings me closer to Jehovah. The living hope has helped me to endure and overcome my problems."

Surely Bible-based hope does motivate. It helps us to appreciate that our Maker, Jehovah God, has deep love for us, that he has in mind our enjoying a grand future. This draws us to him, prompting us to conform our lives to his ways. That is why Jehovah's Witnesses are eager to help as many as possible to embrace the hope set forth in the Scriptures. If you are not presently studying the Bible with them, we encourage you to do so.

LASERS,

LIGHT and COMMUNICATIONS

by "Awake!" correspondent in the British Isles



LIGHT—how precious and vital it is to man! Our very lives depend on it, for with no light from the solar system's great powerhouse, the sun, all life on earth would eventually cease. Owing, no doubt, to the great beauty of light with its endless variety in colour and form, man has pursued from earliest times a deeper understanding of its nature. Along with

this he has sought ways of producing and using light for his greater benefit.

Of all his ideas one of the most fascinating came to reality in the 1960's, catching the imagination of many even outside the world of science. It was the invention of the laser. The first successfully operated laser, in 1960, employed ruby as the working material and produced a red beam, but

today many different materials can be used: carbon dioxide, water, helium, argon—each producing its own characteristic colour of light.

How does the light produced by a laser differ from that from other sources? And what practical applications do lasers now have?

Essentially, lasers possess two properties that no other light sources have to the same extent. First of all, the laser does not spew out its light in many directions as an electric light bulb does, but confines it to a narrow, intense, pencil-like beam. Secondly, the light itself is extremely pure or “coherent”—like sounding a single pure note on a musical instrument rather than many notes simultaneously.

Because of these special properties, lasers have found many applications in diverse fields. The laser’s directional property has been used to measure the distance of the moon from the earth by directing a beam from a 60-inch (152-cm) telescope. The distance was measured to within one inch (25 mm)! The high intensity of the light makes lasers useful for cutting and welding. Paper, cloth and even diamonds can be cut, and thick steel plates can be welded together very fast by powerful carbon-dioxide lasers. In the field of medicine, laser scalpels are now available. They can be manipulated more accurately than a surgical knife and have the added advantage of the beam itself coagulating the blood, thereby making clamps for blood vessels unnecessary. In the eye, welding of a detached retina is now routinely performed by an argon-gas laser, and delicate vocal-cord operations have been experimentally performed in the throat.

But perhaps one of the most exciting and widespread uses of lasers and certain other types of light sources is now opening up. Scientists have already achieved light-wave communication systems. Already prototypes are in operation in which

telephone or television signals can be sent on light travelling along glass fibres instead of electricity along wires. It is expected, in fact, that in the early 1980’s widespread application of light-wave communication systems may be made to telephone transmission.

How is it possible to communicate by means of light? What advantages does this method offer and how will it affect our everyday lives? Let us examine in detail how light-wave systems have been developed. First, we need to consider briefly the physical nature of light itself to see that, in certain respects, it is very similar to the waves already commonly used for communication purposes.

The Nature of Light

In 1864, James Clerk Maxwell, a Scottish physicist, succeeded in combining the laws of electricity and magnetism. He found that, when so combined, they predicted the existence of waves of various types. One of these was identified as being light, but others, then unknown, were later discovered and are now known as radio waves, radar waves and X rays, all of which are invisible.

Maxwell’s theory proved that all the different kinds of waves, including light, are similar in nature; they all consist of electric and magnetic forces that vibrate or oscillate. What makes the difference between, say, a light wave and a radio wave is only the speed or “frequency” of the oscillations. In a light wave the forces vibrate about 100 million times faster than in a typical radio wave.

So, just as a radio wave can carry the music and picture signals for radio and television, a light wave can be made to do the same by using somewhat similar principles and techniques. But because its frequency is so fast, light, when coherent, is theoretically much superior. It has the potential ability to carry a vast amount

of information, much more than a radio wave can. It was the hope of realising this possibility that prompted scientists to investigate light-wave communication systems soon after the invention of the laser.

Transmitting the Light

One of the first major problems encountered in the development of a practical system was that of transmission from the source to the receivers. It was soon realised that sending a laser beam directly through the open atmosphere (as is done with radio waves) was neither reliable nor practical. Over long distances, fog, rain, clouds or snow can scatter or block the beam, but even in clear weather temperature variations in the atmosphere can refract or bend the beam off course. In addition, precisely aligned mirrors would be necessary to turn the beam around corners and for it to enter and leave buildings.

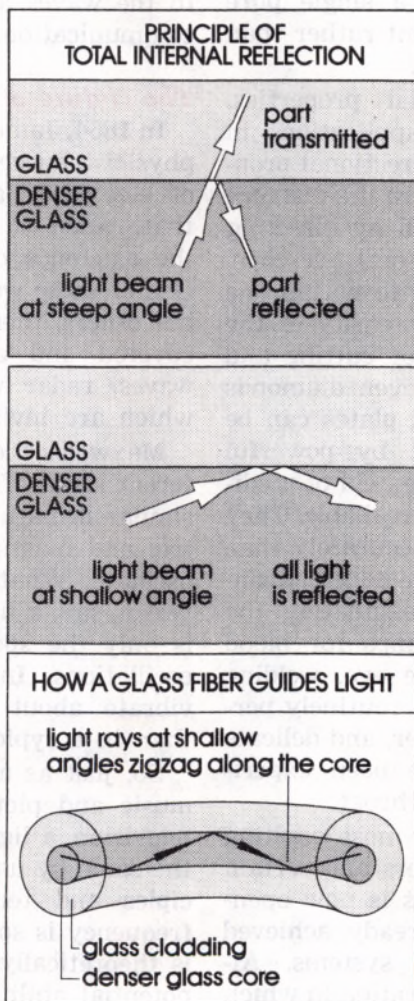
In 1966, two British engineers, K. C. Kao and G. A. Hockham, working at Standard Telecommunications Laboratories in England, suggested a better solution to the problem. For many years it had been known that light could be "conducted" or guided by flexible glass fibres as thin as a human hair, like an electric current conducted by a wire. At that time, however, the glass of which the fibres were made was poor. It

scattered and absorbed the light to such an extent that half the power was lost after the light had travelled only 10 feet (3 m) along the fibre. Kao and Hockham suggested that if an enormous improvement of the glass quality could be achieved, glass fibres could be used to carry light over many miles.

Based on this idea, Corning Glass Works and Bell Laboratories in the U.S.A., the Nippon Sheet Glass Company of Japan and various research groups in Britain turned their attention in parallel to the methods of manufacturing glass fibre. The

first breakthrough came in 1970 when Corning announced a new low-loss fibre made from almost pure silica glasses. Soon the other research groups made further advances, exploring new kinds of glasses and developing new methods of fibre manufacture. Today, glass fibres are routinely produced that can guide light for a mile (1.6 km) before losing half the power; some of the best fibres currently produced lose only a third of the light over this length!

Fibres are made by pulling them from glass fed through a furnace. By winding them onto a drum during the process, single fibres of up to several miles continuous length can be made. In practice, a protective plastic coating is put on the fibre and 100 or more



individual fibres are placed side by side with suitable strength members and an outer sheathing to form a "fibre-optic cable." Such cables are now the central component of light-wave communication systems, each fibre of the cable forming a separate and distinct channel.

How does a glass fibre guide light? The answer lies in a principle in physics known as "total internal reflection." At a steep angle a beam of light strikes the boundary between two kinds of glass, the glass below the boundary being denser (optically). Some of the light is transmitted and some is reflected. (See diagram.) If, however, the angle is made sufficiently shallow, *all* the light is reflected as if the boundary were a mirror. This condition is called "total internal reflection." The fibre has a core made of the denser glass and a cladding of the other glass. Light rays of suitably shallow angles are then guided within the core glass, the light being reflected back and forth along the fibre.

New Lasers

Parallel to the fibre research over the last decade, effort was also directed toward the development and improvement of the other components of the system. Early lasers were bulky and inefficient. There was a need to make new long-life lasers that would be compatible with the fibres. In addition, it was necessary to devise efficient methods of coding the light with the electrical signals at the transmitter and decoding at the receivers.

Today, tiny lasers smaller than a pin-head made from alloys of the elements aluminium, gallium and arsenic have lifetimes of over one year. They produce the light beam when an electric current is "injected" through the device and so are called "injection lasers." Light-emitting diodes (LED's), commonly used in electronic calculators, can be constructed in a simpler manner from the

same elements. Although their light is not coherent, they still have great importance for lower-capacity light-wave systems.

In such lasers and LED's, the light beam can be switched on and off electrically many millions of times per second! Thus, like an extremely fast Morse code, telephone or television signals are sent as a coded sequence of light flashes or "pulses" along a glass fibre. At the receiving end, special light detectors made of silicon convert the fast stream of light pulses back to electrical signals.

Prototype Systems

The stage to which research has progressed is evident from the fact that already several preliminary light-wave systems are in use and more advanced systems are presently undergoing tests in many countries—Britain, U.S.A., Germany, France and Japan leading among them.

Since March 1976, for example, television signals for some 34,000 viewers in the Hastings area of England have been sent via a 4,700-foot (1.4-km)-long fibre-optic cable. The electrical signals are carried on the light produced by a light-emitting diode.

Bell Laboratories have made extensive tests on a prototype system at their facility in Atlanta, U.S.A. The system employed an injection laser and two 2,100-foot (0.6-km)-long fibre-optic cables, each containing 144 individual glass fibres. With light sent along each fibre, a cable had the ability to carry more than 40,000 voices simultaneously! The cables were installed in underground ducts to simulate a typical city telephone system. No fibres were broken during installation.

In Germany, the Telecommunications Group at Munich have installed an experimental fibre-optic cable for the transmission of telephone and television signals.

The system has been in successful operation for 12 hours a day since August 1976 without any disturbances.

Other early applications of similar systems have been made on aircraft, ships and in computer links. As more refinements are made in the new technology and in engineering skills required for splicing and connecting glass fibres and cables, it is expected that they will replace many metallic cables in the communications field.

What advantages will be gained from using light and fibre-optic cables? Additionally, what effect will all of this have on our everyday lives?

Advantages and the Future

The use of glass fibres for communications offers several advantages over conventional copper wires. There is no metal in fibres, so they are free from electrical interference. Fibres and fibre-optic cables are of relatively small diameter—a factor of great value in city telephone networks where underground ducts are often congested. They are lighter than copper wires—a great asset for aircraft and satellites where weight must be kept down. And finally, but most important, fibres are cheap to produce.

Initially, fibre-optic cables are seen as a means to accommodate the growth of

the already existing communications networks. To the average person this could mean the slowing down of the rise in telephone costs and improving, perhaps, the ease of telephoning.

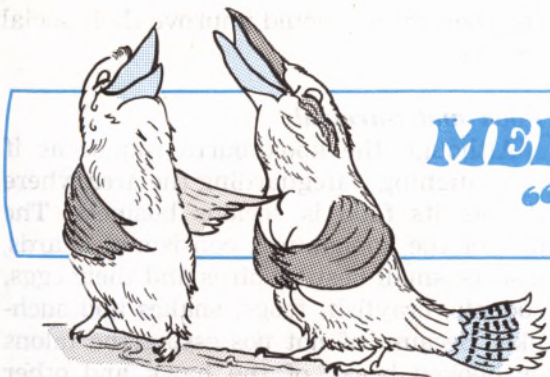
In the long term, though, the advantages are much more exciting. They rest on this huge information-carrying capacity possible with coherent light, not as yet fully exploited. In order to harness this potential, a new field called “integrated optics” has emerged since 1969. In it, lasers are completely miniaturised and tiny light circuits connect up optical components.

New and fascinating communication ideas are being envisaged. Private homes and offices, fitted with fibre-optic cables instead of telephone wires, could then have direct *television* access to new centralised services such as computerised libraries, educational centres, banks, medical centres, stores, and so on. With this facility a person could from his own home dial the computerised library for the book of his choice and then read it on his television screen, or call his bank to have his current financial statement displayed. A housewife, if confined to her house, could use a teletype to make up her shopping list on the television screen and then relay the order to a superstore at the push of a button. Video telephones may enable you to *see* the person you speak with on the telephone!

It is clear, then, that the powerful ability of light to communicate is opening up many new prospects for the future. As light-wave systems begin to move out of the laboratories and into practical use, many benefits may come. When we reflect on all of this we can well appreciate the marvellous and intricate nature of light itself. Truly, man’s inventiveness and his inward quest for knowledge are well provided for in the unending treasures of creation.—Ps. 145:16.

In Future Issues

- ***Does Xmas Promote Greed?***
 - ***How Much Energy Is in the Ground?***
 - ***Inflation Tightens Its Grip***
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MEET AUSTRALIA'S "LAUGHING BIRD"

**By "Awake!" correspondent
in Australia**

IN TODAY'S tense times people need to be reminded of the value of a good laugh. Australia is fortunate in having such a reminder in the most distinctive call of one of its unique inhabitants, the kookaburra. In a recent survey it was voted Australia's most popular bird. In size it is a little larger than a pigeon, and it is found nowhere else in the world, except in zoos.

Its "laugh" often commences with a lone bird uttering a couple of low-pitched snickers through an almost closed beak. This initial chuckle seems to signal other kookaburras in the vicinity, who immediately fly to where the first bird is perched. Then the group throw back their heads and a chorus of rollicking peals of "laughter" are sent ringing through the air. Because the individual birds "laugh" in varying keys and at a different pace, the combined effect is like the jovial atmosphere among a group of happy humans. Most people who hear the kookaburra "laugh" are pleasantly affected by this seeming show of infectious good humor.

While the "laughter" of the kookaburra can be heard at any time of day, it is especially heard at dawn or dusk. This has earned for the bird the name "settler's clock." To some the laugh sounds more like a bray, so they have dubbed the kookaburra "The Laughing Jackass."

The "Laugh"

A recent study by an ornithologist says that the "laugh" seems to be connected with the territorial system among kookaburras. They occupy well-defined territories, in one area averaging about three acres (1.2 ha) per bird. Hence, a "family" with six birds could control about 18 acres (7.3 ha). Boundaries of these territories are established each year just before breeding commences.

So, the kookaburra's "laugh" is actually a serious aspect of life, part of the warning system used by the birds to make known to others that they are encroaching on occupied territory. And the vocal warning is reinforced by flight patterns used by the birds as they patrol their territory boundaries.

A Family Way of Life

Family life is also a serious matter among the kookaburras. They like to build nest holes in a tree, using the same holes each year. When gouging out a new nest hole the kookaburra has been seen to launch himself from a nearby branch, drive his short strong beak into a termites' mound and gradually chisel out a hole of sufficient size. Three or four eggs, pearly white and as large as a bantam's egg, are laid directly onto the floor of the nest hole. Eggs are laid on successive days, and,

after an incubation period of approximately 26 days, they hatch on successive days.

Investigations have revealed an unusual family way of life. While permanently mated pairs of birds usually occupy a particular territory, some territories accommodate other nonbreeding birds. These are called "auxiliaries." When egg laying commences, it would be expected that the auxiliaries would leave to establish territories of their own. However, rather than leave, these birds actually share along with the parent birds in incubating eggs, as well as feeding and protecting chicks. In some cases, four birds were found busily helping the parent birds as carefully as if the chicks were their own. If one of the parent birds was killed in an accident or died, then an auxiliary would step in and assume a parental role. Some auxiliaries stayed for four years before establishing territories of their own. Both parents and auxiliaries were benefited by this "family" system of living. The parent birds, because they could devote more time to their own welfare; the auxiliaries, because they learned to defend a territory and also gained experience in raising a family.

Among the kookaburras there is a strict caste system, whereby members of families, both breeders and auxiliaries, know and show their place in the social pattern. A nonviolent, mildly aggressive form of behavior has been observed in this regard. Two birds would grasp bills and grapple and twist in a manner resembling "Indian wrestling." Females competed only with females and males with males. Adult breeders always won in these tests of strength, while the oldest auxiliaries came next in the hierarchy of dominance. The youngest birds were at the very bottom of the ladder. They had to wait for a new batch of fledglings to ap-

pear before they could improve their social position.

Food and Survival

Although the kookaburra sounds as if it is laughing, safeguarding the area where it gets its food is serious business. The diet of the kookaburra consists of lizards, insects, small nesting birds and their eggs, rodents, crayfish, frogs, snakes and such-like. Because of not possessing the talons or hooked beaks of the hawk and other predatory birds, the kookaburra depends on its strong neck muscles for killing and eating its prey.

However, the kookaburra is itself vulnerable to predators. For defense, it possesses a natural color camouflage. Also, in the event that hawks or other marauding birds pass overhead, the kookaburra freezes, points its beak at the would-be predator and swivels its whole body to follow the flight of the enemy bird until it vanishes. This defensive ploy is called the "stick pose," the kookaburra looking like a stick to the overhead bird.

What really makes the kookaburra popular, however, is its "laugh." Of course, not everyone likes him. After all, not everyone likes alarm clocks. And how could those who have had their goldfish pond raided or their chickens or ducklings devoured feel friendly toward the bird? Or who enjoys an early-morning rapping on the windowpane by the beak of this feathered fellow—as reminder to put out some breakfast for him? For he is a cheeky fellow.

However, despite this dark side of the kookaburra's reputation, perhaps he does remind us humans of something. While the kookaburra itself does not have a sense of humor (this being a gracious endowment for mankind alone), the bird does remind us to exercise ours and laugh from time to time.



"CAN you see anything?" "Yes, wonderful things."

This question and answer heralded one of the most dramatic discoveries in the field of archaeology. The questioner was Lord Carnarvon, a wealthy Englishman and patron of Egyptologist Howard Carter. Carter, who answered the question, was peering into the blackness beyond an opening that he had made in the sealed doorway of a newly discovered tomb in Egypt's famed Valley of the Kings. For several years they had excavated in the valley, clinging to Carter's calculated expectation of finding the as yet undiscovered tomb of one of Egypt's ancient Pharaohs, King Tutankhamen. And now, after much hard labor and when they were almost to the point of quitting, the entrance to an ancient sealed tomb had been excavated. With eager anticipation they sought to find what lay beyond. Carter himself described what he saw:

"As my eyes grew accustomed to the light, details of the room within emerged slowly from the mist, strange animals, statues, and gold—everywhere the glint of gold. For the moment—an eternity it must have seemed to the others standing by—I was struck dumb

Is Yours a Sure Hope?

with amazement, and when Lord Carnarvon, unable to stand the suspense any longer, inquired anxiously, 'Can you see anything?' it was all I could do to get out the words, 'Yes, wonderful things.' . . . We had never dreamed of anything like this, a roomful—a whole museumful it seemed—of objects, some familiar, but some the like of which we had never seen, piled one upon another in seemingly endless profusion."

For over 3,000 years these treasures had lain undisturbed. Nearly 5,000 of them: statues, furniture, boats, weapons, vases, gold and jewels. Even food, clothing and games were in this four-room rock-cut tomb, along with the ornately decorated coffins and mummified remains of the boy-king Tutankhamen. Here was abundant evidence of the funerary processes of the ancient Egyptians.

But why were all these valuable treasures and necessities for life sealed into this underground tomb? It was because of the ancient Egyptian belief in the afterlife. Death, they believed, was merely a transition to an immortal life beyond. One needed provisions and equipment to make this journey to a land much like the one left behind. Here, they believed, their ka, or vital force, would be reunited with the body; so the body was carefully prepared and mummified for this event. Even ushabti, statues that would become servants of the king in the afterlife, were placed in the tomb. Their confidence in this hope was perhaps expressed in the words, presumably of King Tutankhamen himself, found inscribed in hieroglyphics on one of the shrines found over the body: "I have seen yesterday; I know tomorrow."

But did he really know the future? Or was his a misplaced hope? No one will dispute that the objects found there were exactly as they were left when the tomb was last sealed—unmoved and unused. Even the mummy had largely deteriorated, although unguents had been used with a view to preserving the body of flesh for the after-

life. However, his hope for life after death was never realized.

What about your hope for the future? Is yours a sure hope or a misplaced hope? We cannot deny the words of the ancient Bible writers who said that "all are dying," that death is "an eventuality as respects the sons of mankind." (1 Cor. 15:22; Eccl. 3:19, 20) Is there any sure hope for a life beyond?

Many today answer Yes. Believing that the human soul is immortal, they expect possibly to live a life of ease floating as a spirit in heaven, to reach a state called nirvana, or to experience the transmigration of their soul into another body. Others, in modern times, have had their bodies frozen at extremely low temperatures in hope that science would be able in the future to overcome whatever caused their death and restore them to life. Are these hopes well founded, or are they also misplaced hopes? Is it possible really to know if there is a sure, solidly based hope for the future?

Yes, it is; and that hope is found in a book that transcends even ancient Egypt in antiquity—the Holy Bible. In it the very Creator of man, and of all that exists, states what he will do for dying mankind: "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. . . . 'Look! I am making all things new.'" (Rev. 21:4, 5) No, this will not be accomplished by the continued existence of a so-called immortal soul of a dead human body; for the Bible clearly states that fleshly man is himself a soul, and that the soul itself dies—it is not immortal.—Gen. 2:7; Ezek. 18:4, 20.

The hope for the dead lies in the "resurrection of the dead," for the Bible assures us that "the hour is coming in which all those in the memorial tombs will hear his

voice and come out." (Matt. 22:31; John 5:28, 29; see also Acts 17:32; 24:15.) How can we be sure of this hope? How do we know that it is not a misplaced hope, like that of King Tutankhamen? The Creator, Jehovah God, foresaw our need for a sound basis for this hope and "furnished a guarantee to all men in that he has resurrected him [Christ] from the dead." (Acts 17:31) This miracle was attested to by over 500 persons who actually saw the resurrected Jesus. (1 Cor. 15:3-8) And the power of the Almighty to resurrect was further demonstrated by other resurrections of persons who had died—three of these being performed by Jesus himself.—Matt. 9:18, 23-25; Luke 7:12-15; John 11:38-44.

What kind of life does this Bible hope hold out for resurrected mankind? Will it be similar to the one left behind? As we have seen from the Bible's promise at Revelation 21:4, the illnesses and pains that have plagued mankind for thousands of years will be things of the past. And in "making all things new," God will do away with the wicked, corrupt and oppressive system of things that exists today, along with all its injustices and prejudices. The Creator's original purpose in making man will be realized: An earth filled with perfect humankind, living in harmony and peace and enjoying the fruits of their labor in paradise conditions that extend world wide. Nothing that man can make can compare to the wonderful things that God will do for obedient mankind in his coming righteous new order.—Dan. 2:44; Gen. 1:28; Isa. 55:11; 65:17, 21-25; Mic. 4:3, 4.

Will you be there to enjoy it? You can be if you make this hope your own by studying the Bible and taking in the life-giving knowledge of God and Christ. (John 17:3) Let the pages of this magazine help you to have a sure hope for the future.

Watching the World



Why More Bombs?

◆ People often wonder why, if a nation has enough weapons to kill the world's population many times over, its leaders continue to urge production of even more and better weapons. Recently McGeorge Bundy, national security adviser to U.S. presidents Kennedy and Johnson, shed some light on the matter in a speech to London's International Institute of Strategic Studies. He said that U.S. administration policy was never really based on the idea of "usable superiority," or just having more and better weapons than the other side, but, rather, on the threat of retaliation. "But he conceded that officials did not talk that way in public," reports the *New York Times*. He said that, though publicly asserting weapons superiority, "what we did not say so loud was that the principal use of this numerical superiority was in its value as reassurance to the American public." But will the millions among the "American public" who are struggling to pay this winter's fuel bills be 'reassured' to know this?

Building Better Bombs

◆ Scientific research and development now employs about three million scientists and engineers around the world, according to Washington, D.C.'s, Worldwatch Institute, and

costs about \$150 billion each year. What is the world getting for its money? Well, about one fourth of the money (\$35 billion) and half a million scientists are busily designing better weapons. Three times as much is spent for 'destruction' research as for developing sorely needed energy technology in a fuel-short world.

Lowering the Standard

◆ Following the trend of general moral decline, the Director of the U.S. Federal Bureau of Investigation, William H. Webster, indicated recently that the bureau is going to put less emphasis on private life-styles of its agents. For example, agents who engage in sex outside of marriage no longer will be subject to automatic dismissal. Though homosexuals are still banned from serving as F.B.I. agents, the director indicated he will study scientific literature on homosexuality and may be agreeable to consider relaxing the rule some time in the future.

"Child Power"

◆ The International Year of the Child has spawned some radical attempts to define the "rights" of children. From Germany the *Frankfurter Rundschau* reports that a spokesman for one group of self-ordained defenders of

children said that children "should be free to decide their own affairs and not educated towards goals set by adults." He continued: "The schools of the future should be an institution where learning is offered on a voluntary basis, open from early morning until late evening, where teaching is offered at all times without attendance being compulsory. Those who do not wish to learn could occupy themselves in the schools' recreation areas, which would be attended by social workers. Teachers would no longer be instructors but learning assistants, . . . leaving it to the children to decide whether or not they want to avail themselves of what is going. After all, children know best what they need." But do they?

To Spank or Not to Spank?

◆ Child psychologists have long spoken out strongly against punishing children by spanking. But now a number of them are changing their viewpoints, at least to some extent. For example, psychologist Fitzhugh Dodson says: "It's impossible to raise a child and not whack him a few times." When a child is 'demanding and obnoxious, a couple of whacks will clear the air.' And Louise Bates Ames of the Gesell Institute of Child Development in New Haven, Connecticut, recently declared: "Spanking doesn't tell a child anything but that you are angry. Of course, that's not a bad thing for him to know occasionally." Man's Creator makes it clear that even physical correction, discreetly administered, can be beneficial for children, since all have inherited sin and imperfection. —Prov. 19:18; 22:15; 23:13, 14; 29:15.

Nazi "Saint"?

◆ Archbishop Franjo Kuharic of Zagreb, Yugoslavia, recently urged Pope John Paul II to consider beatification of his

predecessor, Alojzije Cardinal Stepinac, as a Roman Catholic "Saint." Stepinac's jaded past apparently does not deter Kucharic and other supporters. The *New York Times* reports that after the Nazis invaded Yugoslavia in 1941, "a puppet regime was established in an independent state of Croatia. Archbishop Stepinac announced the founding of the state from the pulpit of the cathedral in Zagreb, became a member of the Council of State and accepted the post of Supreme Apostolic Vicar to the [Nazi puppet] troops." After the war, the Yugoslavs convicted him of Nazi collaboration and sentenced him to 16 years in prison. "Pope Pius XII made the Archbishop a Cardinal during his imprisonment and all those associated with his prosecution were excommunicated," reports the *Times*. "In Yugoslavia, except for Croatia, his name became synonymous with fascist excesses."

Oldest Channel Swimmer

◆ When Jim (Doc) Counsilman recently swam across the English Channel at the age of 58, he became the oldest person ever to make that swim. He also became the 214th person to complete the crossing. It took 13 hours and seven minutes. The wind blew him off his course, requiring an additional five miles (8 km) of swimming. When asked why he made the crossing, the Indiana swimming coach said: "I think we have greatly underestimated the physical potential of older people. Who says people my age are over the hill? . . . we've got to realize how many productive years we have left after 50."

Swedes Drop Church

◆ The greatest number of membership cancellations in history struck Sweden's state church (Lutheran) last year. Over 30,000 Swedes decided to take the step, according to the church information center.

Youngest Bank Robber

◆ With the record-setting rash of bank robberies in New York, it was perhaps inevitable that some youngsters would try their hand at it. Recently two youths walked into a bank on Long Island and a 12-year-old with a BB gun told the teller: "Put the money in the bag or you will be dead." The teller laughed so heartily that it embarrassed the youths and they fled empty-handed. Later police arrested the BB-gun-packing youth and his 16-year-old accomplice. They explained that from television they learned about all the successful bank robberies, and so they watched the bank for several days, then stayed away from school to pull the robbery.

Potent Protection from Pests

◆ Scientists looking for substances to combat agricultural pests have taken keen interest in the East Indian neem tree. Dr. Martin Jacobson, a chemist at the U.S. Federal Department of Agriculture, has isolated substances from this tree that protect crops from insect invasion. One of these extracts, called "azadirachtin," is said to be so effective that insects will not even touch a plant protected by it. For example, the Japanese beetle would rather go hungry than dine on plants treated with this substance from the subtropical tree. "Insect deterrents from plants," said Dr. Jacobson, "are ecologically sound alternatives to chemical pesticides."

Quick on the Draw

◆ How fast can a cow be milked by hand? At the seventh annual hand-milking competition in Madrid, Spain, a Spanish farm worker "coaxed a record 15 litres [4 gallons] out of his favourite cow in 10 minutes," reports *To The Point International* magazine. His efforts exceeded the nearest competitor by six L (1.6 gals.).

"Barbaric Methods"

of "Christians"

◆ During Lebanon's civil war of 1975-76, Palestinians and leftist Moslems fought against two other groups—followers of the country's former president and their allies the "Christian" Phalangists. Both of the latter groups are Maronite Catholics. But after the war, feuding developed between the two Maronite factions who had been allies. The former president's eldest son and 30 others were killed in a Phalangist raid. In retaliation, over 100 Phalangists and family members were kidnapped. Then a group believed to be made up of Phalangist gunmen took hostages too, and killed five more relatives of the former president. As a result, the Lebanese government recently announced it was putting into effect special security measures in the northern region to prevent a return to chaos. Prime Minister Selim al-Hoss deplored what he described as "these barbaric methods" employed by the so-called "Christian" factions.

Relief from the Common Cold

◆ Doctors in Israel report having good success in eliminating cold symptoms by nasal hyperthermia. A device, equipped with two nozzles, vaporizes distilled water, with a hot airstream entering a patient's nostrils at 43° C (109° F.); but the patient does not come into direct contact with the unit. Said Dr. Dov Ophir at Kaplan Hospital: "This is sufficient to dispel all symptoms of the cold in most cases." The idea for this therapy was spawned by research done by the 1965 Nobel Prize winner André Lwoff at the Pasteur Institute in Paris. He showed that even small increases in temperature decreased multiplication of viruses. Dr. Avraham Yerushalmi of the Weitzmann Institute reported that 85 percent of patients treated with nasal hyperther-

mia felt relief. Even headaches and malaise vanished.

The Abacus Rebounds

◆ With the advent of the electronic calculator, many wondered if the abacus would fade out of the picture in Japan. "There was a time when all the publications were asking whether it's time to say *sayonara* to the abacus, but that talk is over," says Tsutomu Morita, a director of an organization of 8,500 abacus teachers. "After some years of decreasing sales, abacus production is up. The Ono abacus makers' cooperative reported last year's production at 2,100,000, up about 3 percent from 1977. Most shop owners continue to use the abacus. A skilled user of an abacus can perform many mathematical calculations almost as rapidly and accurately as an elec-

tronic calculator. Teachers prefer that students use the abacus since it obliges them to learn the fundamental mathematical concepts. "Much of the operation of the abacus is in the mind," observed a government official. "Japanese are well-versed in mathematics, and the abacus serves as a concrete model of what's going on in their heads." Further advantages of the abacus are that it "isn't powered by batteries and wooden beads don't burn out."

Antibiotics Overused

◆ The *New England Journal of Medicine* recently reported on a survey of 5,288 patients in 20 hospitals in Pennsylvania. Researchers found that American hospitals could reduce the dosage of antibiotics by about 20 to 25 percent, which, in turn, would save some \$100,-

000,000 a year. They believe that the use of antibiotics to prevent any postoperative infections should be limited to the first day or two following surgery, rather than throughout the entire hospital stay.

Roller-skating Injuries Up

◆ Due to increased popularity of roller-skating in the U.S., the number of injuries from accidents has risen sharply. In 1974 there were 52,000 roller-skating injuries reported; in 1978 they had jumped to 92,836. Of the various types of injuries, facial ones rose the sharpest—17 times the number in 1974. According to the American Association of Oral and Maxillofacial Surgeons, skaters could prevent many injuries by wearing proper safeguards, such as kneepads, elbow guards, gloves and helmets.

500,000 a year. They believe that the use of antibiotics to prevent any opportunistic infection should be limited to the first two or three following surgery rather than through out the entire hospital stay.

Antibiotic Refrains Up

Due to increased popularity of antibiotic use in the U.S., the number of injuries from accidents has risen sharply. In 1971 there were 23,000 injuries reported, an increase of 10% over 1970. Of the various types of injuries, the most common were: 1. Burns 2. Falls 3. Motor vehicle accidents 4. Poisoning 5. Infections 6. Trauma 7. Drowning 8. Suffocation 9. Electrocution 10. Asphyxiation 11. Stomach ulcers 12. Heart disease 13. Cancer 14. Diabetes 15. Hypertension 16. Asthma 17. Allergies 18. Mental illness 19. Kidney disease 20. Liver disease 21. Thyroid disease 22. Parkinson's disease 23. Multiple sclerosis 24. Alzheimer's disease 25. Huntington's disease 26. Sickle cell anemia 27. Cystic fibrosis 28. Phenylketonuria 29. Tay-Sachs disease 30. Muscular dystrophy 31. Hemophilia 32. Hemochromatosis 33. Gaucher's disease 34. Niemann-Pick disease 35. Fabry disease 36. Hunter syndrome 37. Hurler syndrome 38. Marfan's syndrome 39. Ehlers-Danlos syndrome 40. Osteogenesis imperfecta 41. Osteoporosis 42. Osteoarthritis 43. Rheumatoid arthritis 44. Gout 45. Psoriasis 46. Eczema 47. Dermatitis 48. Vitiligo 49. Alopecia 50. Hair loss 51. Nail disorders 52. Skin cancer 53. Breast cancer 54. Lung cancer 55. Prostate cancer 56. Colon cancer 57. Stomach cancer 58. Pancreatic cancer 59. Liver cancer 60. Kidney cancer 61. Bladder cancer 62. Testicular cancer 63. Ovarian cancer 64. Uterine cancer 65. Endometrial cancer 66. Cervical cancer 67. Vaginal cancer 68. Vulvar cancer 69. Penile cancer 70. Anal cancer 71. Esophageal cancer 72. Rectal cancer 73. Sigmoid cancer 74. Colon cancer 75. Small intestine cancer 76. Stomach cancer 77. Pancreatic cancer 78. Liver cancer 79. Kidney cancer 80. Bladder cancer 81. Testicular cancer 82. Ovarian cancer 83. Uterine cancer 84. Endometrial cancer 85. Cervical cancer 86. Vaginal cancer 87. Vulvar cancer 88. Penile cancer 89. Anal cancer 90. Esophageal cancer 91. Rectal cancer 92. Sigmoid cancer 93. Colon cancer 94. Small intestine cancer 95. 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